City Hall Council Chamber
1515 Sixth Street, Coachella, California
(760) 398-3502 ◆ www.coachella.org

AGENDA

CITY COUNCIL CLOSED SESSION AND
REGULAR MEETING
OF THE CITY OF COACHELLA
THE COUNCIL SITTING AS THE COACHELLA SANITARY DISTRICT,
COACHELLA FIRE PROTECTION DISTRICT, COACHELLA FINANCING AUTHORITY,
COACHELLA EDUCATIONAL AND GOVERNMENTAL ACCESS CABLE CHANNEL CORPORATION,
COACHELLA WATER AUTHORITY, SUCCESSOR AGENCY TO THE COACHELLA REDEVELOPMENT AGENCY
AND COACHELLA PARKS AND RECREATION FOUNDATION

January 28, 2026
5:00 PM – CLOSED SESSION
6:00 PM – REGULAR MEETING

In-Person Meeting Location: Coachella City Hall Council Chamber 1515 Sixth Street Coachella, CA	**If you would like to attend the meeting via Zoom, here is the link:** **https://us02web.zoom.us/j/88457271898?pwd=REdzU1NoQmpVSFhWTDVaZ0VCekYxdz09** Or One tap mobile : 16699006833,,88457271898#,,,,*606140# Or Telephone: US: +1 669 900 6833 **Webinar ID: 884 5727 1898** **Passcode: 606140** **Spanish:** El idioma español está disponible en Zoom seleccionado la opción en la parte de abajo de la pantalla

- Public comments may be received **either in person, via email, or via Zoom.**
  - **In Person:**

    Anyone wishing to speak in person during the public comment period or on a particular item is required to fill out a Request to Speak Form. In order to be recognized, a Request to Speak Form must be turned in to the City Clerk prior to the start of the public comment period or before the agenda item is taken up by Council on which you wish to provide a comment.
  - **In Real Time via Zoom:**

    If participating in real time via Zoom, during the public comment period, participants must be visible on camera and use the **"raise hand"** function on Zoom.
  - **In Writing via Email:**

    If providing a written comment by email, you may submit your public comment to the City Council by emailing cityclerk@coachella.org. To comment by email, submit your comments no later than 12 p.m. on the day of the meeting by emailing your name, agenda item (if applicable), and your comment. Any correspondence received by the deadline will be forwarded to the City Council for consideration before action is taken on the matter, during the meeting and upon request one (1) hard copy of the written

public comments will be available for the public's view, and written comments will be retained for the official records. Written comments will not be read aloud at City Council meetings.

- The **live stream** of the meeting may be **viewed online** by accessing the city's website at **www.coachella.org**, and clicking on the "**Watch Council Meetings**" tab located on the home page, and then clicking on the "live" button.

CALL TO ORDER: - 5:00 P.M.

ROLL CALL:

APPROVAL OF AGENDA:

"At this time the Council/ Board/Corporation/Authority may announce any items being pulled from the Agenda or continued to another date or request the moving of an item on the agenda"

PUBLIC COMMENTS (CLOSED SESSION ITEMS):

ADJOURN TO CLOSED SESSION:

1. CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION
   Significant Exposure to Litigation Pursuant to Government Code Section 54956.9(d)(2)
   Two (2) Potential Cases

RECONVENE REGULAR MEETING: - 6:00 P.M.

PLEDGE OF ALLEGIANCE:

CLOSED SESSION ANNOUNCEMENTS:

COUNCIL REORGANIZATION:

2. Nomination for the Position of Mayor Pro Tem

PROCLAMATIONS/PRESENTATIONS/DIRECTION:

3. Presentation of Sunline's Comprehensive Analysis

4. City of Coachella Home Enhancement Program

5. Presentation by Culturas Music & Arts

WRITTEN COMMUNICATIONS:

PUBLIC COMMENTS (NON-AGENDA ITEMS) (LIMITED TO A MAXIMUM OF 30 MINUTES. IF ADDITIONAL TIME IS REQUIRED FOR PUBLIC COMMENTS, THEY WILL BE HEARD AFTER ITEM NO. 15. PUBLIC HEARING CALENDAR):

The public may address the City Council/Board/Corporation/ Authority on any item of interest to the public that is not on the agenda but is in the subject matter jurisdiction thereof. Please limit your comments to three (3) minutes.

CONSENT CALENDAR:

(It is recommended that Consent Items be acted upon simultaneously unless separate discussion and/or action is requested by a Council Member.)

6. Regular City Council Meeting Minutes of December 10, 2025, of the City of Coachella, Coachella Sanitary District, Coachella Fire Protection District, Coachella Financing Authority, Coachella Educational and Governmental Access Cable Corporation, Coachella Water Authority, Successor Agency to the Coachella Redevelopment Agency and Coachella Parks and Recreation

7. Special City Council Meeting Minutes of January 15, 2026, of the City of Coachella, Coachella Sanitary District, Coachella Fire Protection District, Coachella Financing Authority, Coachella Educational and Governmental Access Cable Corporation, Coachella Water Authority, Successor Agency to the Coachella Redevelopment Agency and Coachella Parks and Recreation

8. Voucher Listing- EFT's/Utility Billing Refunds/FY 2025-26 Expenditures as of January 28, 2026, $4,596,021.74

9. Investment Report – October 31, 2025

10. Quarterly Reports - Second Quarter (October - December) FY2025-2026

11. Construction Contract with Rudy's Electric in the Amount of $72,500.00 Plus 10% Contingency for the Avenue 50 Median Light Rehab from Van Buren Street to Mariposa Pointe, City Project No.ST-93

12. Amendment Number Four to the Reimbursement Agreement with the Coachella Valley Association of Governments and appropriate $19,837 from General Fund for Avenue 48 Arts and Music Line Project, City Project ST-140.

13. Resolution No. 2026-07 Authorizing the Finance Director to Establish an Account with Time Value Investments, Inc/Cetera Wealth Management

14. Resolution No. 2026-08 Approving a Contract with The Baldwin Group to Conduct a Fiduciary Review of the City's 457 Deferred Compensation Plan

15. Award Amendment #1 to the Maintenance Agreement with BRC Construction for As Needed Block Wall and Wrought Iron Fence Repairs for the Landscape and Lighting Maintenance Districts Project No. 081122B

16. Award Amendment #1 to the Maintenance Agreement with BRC Construction for As Needed Miscellaneous Repair Work for the Landscape and Lighting Maintenance Districts Project No. 081122

17. Authorize the City Manager to Approve a Professional Services Agreement with Aspen Rentals Inc., in the Amount not to Exceed $125,000.00 for the Rental of a Belt-Press Dewatering Unit

18. Award Amendment No. 3 to Vintage Associates, Inc for Landscape Maintenance Services for Grapefruit Blvd Medians and Parkway Project No. 121421; increasing term of agreement by one-year and compensation by $73,934.12.

19. Authorize a Community-Based Grant to Coachella Valley Little Arabs in the Amount of $1,000 to Support their Youth Football Program

20. Authorize a Community-Based Grant to Green Room Theatre Company Coachella Valley in the Amount of $1,000 to Support the "*Newish*" Shakespeare Festival

21. Authorize a Community-Based Grant to Valle Del Sol Elementary School in the Amount of $1,000 to Support an Educational Field Trip for Students in TK–Kindergarten

22. Authorize a Community-Based Grant to Habitat for Humanity of the Coachella Valley in the Amount of $1,000 to Support the Housing Insecurity Prevention Program

NEW BUSINESS CALENDAR (LEGISLATIVE AND ADMINISTRATIVE):

23. Mayor's Appointments to Various Council Subcommittees, Coachella Valley Association of Government (CVAG) Committees, Other Agencies, etc.

24. Appoint one (1) Commissioner to the Coachella Youth Advisory Commission

25. Resolution No. 2026-04 Approving a Contract for Consulting Services with Bell Burnett & Associates (BB&A) for the Development and Implementation of the Funding Program for Critical Electric Infrastructure in the City

26. Resolution No. 2026-05 Approving an Underwriter Engagement Letter with Piper Sandler for Underwriting Debt Associated with the Establishment of the Coachella Electric Financing Authority

27. Resolution No. 2026-06 Approving a Master Service Engagement Letter and a Supplemental Engagement Letter with Stradling for the Establishment of the Coachella Electric Financing Authority including acting as Bond and Disclosure Council

28. Authorize the City Manager to Execute Subrecipient Agreements for the Development of the Caltrans Sustainable Transportation Planning Grant for the Cesar Chavez Street Corridor Transformation Plan with CivicWell ($83,600), Raices Cultura ($50,000), and Terra Nova ($260,140)

29. Approve a Professional Services Agreement for Communications, Social Media and Website Management Services for Coachella Prospera with DeAztlan Consulting in the Amount of $114,000 and Authorize the City Manager to Execute the Agreement

30. Authorize The City of Coachella's Tacos, Tequila and Chavelas Festival Beer and Tequila Garden Operation on February 7, 2026 at Veterans Memorial Park from 4pm to 8pm and Appropriate $55,000 From Unallocated General Fund Reserves

31. Authorize a One-Time Funding Allocation for the Coachella Branch Library in the Amount of $25,000 to Support Programming

32. Extend the Façade Improvement Program Limits along Cesar Chavez Street to Encompass the Area Between Avenue 54 and Park Lane

PUBLIC HEARING CALENDAR (QUASI-JUDICIAL):

33. A Public Hearing to Consider Resolution No.2026-01, Resolution No.2026-02, and Resolution No.2026-03 of the City Council of the City of Coachella: Request for conditional approval for Tentative Tract Map No. 39051 for the subdivision of 39.98 acres of land (Assessor's Parcel Number 612-260-010) into 257 lots and request for conditional approval of Conditional Use Permit No. 390 for a 257-lot single-family home planned unit development subdivision with associated improvements located at the southwest corner of Calhoun Street and Avenue 49 and certifying that the projects Initial Study with Mitigated Negative Declaration is in compliance with Section 15074 of the California Environmental Quality Act Guidelines. Applicant: Rod Vandenburg, Pacific Modern Builders, LLC.

34. Public Hearing to Consider the Adoption of Ordinance No. 1228, amending Title 15 of the Coachella Municipal Code and adopting the 2025 California State Building Standards Code by Reference

REPORTS AND REQUESTS:

Council Comments/Report of Miscellaneous Committees.

City Manager's Comments.

ADJOURNMENT:

Complete Agenda Packets are available for public inspection at the City Clerk's Office at 53-462 Enterprise Way, Coachella, California, and on the City's website www.coachella.org.

THIS MEETING IS ACCESSIBLE TO PERSONS WITH DISABILITIES

01/20/26

City Manager Bill Pattison

Honorable Mayor and City Council

City of Coachella

[City Address]

Dear City Manager Bill Pattison and Honorable Members of the City Council,

On behalf of Culturas Music & Arts, I am honored to present our Phase 1 Activation Plan for the Culturas Center for Art & Music. For more than a decade, Culturas has served the Eastern Coachella Valley through culturally rooted arts programming that uplifts youth, strengthens families, and builds community pride. We are now taking the next step by activating a permanent home where creativity, culture, and opportunity can flourish.

Phase 1 focuses on essential infrastructure that will allow us to safely open the site for youth programming, community gatherings, and small events. Culturas has already secured $14,000 in grant funding to begin this work, specifically for power installation, security cameras, and Wi-Fi.

To support this effort, we respectfully request the waiver or significant reduction of permit fees associated with Phase 1 improvements. As a nonprofit organization serving at-risk youth and families, reducing these fees will allow us to maximize our limited resources, accelerate activation, and expand community benefit.

We are committed to working closely with City staff to ensure all work meets safety, code, and inspection requirements. Culturas is ready to collaborate, communicate, and move forward responsibly.

Thank you for your continued support of arts, culture, and youth in our community. We welcome the opportunity to present this project in person, provide a site tour, or discuss next steps.

With gratitude,

Oralia Ortiz

Founder & Executive Director

Culturas Music & Arts

760-984-2365 Email: culturascoachellavalley@gmail.com

CULTURAS CENTER FOR ART & MUSIC

PHASE 1 ACTIVATION PACKET

Prepared for the City of Coachella

PAGE 1

EXECUTIVE SUMMARY

Culturas Music & Arts has served the Eastern Coachella Valley for more than a decade, providing culturally rooted arts programming that uplifts youth, strengthens families, and builds community pride. We are now activating the Culturas Center for Art & Music — a permanent home where creativity, culture, and opportunity come together.

Phase 1 focuses on essential infrastructure that allows the site to open safely and immediately for youth programming, community gatherings, and small events. This includes bringing power to the site, installing security cameras and Wi-Fi, running water and sewer lines for outdoor restrooms, constructing the shell for the future recording studio and study/resource room, building an outdoor performance stage, adding ADA-compliant pathways, landscaping the grounds, and installing a secure front roller gate.

Culturas has already secured $14,000 in grant funding to begin this work. We respectfully request a waiver of permit fees to accelerate activation and maximize community benefit.

PAGE 2 — ORGANIZATIONAL MISSION

Mission Statement

Culturas Music & Arts empowers youth, families, and artists through culturally rooted programming that celebrates identity, strengthens community, and creates pathways for creative expression.

Who We Serve

We serve youth and families across the Eastern Coachella Valley, including many who are at-risk due to poverty, housing instability, and limited access to safe public spaces. Our programs provide stability, mentorship, and opportunities for growth.

Our Commitment

We ensure that cost is never a barrier and that every program is accessible to all.

PAGE 2

PHASE 1 PROJECT SCOPE

Phase 1 includes the following essential components:

1. Power + Security Infrastructure

Electrical power installation, security cameras, motion lighting, and Wi-Fi.

2. Water + Sewer for Outdoor Restrooms

Trenching, water line installation, and sewer/septic connection.

3. Recording Studio Shell (Roof + Walls Only)

Structural enclosure for the future studio.

4. Study/Resource Room

A small, functional room for homework, tutoring, and quiet study.

5. Outdoor Performance Stage

A modest stage for music, dance, spoken words, and community events.

6. Landscaping + Grass

Green space, irrigation, shade trees, and gathering areas.

7. ADA-Compliant Access

Accessible pathways, ramps, and lighting.

8. Front Roller Gate + Security Access

A security gate for controlled entry and nighttime closure.

PAGE 3

GRANT FUNDING ALREADY SECURED

Culturas has secured $14,000 in grant funding to support early activation. These funds will be used for:

Power Installation (Partial Funding)

$8,000 – $10,000

Security Cameras + Motion Lighting

$2,000 – $3,000

Wi-Fi Installation + Boosters

$1,000 – $2,000

This early investment allows Culturas to activate the site immediately and begin programming “as-is.”

PAGE 5 — REQUEST FOR PERMIT FEE WAIVERS

To support timely and cost-effective activation, Culturas Music & Arts respectfully requests that the City of Coachella waive or significantly reduce permit fees associated with Phase 1 improvements, including:

- Electrical installation
- Security system installation
- Water and sewer trenching
- Recording studio shell construction
- Study/resource room construction
- Outdoor stage installation
- ADA pathways
- Landscaping
- Roller gate installation

PAGE 4

Why This Matters

Waiving permit fees will:

- Accelerate activation
- Reduce financial barriers for a nonprofit
- Maximize the impact of existing grant dollars
- Support youth, families, and at-risk populations
- Enhance public safety
- Expand arts, culture, and community programming

Culturas is committed to full compliance with all safety, inspection, and code requirements.

PAGE 6 — ITEMIZED PHASE 1 BUDGET

Power + Security	$33,000 – $80,000
Water + Sewer	$32,000 – $90,000
Recording Studio Shelf	$42,000 – $90,000
Study/Resource Room	$15,000 – $35,000
Outdoor stage	$25,000 – $75,000
Landscaping + Grass	$20,000 – $60,000
ADA Access	$25,000 – $65,000
Front Roller Gate + Security	$18,000 – $40,000
TOTAL PHASE 1 BUDGET:	$210,000 – $535,000

PAGE 7 — SITE ACTIVATION PLAN

Purpose

To safely and effectively activate the site during Phase 1 construction, allowing immediate community use.

Safety Measures

• Power installed and inspected

• Security cameras and lighting operational

• Roller gate for controlled access

• ADA pathways

• Clear signage

• Staff and volunteer protocols

Immediate Programming

• After-school art workshops

• Homework helps in the study/resource room

• Music circles and drumming

• Artist pop-ups

• Small outdoor performances

• Community gatherings and wellness activities

Event Rentals

• Birthday parties

• Family gatherings

• Vendor markets

• Small festivals

• School and nonprofit events

Community Engagement

- Monthly open houses
- Volunteer beautification days
- Youth advisory council
- Partnerships with local schools and organizations

PAGE 8 — ACTIVATION TIMELINE

Months 1–2

Power installation, security system, water/sewer trenching, ADA layout.

Months 3–4

Recording studio shell, study/resource room, landscaping.

Month 5

Outdoor stage, lighting, signage.

Month 6

Soft opening, youth programs begin, rentals begin, community open house.

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MINUTES

CITY COUNCIL REGULAR MEETING
OF THE CITY OF COACHELLA
THE COUNCIL SITTING AS THE COACHELLA SANITARY DISTRICT,
COACHELLA FIRE PROTECTION DISTRICT, COACHELLA FINANCING AUTHORITY,
COACHELLA EDUCATIONAL AND GOVERNMENTAL ACCESS CABLE CHANNEL CORPORATION,
COACHELLA WATER AUTHORITY, SUCCESSOR AGENCY TO THE COACHELLA REDEVELOPMENT AGENCY
AND COACHELLA PARKS AND RECREATION FOUNDATION

December 10, 2025

6:00 PM – REGULAR MEETING

In-Person Meeting Location: Coachella City Hall Council Chamber 1515 Sixth Street Coachella, CA	**If you would like to attend the meeting via Zoom, here is the link:** **https://us02web.zoom.us/j/88457271898?pwd=REdzU1NoQmpVSFhWTDVaZ0VCekYxdz09** Or One tap mobile : 16699006833,,88457271898#,,,,*606140# Or Telephone: US: +1 669 900 6833 **Webinar ID: 884 5727 1898** **Passcode: 606140** **Spanish:** El idioma español está disponible en Zoom seleccionado la opción en la parte de abajo de la pantalla

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CALL TO ORDER: - 6:00 P.M.

Mayor Pro Tem Delgado called the City Council Regular Meeting of the City of Coachella to order at 6:00 p.m.

ROLL CALL:

Present: Councilmember Perez, Councilmember Dr. Figueroa, Councilmember Virgen, and Mayor Pro Tem Delgado

City Clerk and City Treasurer

Absent: Mayor Hernandez

APPROVAL OF AGENDA:

"At this time the Council/ Board/Corporation/Authority may announce any items being pulled from the Agenda or continued to another date or request the moving of an item on the agenda"

Motion: To approve the agenda and continue items #1, #16 & #17 to the next Council meeting.

Made by: Councilmember Perez
Seconded by: Mayor Pro Tem Delgado
Approved: 4-0

AYES: Councilmember Perez, Councilmember Dr. Figueroa, Councilmember Virgen, and Mayor Pro Tem Delgado
NOES: None
ABSTAIN: None
ABSENT: Mayor Hernandez

PLEDGE OF ALLEGIANCE:

City Attorney led the Pledge of Allegiance.

COUNCIL ORGANIZATION:

1. Nomination for the Position of Mayor Pro Tem

Item continued to the next Council meeting.

PROCLAMATIONS/PRESENTATIONS/DIRECTION:

2. Cannabis Compliance Update

3. Synergy Zine & Live Art Festival Presentation

4. Coachella Library Presentation

Councilmember Dr. Figueroa stepped away at 7:08 p.m. and returned at 7:11 p.m.

WRITTEN COMMUNICATIONS:

None

PUBLIC COMMENTS (NON-AGENDA ITEMS) (LIMITED TO A MAXIMUM OF 30 MINUTES. IF ADDITIONAL TIME IS REQUIRED FOR PUBLIC COMMENTS, THEY WILL BE HEARD AFTER ITEM NO. 15. PUBLIC HEARING CALENDAR):

The public may address the City Council/Board/Corporation/ Authority on any item of interest to the public that is not on the agenda but is in the subject matter jurisdiction thereof. Please limit your comments to three (3) minutes.

1. Yume Ochoa
2. Gabriela Armenta

CONSENT CALENDAR:

(It is recommended that Consent Items be acted upon simultaneously unless separate discussion and/or action is requested by a Council Member.)

5. Regular City Council Meeting Minutes of November 12, 2025, of the City of Coachella, Coachella Sanitary District, Coachella Fire Protection District, Coachella Financing Authority, Coachella Educational and Governmental Access Cable Corporation, Coachella Water Authority, Successor Agency to the Coachella Redevelopment Agency and Coachella Parks and Recreation

6. Special City Council Meeting Minutes of November 20, 2025, of the City of Coachella, Coachella Sanitary District, Coachella Fire Protection District, Coachella Financing Authority, Coachella Educational and Governmental Access Cable Corporation, Coachella Water Authority, Successor Agency to the Coachella Redevelopment Agency and Coachella Parks and Recreation

7. Receipts, Disbursements, and Net Cash Flows

8. Voucher Listing- EFT's/Utility Billing Refunds/FY 2025-26 Expenditures as of December 10, 2025, $1,497,710.55

9. Investment Report – September 30, 2025

10. Authorization to File a Notice of Completion for the Avenue 52 Street Improvements From Tyler Street to the Whitewater Bridge, City Project No. ST-139

11. Authorize City Manager to Execute a Lease Agreement with the Latino Equity Advocacy & Policy Institute for Office Space at City Hall

12. Adopt Resolution No. 2025-58 Authorizing the City Manager to Accept a Proposition 56 Tobacco Grant Award from the State of California Department of Justice in the Amount of $126,000 to Conduct Retail Enforcement Operations in the City of Coachella

13. Introduce and Waive First Reading of Ordinance No. 1228, Amending Title 15 of the Coachella Municipal Code and Adopting the 2025 California State Building Standards Code by Reference

14. Adopt Resolution No. 2025-59 Adopting the City of Coachella Americans with Disabilities Act (ADA) Self-Evaluation and Transition Plan (SETP)

15. Approving the Opening of the Business License Technician position in the Finance Department

Motion: To approve the Consent Calendar and continuing items #1, #16 and #17 to the next Council meeting

Made by: Councilmember Dr. Figueroa
Seconded by: Councilmember Perez
Approved: 4-0:

AYES: Councilmember Perez, Councilmember Dr. Figueroa, Councilmember Virgen, and Mayor Pro Tem Delgado
NOES: None
ABSTAIN: None
ABSENT: Mayor Hernandez

NEW BUSINESS CALENDAR (LEGISLATIVE AND ADMINISTRATIVE):

16. Mayor's Appointments to Various Council Subcommittees, Coachella Valley Association of Government (CVAG) Committees, Other Agencies, etc.

Item continued to the next Council meeting.

17. Appoint one (1) Commissioner to the Coachella Youth Advisory Commission

Item continued to the next Council meeting.

18. Resolution No. WA-2025-03; A Resolution of the Board of Directors of the Coachella Water Authority Authorizing the Drinking Water State Revolving Fund Application for the Chromium-6 Treatment Project & Resolution No. WA-2025-04, A Resolution of the Board of Directors of the Coachella Water Authority Authorizing Reimbursement for Drinking Water State Revolving Fund Application for the Chromium-6 Treatment Project.

Motion: To approve Resolution No. WA-2025-03; A Resolution of the Board of Directors of the Coachella Water Authority Authorizing the Drinking Water State Revolving Fund Application for the Chromium-6 Treatment Project & Resolution No. WA-2025-04, A Resolution of the

Board of Directors of the Coachella Water Authority Authorizing Reimbursement for Drinking Water State Revolving Fund Application for the Chromium-6 Treatment Project.

Made by: Councilmember Dr. Figueroa
Seconded by: Councilmember Virgen
Approved: 4-0:

AYES: Councilmember Perez, Councilmember Dr. Figueroa, Councilmember Virgen, and Mayor Pro Tem Delgado
NOES: None
ABSTAIN: None
ABSENT: Mayor Hernandez

PUBLIC HEARING CALENDAR (QUASI-JUDICIAL):

19. Resolution No. 2025-60: Request for Conditional Approval of the Encanto Modification project, a modification to Tentative Tract Map No. 38429, Conditional Use Permit No. 376 (Modification), Architectural Review No. 22-11 (Modification), a Proposal to Subdivide 19.2 Acres Into 192 Single Family Lots With a Minimum Lot Size of 2,500 Square Feet With Nine Single Family Residential Production Model Homes Located West of Van Buren Street, Between Avenue 51 and Avenue 52, APN 779-360-001; and Determining That the Project is Compliant with Section 15073 of the California Environmental Quality Act (CEQA) Guidelines. Applicant: Joseph Rivani, Global Investment and Development

Motion: To approve Resolution No. 2025-60: Request for Conditional Approval of the Encanto Modification project, a modification to Tentative Tract Map No. 38429, Conditional Use Permit No. 376 (Modification), Architectural Review No. 22-11 (Modification), a Proposal to Subdivide 19.2 Acres Into 192 Single Family Lots With a Minimum Lot Size of 2,500 Square Feet With Nine Single Family Residential Production Model Homes Located West of Van Buren Street, Between Avenue 51 and Avenue 52, APN 779-360-001; and Determining That the Project is Compliant with Section 15073 of the California Environmental Quality Act (CEQA) Guidelines. Applicant: Joseph Rivani, Global Investment and Development

Public Hearing opened to the Public at 8:18 p.m. and closed at 8:19 p.m.

Made by: Councilmember Perez
Seconded by: Councilmember Virgen
Approved: 4-0:

AYES: Councilmember Perez, Councilmember Dr. Figueroa, Councilmember Virgen, and Mayor Pro Tem Delgado
NOES: None
ABSTAIN: None
ABSENT: Mayor Hernandez

REPORTS AND REQUESTS:

Council Comments/Report of Miscellaneous Committees.

City Manager's Comments.

Councilmember Dr. Figueroa stepped away at 8:44 p.m. and returned at 8:46 p.m.

ADJOURNMENT:

Mayor Pro Tem Delgado adjourned the meeting at 8:57 p.m.

_____

Angela Zepeda
City Clerk

City Hall Council Chamber
1515 Sixth Street, Coachella, California
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MINUTES

CITY COUNCIL SPECIAL MEETING
OF THE CITY OF COACHELLA
THE COUNCIL SITTING AS THE COACHELLA SANITARY DISTRICT,
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COACHELLA EDUCATIONAL AND GOVERNMENTAL ACCESS CABLE CHANNEL CORPORATION,
COACHELLA WATER AUTHORITY, SUCCESSOR AGENCY TO THE COACHELLA REDEVELOPMENT AGENCY
AND COACHELLA PARKS AND RECREATION FOUNDATION

January 15, 2026
5:30 PM-Special Meeting

In-Person Meeting Location: Coachella City Hall Council Chamber 1515 Sixth Street Coachella, CA	**If you would like to attend the meeting via Zoom, here is the link:** **https://us02web.zoom.us/j/88457271898?pwd=REdzU1NoQmpVSFhWTDVaZ0VCekYxdz09** Or One tap mobile : 16699006833,,88457271898#,,,,*606140# Or Telephone: US: +1 669 900 6833 **Webinar ID: 884 5727 1898** **Passcode: 606140** **Spanish:** El idioma español está disponible en Zoom seleccionado la opción en la parte de abajo de la pantalla

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- The **live stream** of the meeting may be **viewed online** by accessing the city's website at **www.coachella.org**, and clicking on the "**Watch Council Meetings**" tab located on the home page, and then clicking on the "live" button.

CALL TO ORDER: - 5:30 P.M.

Mayor Hernandez called the City Council Special Meeting of the City of Coachella to order at 5:30 p.m.

ROLL CALL:

Present: Councilmember Perez, Councilmember Dr. Figueroa, Councilmember Virgen, Mayor Pro Tem Delgado, and Mayor Hernandez

Absent City Clerk and City Treasurer

APPROVAL OF AGENDA:

"At this time the Council/ Board/Corporation/Authority may announce any items being pulled from the Agenda or continued to another date or request the moving of an item on the agenda"

Motion: To approve the agenda

Made by: Councilmember Dr. Figueroa
Seconded by: Councilmember Virgen
Approved: 5-0

AYES: Councilmember Perez, Councilmember Dr. Figueroa, Councilmember Virgen, and Mayor Pro Tem Delgado, and Mayor Hernandez
NOES: None
ABSTAIN: None
ABSENT: None

PLEDGE OF ALLEGIANCE:

City Attorney led the Pledge of Allegiance.

PUBLIC COMMENTS (CLOSED SESSION ITEMS):

None

ADJOURN TO CLOSED SESSION:

1. PUBLIC EMPLOYEE APPOINTMENT (Govt. Code Section 54957(b)(1))
   Title: City Manager

2. CONFERENCE WITH LEGAL COUNSEL – INITIATION OF LITIGATION
   Initiation of Litigation Pursuant to Government Code Section 54956.9(d)(4)
   One (1) Potential Case

RECONVENE SPECIAL MEETING:

The City Council reconvened into open session at 6:32 p.m.

CLOSED SESSION ANNOUNCEMENTS:

No reportable action taken.

ADJOURNMENT:

Mayor Hernandez adjourned the meeting at 6:33 p.m.

_____
Delia Granados
Deputy City Clerk

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124106	12/10/2025	56551	DESERT VALLEY CPR	000032	11/17/2025	11/19 & 12/11 CPR/AED TRAIN	2,250.00	2,250.00
						Sub total for WELLS FARGO BANK:		2,250.00

1 checks in this report.

Grand Total All Checks: 2,250.00

Date: **December 10, 2025**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

apChkLst
12/11/2025 11:00:11AM

Check List
City of Coachella

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124107	12/11/2025	56497	SHP DEVELOPMENT LLC	INV5000209	12/10/2025	12/19 EMPLOYEE HOLIDAY P/	6,505.00	6,505.00
						Sub total for WELLS FARGO BANK:		6,505.00

1 checks in this report.

Grand Total All Checks: 6,505.00

Date: **December 11, 2025**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124108	12/17/2025	52279	COUNTY OF RIVERSIDE	24-25Q4	6/23/2025	APR-JUNE2025 EMERGENCY	40,000.00	
				24-25Q3	4/3/2025	JAN-MAR2025 EMERGENCY S	40,000.00	80,000.00
						Sub total for WELLS FARGO BANK:		80,000.00

1 checks in this report.

Grand Total All Checks: 80,000.00

Date: **December 17, 2025**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

Bank : ewfb EFT FOR WELLS FARGO BANK -

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
3234	12/17/2025	56483	ADVANCED AVANT-GARD	12396	11/12/2025	OCT2025 SHADY LN PJCT LA	1,725.00	1,725.00
3235	12/17/2025	53429	ALIANZA COACHELLA VAI	0058	10/10/2025	8/1-9/30 TCC COACHELLA PR	11,340.00	11,340.00
3236	12/17/2025	54859	AMAZON CAPITAL SERVI(	1GLV-DX73-K3J	12/3/2025	SOUTHWORTH 100% COTTO	18.40	
				1W7Q-GTXV-H)	12/1/2025	PENTEL BL77-CO ENERGEL)	120.90	
				1M7Q-7R3C-LTF	11/19/2025	ENERGIZER CR2 LITHIUM BA	33.92	
				1X74-44D4-9M3	11/6/2025	SWRT 12 PACK GAFFERS TAI	140.28	
				1XCL-6QHP-CN	11/18/2025	SANDISK 512GB EXTREME P	641.14	
				1XPH-TTPG-CM	11/12/2025	ENERGIZER 123 LITHIUM PH(	32.61	
				13LC-VGL6-D9F	11/25/2025	GVM 1500D RGB LED VIDEO	548.34	
				17TY-QMNM-G3	11/5/2025	EMART PIPE AND DRAPE BA(	199.29	
				1163-6MQJ-C6C	11/20/2025	LOGITECH WAVE KEYS MK67	338.69	
				1NW3-6CXM-VX	11/26/2025	RODE NTG2 CONDENSER SH	682.94	
				1TH6-F1NC-NPI	12/9/2025	SHOKZ NEW OPENRUN PRO	156.52	
				1WLW-YJXR-TF	11/26/2025	SANDISK 2TB EXTREME POR	341.94	
				1D3Q-6TMT-HN	11/24/2025	BLACKMAGIC DESIGN MICRC	456.75	
				1GMH-CWWK-6	11/9/2025	APPLE 2024 IMAC ALL-IN-ONE	1,975.83	
				13PJ-47V3-1XM	12/2/2025	TETRA-TEKNICA PSR 4'X4' FC	1,139.70	
				14V7-FGVX-CX'	12/8/2025	DURACELL COPPERTOP AA E	95.36	
				19JC-YHQG-FX.	12/1/2025	EDIFIER MR5 2.0 STUDIO MO	630.59	7,553.20

Bank : ewfb EFT FOR WELLS FARGO BANK - (Continued)

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
3237	12/17/2025	45929	✓ BECK OIL, INC.	191087	11/30/2025	PE11/30 INFO TECH DEPT FU	98.04	
				191117	11/30/2025	PE11/30 UTILITIES DEPT FUE	39.56	
				189705	11/15/2025	PE11/15 GRAFFITI DEPT FUE	70.44	
				189640	11/15/2025	PE11/15 WATER DEPT FUEL	1,428.38	
				189678	11/15/2025	PE11/15 SANITARY DEPT FUE	821.05	
				189632	11/15/2025	PE11/15 ENG DEPT FUEL	121.14	
				189633	11/15/2025	PE11/15 BLDG/PLANNING DEI	171.05	
				189635	11/15/2025	PE11/15 LLMD DEPT FUEL	78.26	
				189639	11/15/2025	PE11/15 STREETS DEPT FUE	642.78	
				189643	11/15/2025	PE11/15 PARKS DEPT FUEL	587.26	
				189658	11/15/2025	PE11/15 VEHICLE MAINT DEP	102.35	
				189659	11/15/2025	PE11/15 SENIOR CNTR FUEL	247.67	
				189667	11/15/2025	PE11/15 CODE ENF DEPT FUI	427.88	
				189683	11/15/2025	PE11/15 BLDG MAINT DEPT F	129.98	
				189684	11/15/2025	PE11/15 ADMIN DEPT FUEL	195.62	
				191268	11/30/2025	PE11/30 WATER DEPT FUEL	862.42	
				191305	11/30/2025	PE11/30 SANITARY DEPT FUE	1,220.57	7,244.45
3238	12/17/2025	43462	✓ BEST BEST & KRIEGER, L	1046505	11/25/2025	PE10/31, #80237.00854, EMPL	6,474.00	
				1046506	11/25/2025	PE10/31, #80237.00857, RENE	9,977.50	
				1046507	11/25/2025	PE10/31, #80237.00866, KPC S	5,361.05	
				1046508	11/25/2025	PE10/31, #80237.00869, AFFO	340.00	
				1046509	11/25/2025	PE10/31, #80237.00883, AIRPC	850.00	
				1046510	11/25/2025	PE10/31, #80237.77777, SHAR	1,424.75	
				1046499	11/25/2025	PE10/31, #80237, GENERAL R	38,105.79	
				1046500	11/25/2025	PE10/31, #80237.00445, DESE	2,482.00	
				1046501	11/25/2025	PE10/31, #80237.00500, PRA F	24,960.00	
				1046502	11/25/2025	PE10/31, #80237.00810, LABO	3,400.00	
				1046503	11/25/2025	PE10/31, #80237.00820, ENVIF	2,883.00	
				1046504	11/25/2025	PE10/31, #80237.00840, CANN	1,020.00	97,278.09
3239	12/17/2025	02320	✓ CALPERS	1000000181243	11/14/2025	#6373819375, DEC2025 HEAL	150,910.90	
				1000000181243	11/14/2025	#6373819375, DEC2025 HEAL	12,772.19	163,683.09
3240	12/17/2025	56271	✓ CHARTER COMMUNICATI	18787020111212	11/21/2025	AC 187870201, 11/28-12/27	1,756.89	1,756.89
3241	12/17/2025	56233	✓ CORONA ENVIRONMENT/	U-9429	11/30/2025	PE11/30 TESTING/EVALUATIC	134,641.22	134,641.22
3242	12/17/2025	00749	✓ COUNTY OF RIVERSIDE	SH0000049351	11/13/2025	10/21 NUCLEAR DNA TESTIN(	2,790.00	2,790.00

Bank : ewfb EFT FOR WELLS FARGO BANK - (Continued)

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
3243	12/17/2025	44036	DE LAGE LANDEN PUBLIC	593228585	11/20/2025	ACC #4209609, COLOR COPIE	392.10	
				593545856	12/7/2025	ACC #4412793, COLOR COPIE	404.12	
				593013660	11/6/2025	ACC #4412793, COLOR COPIE	202.06	
				593113857	11/11/2025	ACC #1338330, COLOR COPIE	216.41	1,214.69
3244	12/17/2025	43672	DESERT VALLEY SERVICI	684329	11/6/2025	HAND FOAM SOAP	386.28	
				684330	11/6/2025	TISSUE TOILET 2PL	607.80	994.08
3245	12/17/2025	53799	ENTERPRISE FM TRUST	FBN5502521	12/3/2025	DEC2025 LEASE CHRGS (FOI	48,478.58	48,478.58
3246	12/17/2025	44713	FARMER BROTHERS CO.	95678494	11/19/2025	CREAMERS	178.34	178.34
3247	12/17/2025	00207	GRAINGER INC	9722517530	11/24/2025	BLEED VLV ASMB	714.75	
				9701500820	11/5/2025	DIGITAL METER	463.45	
				9721017391	11/21/2025	RAIN SUIT W/ JACKET/PANT	27.97	
				9708349437	11/12/2025	DOOR LOCK BATTERY	64.42	1,270.59
3248	12/17/2025	51892	HERC RENTALS, INC.	36001586-002	11/6/2025	10/17-11/5 BOOM STRAIGHT I	2,064.37	
				36057553-001	11/5/2025	11/1-2 LIGHT TOWER RNTLS	1,505.92	
				36068692-001	11/19/2025	11/6-18 SCISSOR LIFT RNTL	660.23	4,230.52
3249	12/17/2025	00996	HOME DEPOT	8173441	11/19/2025	20V MAX LITHIUM-ION BATTE	890.28	
				5012470	11/12/2025	ULTRA PRO OUTDOOR COUI	696.15	1,586.43
3250	12/17/2025	52988	KOUNKUEY DESIGN INITI	2514-005	10/6/2025	8/1-9/30 TCC COACHELLA PR	36,857.00	36,857.00
3251	12/17/2025	54046	LERMA, ARMANDO M.	2025 Grant	12/2/2025	CANNABIS EQUITY GRANT PI	63,356.36	63,356.36
3252	12/17/2025	56561	MUNICIPAL RESOURCE G	251126	11/13/2025	10/15-16 DEVELOPMENT SVC	4,005.20	4,005.20
3253	12/17/2025	56335	ROVE ENGINEERING, INC	7374	11/26/2025	PE10/31 AVE 52 ST PAVEMEN	122,350.31	122,350.31
3254	12/17/2025	53475	RUDYS ELECTRIC	20985	9/20/2025	INSTLL'D ELECTRIC CIRCUIT	3,300.00	
				20986	9/20/2025	RPLC'D ROOFTOP AC FUSES	349.00	
				20980	9/20/2025	INSTLL'D SECURITY LIGHT @	2,523.50	
				20981	9/20/2025	RPR'D WALKWAY LIGHTS @ I	1,332.00	
				20982	9/20/2025	RPLC'D BREAKROOM AUTO (	820.00	
				20983	9/20/2025	RWR'D MINI SPLIT AC @ RLF	812.50	
				20984	9/20/2025	RWR'D ROOFTOP AC (COFFE	1,700.00	10,837.00
3255	12/17/2025	54601	THE LEAP INSTITUTE	5	10/10/2025	8/1-9/30 TCC COACHELLA PR	12,383.62	12,383.62
3256	12/17/2025	55354	THE VAN DYKE CORPOR/	5	11/30/2025	PE11/30 SHADY LN MOBILE H	260,335.91	260,335.91
3257	12/17/2025	48436	UNIVAR SOLUTIONS USA	53503149	11/25/2025	SODIUM HYPOCHLORITE	629.98	
				53503150	11/25/2025	SODIUM HYPOCHLORITE	675.14	1,305.12
3258	12/17/2025	50229	URBAN HABITAT	INV-00591	10/31/2025	90-DAY MAINT- AVE 50 ST & M	4,634.45	4,634.45

Bank : ewfb EFT FOR WELLS FARGO BANK -S (Continued)

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
3259	12/17/2025	50629	✓ VINTAGE ASSOCIATES, IN	238638	10/21/2025	RPR'D IRRGTN VALVE & MAIN	475.00	
				238648	10/21/2025	LANDSCAPE ENHANCEMENT	2,498.00	
				238892	11/15/2025	NOV2025 LNDSCPE MAINT @	13,017.50	
				238897	11/15/2025	NOV2025 LNDSCPE MAINT @	10,135.00	
				238898	11/15/2025	NOV2025 LNDSCPE MAINT @	5,201.50	
				238893	11/15/2025	NOV2025 LNDSCPE MAINT @	5,247.00	
				238895	11/15/2025	NOV2025 LNDSCPE MAINT @	5,432.50	
				239007	11/7/2025	RPR'D LIBRARY EROSION	2,560.00	
				239045	11/18/2025	LNDSCPE DESIGN FOR RANC	300.00	44,866.50
3260	12/17/2025	51697	✓ WESTERN WATER WORK	1412551-00	8/6/2025	MANHOLE HOOK & 4FT SS PI	201.74	201.74
3261	12/17/2025	54433	✓ WEX BANK	108825008	11/23/2025	ACC 0496-00-726338-7, 10/24-	2,364.28	2,364.28
3262	12/17/2025	54272	✓ WILLDAN	002-36721	12/4/2025	NOV2025 BLDG AND SAFETY	11,670.00	11,670.00
3263	12/17/2025	54671	✓ WILMINGTON TRUST N. A	010126	12/4/2025	JAN2026 PENSION OBLIGATI	167,931.27	167,931.27

T FOR WELLS FARGO BANK -SEPARATE CHECK: 1,229,063.93

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124109	12/17/2025	46835	AIR AND HOSE SOURCE,	637447	11/5/2025	3" SLIP OVER DEFLECTOR HI	581.66	
				637480	11/5/2025	MALE NPT X FEM NPSM STR	18.49	
				637547	11/5/2025	16 WORM-GEAR HOSE CLAM	41.33	641.48
124110	12/17/2025	54295	AMERICAN WATERWORK	38506	12/1/2025	SVC'D/RPR'D PRESSURE WA	2,860.59	2,860.59
124111	12/17/2025	54860	ARMSTRONG GROWERS	SI-376530	10/22/2025	GERANIUM ZONAL 'DYNAMO	8,900.00	
				SI-376537	10/22/2025	GERANIUM ZONAL 'DYNAMO	801.00	
				SI-376538	10/22/2025	GERANIUM ZONAL 'PATRIOT	712.00	
				SI-379836	11/7/2025	SALVIA 'MYSTIC SPIRES BLUI	53.04	10,466.04
124112	12/17/2025	03650	BARBARA SINATRA CHILI	July 2025	8/11/2025	7/14+24 SVCS: LAW ENFORC	462.00	
				Sept 2025	10/8/2025	9/2 SVCS: LAW ENFORCEMEI	256.00	718.00
124113	12/17/2025	00836	BIO-TOX LABORATORIES	48272	11/21/2025	8/25, 9/8, 10/6 LAB SERVICES	1,380.00	
				48273	11/21/2025	8/25, 9/8, 10/20 LAB SERVICES	1,181.00	2,561.00
124114	12/17/2025	54517	BLACK KNIGHT TECHNOI	997554152601B	9/30/2025	AUG2025 SITXPRO SBSCRPT	250.00	
				997551510195B	11/30/2025	OCT2025 SITXPRO SBSCRPT	250.00	500.00
124115	12/17/2025	52723	BRIGHT EVENT RENTALS	R432031-5	11/20/2025	12/5 HOLIDAY PARADE RNTLS	4,352.35	
				R432032-4	11/20/2025	12/5 HOLIDAY PARADE RNTLS	1,894.49	
				R432033-5	11/20/2025	12/3 TREE LIGHTING RNTLS	3,836.92	
				R432034-4	11/20/2025	12/3 TREE LIGHTING RNTLS	1,457.28	11,541.04
124116	12/17/2025	42459	BRUDVIK, INC.	61432	11/18/2025	11/8 GENERATOR+ETC RNTL	1,587.00	1,587.00
124117	12/17/2025	44494	BURRTEC WASTE & REC	BD 10/31/25	10/31/2025	AC 50-CO 768532, 10/14 DUM	507.87	507.87
124118	12/17/2025	44494	BURRTEC WASTE & REC	BD 11/1/25	11/1/2025	AC 44-BS 405340, 85075 AVE	65.38	65.38
124119	12/17/2025	56535	CAL VALVE INC	15542	11/4/2025	BACKFLOW SIMULATION STA	6,760.17	6,760.17
124120	12/17/2025	53423	CBE OFFICE SOLUTIONS	INV26493-CBE	11/20/2025	ACC CB CC3502, COLOR CO	1,150.94	1,150.94
124121	12/17/2025	53426	CELL BUSINESS EQUIPMI	593242607	11/20/2025	ACC 1338330, 11/15-12/14, SH	610.58	610.58
124122	12/17/2025	53086	CENTER FOR EMPLOYME	005	10/8/2025	8/1-9/30 TCC COACHELLA PR	8,698.95	8,698.95
124123	12/17/2025	55591	CICCS TRUST	2025-12	12/5/2025	DEC2025 CICCS TRUST EAP	177.30	177.30
124124	12/17/2025	56178	CITIGUARD, INC.	75612	11/1/2025	OCT2025 SECURITY SVCS @	5,568.00	
				75611	11/1/2025	OCT2025 SECURITY SVCS @	9,387.00	
				75604	11/1/2025	OCT2025 SECURITY SVCS @	6,300.00	
				74525	10/1/2025	SEPT2025 SECURITY SVCS @	3,840.00	
				75602	11/1/2025	OCT2025 SECURITY SVCS @	10,416.00	
				75603	11/1/2025	OCT2025 SECURITY SVCS @	4,320.00	39,831.00
124125	12/17/2025	07950	CITY OF COACHELLA	Oct 2025	10/31/2025	OCT2025 WATER- ST, PARKS	59,909.64	
				Oct 2025-LLD's	10/31/2025	OCT2025 WATER- LLD'S	20,216.28	80,125.92

Bank : wfb WELLS FARGO BANK (Continued)

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124126	12/17/2025	53220	COACHELLA ACE HARDW	9898/1	11/18/2025	CASTR MOLDON 410# 6"	39.14	
				9851/1	11/5/2025	MISC FASTENERS	3.27	
				9854/1	11/6/2025	OUTDOOR ANT KILLER, ETC	90.20	
				9863/1	11/10/2025	SPRYPNT 2X FLT WHITE, ETC	29.22	
				9872/1	11/12/2025	PLIERS COMBINATION 6-N-1,	80.32	
				9882/1	11/13/2025	CONNECTOR 2WIRE 15A BLK	65.04	
				9831/1	10/30/2025	100CT BLACK 7.9" 120LB THD	133.34	440.53
124127	12/17/2025	44959	COMPUTER CONSULTAN	40700	12/6/2025	12/2 ONE TIME RESTORE AS	62.50	62.50
124128	12/17/2025	54137	CONSERVE LANDCARE L	530344	10/15/2025	RPR'D EROSION & INSTLL'D I	6,693.50	6,693.50
124129	12/17/2025	52375	CORE & MAIN LP	Y110453	11/13/2025	J-344HP 4X2-1/2 ANG FIRE PL	1,297.68	1,297.68
124130	12/17/2025	52279	COUNTY OF RIVERSIDE	25-26Q1	10/3/2025	JULY-SEPT2025 EMERGENCY	36,562.50	36,562.50
124131	12/17/2025	56553	COVARRUBIAS, LUCIA	Refund	12/3/2025	DEPOSIT REFUND- 11/15 ESC	200.00	200.00
124132	12/17/2025	56158	CULLIGAN QUENCH	INV09918566	12/1/2025	AC D347648, DEC2025 RNTL,	44.66	
				INV09918785	12/1/2025	AC D347651, DEC2025 RNTL,	44.66	89.32
124133	12/17/2025	02115	CWEA	RH-1/31/26	11/12/2025	1/31 CERT RNWL LA GRD 1: F	114.00	114.00
124134	12/17/2025	49859	DEAZTLAN CONSULTING	2025-44	9/2/2025	AUG2025 COACHELLA PROSI	9,500.00	
				2025-45	9/30/2025	SEPT2025 COACHELLA PROS	9,500.00	19,000.00
124135	12/17/2025	54135	DEL VALLE INFORMADOR	2025-113	11/3/2025	11/26 AD: TREE LIGHTING & H	500.00	500.00
124136	12/17/2025	55880	DELGADO, AMBER	Refund	12/3/2025	DEPOSIT REFUND- 11/15 DE	100.00	100.00
124137	12/17/2025	56250	DESERT ARC SHREDDIN(	20938	11/26/2025	11/26 SHREDDING SVCS @ 5	125.00	125.00
124138	12/17/2025	01089	DESERT ELECTRIC SUPF	S129003181.003	10/21/2025	INT WP7000BR 1G WP COVEI	39.80	
				S129005239.002	10/24/2025	ELJ 09-CMS STEEL LID, ETC	430.33	
				S129003181.004	11/6/2025	INT WP7000BR 1G WP COVEI	358.22	828.35
124139	12/17/2025	48672	DESERT RECREATION DI	05	10/8/2025	8/1-9/30 TCC COACHELLA PR	11,421.86	11,421.86
124140	12/17/2025	13700	DEWEY PEST CONTROL I	17704384	11/1/2025	AC1003361, NOV2025, 1540 7	80.00	
				17707952	11/1/2025	AC1450610, NOV2025, DE OR	160.00	
				17713754	11/1/2025	AC2012540, NOV2025, 51301 I	1,200.00	
				17713755	11/1/2025	AC2012536, NOV2025, 48400 '	1,200.00	
				17726296	11/1/2025	AC1281215, NOV2025, SIERR/	301.00	
				17726302	11/1/2025	AC1281218, NOV2025, 51251 I	900.00	
				17747061	10/31/2025	AC2102529, ONE TIME SVC, 5	490.00	4,331.00
124141	12/17/2025	54233	DJ2A ENTERTAINMENT	745	12/5/2025	12/5 MC @ HOLIDAY PARADE	600.00	600.00
124142	12/17/2025	55683	DUDEK	202509266	11/10/2025	PE10/24 CSD 2025 SSMP UPD	1,000.00	
				202508975	10/30/2025	PE9/26 CSD 2025 SSMP UPD/	1,295.00	2,295.00
124143	12/17/2025	14700	E. S. BABCOCK & SONS, I	CJ51844-0076D	10/30/2025	AUG-SEPT2025 LAB SAMPLES	19,269.29	19,269.29

Bank : wfb WELLS FARGO BANK (Continued)

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124144	12/17/2025	54924	EL TRANVIA RESTAURAN	906	11/26/2025	ADDTNL CHRGS- AGVISION E	3,770.40	
				3	10/30/2025	RUN W/ LOS MUERTOS DINN	339.02	4,109.42
124145	12/17/2025	51601	ESTRADA, CASTULO	PD 10/8-10	12/3/2025	PD 10/8-10, LEAGUE OF CA C	215.00	215.00
124146	12/17/2025	48977	EVERON, LLC	159955169	11/3/2025	DC2025-FB2026 ALARM/EXT S	277.10	
				159955171	11/3/2025	DC2025-FB2026 ALARM/PRIM	283.72	
				159955174	11/3/2025	DC2025-FB2026 ALARM, BGD	205.45	
				159955175	11/3/2025	DC2025-FB2026 ALARM/ESUI	287.30	
				159955178	11/3/2025	DC2025-FB2026 EQUIP LSE/E	595.30	
				159955180	11/3/2025	DC2025-FB2026 CELL/ESUITE	335.57	
				159955182	11/3/2025	DC2025-FB2026 EQUIP LSE/E	1,939.62	
				159955129	11/3/2025	DC2025-FB2026 ALARM/EXT S	272.84	
				159955132	11/3/2025	DC2025-FB2026 ALARM/EXT S	323.09	
				159955135	11/3/2025	DEC2025 ALARM/EXT SVC PL	1,541.30	
				159955140	11/3/2025	DC2025-FB2026 FIRE/EXT SV	666.45	
				159955142	11/3/2025	DC2025-FB2026 FIRE, 87101 A	209.28	
				159955144	11/3/2025	DC2025-FB2026 FIRE INSPCT	245.36	
				159955146	11/3/2025	DC2025-FB2026 EQUIP LSE/E	358.63	
				159955150	11/3/2025	DC2025-FB2026 ALARM/EXT S	278.02	
				159955152	11/3/2025	DC2025-FB2026 FIRE/EXT SV	356.43	
				159955155	11/3/2025	DC2025-FB2026 FIRE, 84625 E	333.87	
				159955157	11/3/2025	DEC2025 CELL/EXT SVC PLN	169.26	
				159955159	11/3/2025	DC2025-FB2026 ALARM/EXT S	289.56	
				159955162	11/3/2025	DC2025-FB2026 ALARM/EXT S	303.64	
				159955164	11/3/2025	DC2025-FB2026 ALARM/EXT S	277.10	
				159955166	11/3/2025	DC2025-FB2026 ALARM/EXT S	294.41	9,843.30
124147	12/17/2025	44088	FERGUSON ENTERPRISE	5880629	11/4/2025	1/2 PT MEGALOC THRD SEAL	135.95	
				5789280	10/1/2025	16X25X2 ZL PLEATED AIR FLT	98.41	234.36
124148	12/17/2025	51604	FRONTIER	BD 11/1/25	11/1/2025	ACC 442-400-5750-051923-5,	1,773.91	
				BD 11/1/25	11/1/2025	ACC 760-188-0055-061323-5,	1,171.45	
				BD 12/1/25	12/1/2025	ACC 760-188-0055-061323-5,	1,171.45	4,116.81
124149	12/17/2025	51494	GARDA CL WEST, INC.	10834813	12/1/2025	DEC2025 ARMORED TRANSP	1,388.75	1,388.75
124150	12/17/2025	01864	HAAKER EQUIPMENT CO	INV22756	11/20/2025	CAGE WLDT FLOAT BALL, ET	829.53	
				INV22854	11/21/2025	6"X60" C/B TUBE	578.95	
				INV23423	12/1/2025	FTG COUNTER LH CW & 500(	673.98	2,082.46
124151	12/17/2025	54740	HEPTAGON SEVEN CONS	20251104	11/25/2025	PE11/25 AVE 52 PVMNT REHA	2,580.00	2,580.00

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Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124152	12/17/2025	52735	HERNANDEZ, PEDRO	12/4 Reimb	12/4/2025	REIMBURSEMENT FOR WOR	163.13	163.13
124153	12/17/2025	20150	HYDRO AG SYSTEMS	36431	11/5/2025	PVC BUSHING 2X1 TT SCH40	25.59	25.59
124154	12/17/2025	20450	IMPERIAL IRRIGATION DI	50522793-NV25	12/3/2025	AC50522793, 10/29-12/1, SCAI	73.91	
				50929977-OT/N	11/18/2025	AC50929977, 10/31-11/13, WE	47.50	
				50035755-NV25	12/3/2025	AC50035755, 10/30-12/1, PUM	303.15	
				50371785-NV25	12/3/2025	AC50371785, 10/29-12/1, LIFT	994.31	
				MdOT-MdNV	11/17/2025	MID OCTOBER-MID NOVEMB	50,183.62	
				50408460-NV25	12/4/2025	AC50408460, 10/29-12/1, WEL	18,035.32	
				50035790-OT/N	11/19/2025	AC50035790, 10/16-11/14, WE	9,587.24	
				50443190-OT/N	11/19/2025	AC50443190, 10/17-11/17	32.53	
				50518403-NV25	11/20/2025	AC50518403, 11/14-18, 1517 6	138.97	
				50434217-NV25	12/3/2025	AC50434217, 10/30-12/1	96.62	
				50459795-NV25	12/3/2025	AC50459795, 10/30-12/1	91.98	
				50459796-NV25	12/3/2025	AC50459796, 10/30-12/1	81.94	
				50459819-NV25	12/3/2025	AC50459819, 10/30-12/1	52.33	79,719.42
124155	12/17/2025	45108	IMPERIAL SPRINKLER SU	0023786662-001	10/22/2025	47" SHOVELS	127.90	
				0023992290-001	11/5/2025	2IN PVC ONE HAND QUICK R	330.14	
				0023996039-001	11/5/2025	NDS STD VALVE BOX W/ COV	38.54	
				0024102181-001	11/13/2025	HUNTER SINGLE STA BATT C	184.10	
				0024014426-002	11/6/2025	TURF ROYALE PRILLED YN 5	1,285.75	
				0024021534-001	11/6/2025	36" KING UTILITY PUMP W/ H	157.18	
				0024138680-001	11/18/2025	4GAL CHAPIN PRO BACKPAC	246.14	2,369.75
124156	12/17/2025	53801	INFOSEND, INC.	297529	10/31/2025	SEPT-OCT2025 UTILITY BILLI	5,831.41	5,831.41
124157	12/17/2025	54443	INNOVATIVE PLAYGROUN	3149	9/18/2025	LIL NOVO SEAT PANEL & 12'X	3,419.09	3,419.09
124158	12/17/2025	52738	JNS MEDIA SPECIALISTS	13788	8/19/2025	ADVERTISING CAMPAIGN (PU	10,150.00	10,150.00
124159	12/17/2025	56498	KILEY & ASSOCIATES, LL	CCA 251201	12/1/2025	PE11/30 FEDERAL LEGISLATI	4,000.00	4,000.00
124160	12/17/2025	44767	KUNA FM	746670-1	11/30/2025	11/24-30 AD SPOT: TREE LIGI	700.00	700.00
124161	12/17/2025	45051	LAMAR OF PALM SPRING	117676946	11/17/2025	11/17 PRINTING/POSTER INS	300.00	
				117700816	11/24/2025	11/24-12/21 POSTER ADVERT	1,273.00	
				117700819	11/24/2025	11/24-12/21 POSTER ADVERT	870.00	2,443.00
124162	12/17/2025	24600	LOPES HARDWARE	0001718	11/6/2025	FILTERS, SILICONE, OUTLET	217.62	
				1911	11/3/2025	BUCKETS, TAPE, PAINT, GLO	322.14	
				1967	11/6/2025	SPRAY BOTTLES, SCRUB BR	137.70	677.46
124163	12/17/2025	56554	LOPEZ, DELILAH	Refund	12/3/2025	DEPOSIT REFUND- 11/22 RLF	100.00	100.00
124164	12/17/2025	56555	LOPEZ, HUGO	Refund	12/3/2025	DEPOSIT REFUND- 11/15 BGI	100.00	100.00

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Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124165	12/17/2025	56556	LOPEZ, JENIFER	Refund	12/3/2025	DEPOSIT REFUND- 10/25 BAS	100.00	100.00
124166	12/17/2025	49857	MANPOWER US INC.	39772243	11/9/2025	WE 10/19: GUTIERREZ+RAYA	2,549.00	
				39783391	11/16/2025	WE 11/16: GUTIERREZ+RAYA	2,504.46	
				39782110	11/16/2025	WE 11/16: M. GALLEGOS	1,096.26	
				39795512	11/23/2025	WE 11/23: GUTIERREZ+RAYA	1,907.32	
				39794666	11/23/2025	WE 11/23: M. GALLEGOS	1,461.68	9,518.72
124167	12/17/2025	55020	MARTIN MARIETTA MATE	47827562	11/10/2025	1/2" MM TY A PG70-10	415.23	415.23
124168	12/17/2025	56560	MICHEL, SUSANA	Scholarship	12/8/2025	2025 CYSASL SCHOLARSHIP	25.00	
				Scholarship	12/8/2025	2025 CYSASL SCHOLARSHIP	25.00	50.00
124169	12/17/2025	47192	O'REILLY AUTO PARTS	2855-450252	11/18/2025	ELECTR CLNR & 3OZ GASKE	40.75	
				2855-445869	11/4/2025	BATTERY	73.46	114.21
124170	12/17/2025	50595	PACIFIC LIGHTWAVE INC	98817	11/25/2025	DEC2025 INTERNET SVCS	799.00	799.00
124171	12/17/2025	52650	PALMS TO PINES PRINTI	1103COCELF-FA	12/1/2025	ELF ON THE SHELF BOOKS	10,865.00	10,865.00
124172	12/17/2025	02028	PETE'S ROAD SERVICE, I	25-0878764-00	11/3/2025	FLAT REPAIR	35.61	35.61
124173	12/17/2025	01395	PJ'S DESERT TROPHIES	28650	12/8/2025	EMPLOYEE RECOGNITION A	1,273.66	1,273.66
124174	12/17/2025	56552	POWERS ELECTRIC PRO	78705	11/13/2025	POWERS SOUNDER W/400' C	863.68	863.68
124175	12/17/2025	56322	PRIMO BRANDS	05K8700083738	11/26/2025	10/25-11/24 DELIVERY SVCS	276.19	276.19
124176	12/17/2025	42759	PROPER SOLUTIONS, IN	17715	11/28/2025	WE 11/28: A. GONZALEZ	1,090.18	
				17716	11/28/2025	WE 11/28: L. MARTINEZ	1,434.16	2,524.34
124177	12/17/2025	56538	PURE GOLD FORENSICS	1160	10/31/2025	NUCLEAR DNA TESTING SVC	4,785.00	4,785.00
124178	12/17/2025	52344	QUADIENT FINANCE USA	CD 11/11/25	11/11/2025	OCT2025 POSTAGE BY PHON	1,040.86	1,040.86
124179	12/17/2025	52327	QUADIENT LEASING USA	Q2127997	12/2/2025	JA-MA2026, LSE #N24083160/	1,067.39	1,067.39

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Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124180	12/17/2025	52306	QUINN COMPANY	33639301	11/6/2025	10/31-11/3 LIGHT TOWER RN	227.49	
				33639401	11/6/2025	10/31-11/3 LIGHT TOWER RN	205.15	
				33639501	11/6/2025	10/31-11/3 LIGHT TOWER RN	227.49	
				33635301	11/4/2025	10/31-11/3 LIGHT TOWER RN	205.15	
				33288302	11/6/2025	10/6-11/6 DUMP TRUCK RNTL	4,273.38	
				33635401	11/5/2025	10/31-11/3 LIGHT TOWER RN	205.15	
				33635501	11/4/2025	10/31-11/3 LIGHT TOWER RN	205.15	
				33635601	11/3/2025	10/31-11/3 LIGHT TOWER RN	205.15	
				33635701	11/3/2025	10/31-11/3 LIGHT TOWER RN	227.49	
				33638401	11/6/2025	10/31-11/3 LIGHT TOWER RN	227.49	
				33638501	11/6/2025	10/31-11/3 LIGHT TOWER RN	227.49	
				33638601	11/6/2025	10/31-11/3 LIGHT TOWER RN	227.49	
				33638801	11/6/2025	10/31-11/3 LIGHT TOWER RN	205.15	
				33639001	11/6/2025	10/31-11/3 LIGHT TOWER RN	249.81	
				33639601	11/6/2025	10/31-11/3 LIGHT TOWER RN	216.32	
				33639701	11/6/2025	10/31-11/3 LIGHT TOWER RN	227.49	
				33643001	11/3/2025	10/31-11/3 LIGHT TOWER RN	216.32	
				33634401	11/5/2025	DIESEL FUEL FOR RENTALS	89.31	
				33634701	11/4/2025	10/31-11/3 LIGHT TOWER RN	205.15	
				33634801	11/4/2025	10/31-11/3 LIGHT TOWER RN	205.15	
				33634901	11/4/2025	10/31-11/3 LIGHT TOWER RN	205.15	
				33635001	11/4/2025	10/31-11/3 LIGHT TOWER RN	205.15	
				33635101	11/4/2025	10/31-11/3 LIGHT TOWER RN	205.15	8,894.22
124181	12/17/2025	54500	RELIABLE TRANSLATION:	32328	11/10/2025	11/10 DOCUMENT TRANSLAT	175.68	
				32373	11/12/2025	11/12 CC MTG SVCS	686.00	
				32446	11/19/2025	11/19 PLANNING COMM MTG	196.00	
				32515	12/2/2025	12/2 DOCUMENT TRANSLATI(	80.00	
				32525	12/2/2025	12/2 HEALTHY FOOD TRUCK	196.00	
				32496	11/26/2025	11/26 CC MTG SVCS	686.00	2,019.68
124182	12/17/2025	52365	RESORT PARKING SERVI	10392	10/15/2025	11/1 RUN W/ LOS MUERTOS S	2,282.79	2,282.79
124183	12/17/2025	56557	RIVERA, DIANA	Refund	12/3/2025	DEPOSIT REFUND- 11/15 RLF	100.00	100.00
124184	12/17/2025	11080	RIVERSIDE COUNTY REC	25-318175	10/21/2025	OCT2025 RECORDING	50.00	50.00
124185	12/17/2025	51785	RMC WATER AND ENVIR(	28108	11/10/2025	PE10/31 MESQUITE/AMEZCU.	7,814.25	7,814.25
124186	12/17/2025	44161	ROBERT HALF	65705553	12/11/2025	WE 12/5: K. BROWN	5,600.00	5,600.00

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Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124187	12/17/2025	47658	RUIZVA L. PEST CONTRO	1875	11/10/2025	NOV2025 SVCS @ FIRE STAT	95.00	
				161	12/8/2025	DEC2025 SVCS @ FIRE STAT	95.00	190.00
124188	12/17/2025	52991	S & D CAR WASH MANAG	ARB241617	10/31/2025	OCT2025 CAR WASH SERVIC	489.30	489.30
124189	12/17/2025	55790	SILVERADO TOWING	4247	12/4/2025	12/4 TOWING- 52848 SHADY I	150.00	
				4249	12/8/2025	12/8 TOWING- '05 HONDA CR	150.00	
				4222	11/18/2025	11/18 TOWING- 85494 VISTA I	150.00	450.00
124190	12/17/2025	46733	SIMPLOT TURF & HORTIC	208170294	10/22/2025	MARKING PAINT WHITE, COF	174.65	174.65
124191	12/17/2025	35450	SOCALGAS	1377 6th-NV25	11/26/2025	AC 012 623 3791 6, 10/23-11/2	177.48	
				1500 6th-NV25	11/26/2025	AC 020 678 1257 4, 10/23-11/2	16.68	
				1515 6th-NV25	11/26/2025	AC 031 523 3700 6, 10/23-11/2	61.21	
				1540 7th-NV25	11/26/2025	AC 008 423 3900 4, 10/23-11/2	98.22	
				84626Bag-NV25	11/26/2025	AC 153 323 6215 9, 10/23-11/2	24.86	
				87075Av54-NV2	11/26/2025	AC 123 573 5834 5, 10/23-11/2	82.14	
				BagPool-NV25	11/26/2025	AC 069 323 6500 7, 10/23-11/2	15.88	476.47
124192	12/17/2025	56192	SOUTHERN CALIFORNIA	5	10/2/2025	8/1-9/30 TCC COACHELLA PR	19,223.20	
				Refund	12/3/2025	DEPOSIT REFUND- 11/21 LIBI	300.00	19,523.20
124193	12/17/2025	54972	SOUTHWEST CARPENTE	Refund	12/3/2025	DEPOSIT REFUND- FEB-NOV	300.00	300.00
124194	12/17/2025	55590	STANDARD INSURANCE (	Dec2025	11/18/2025	DEC2025 LIFE/AD&D PREMIU	872.96	
				Dec2025	11/18/2025	DEC2025 LIFE/AD&D/STD/LTI	7,749.46	8,622.42
124195	12/17/2025	55590	STANDARD INSURANCE (	Dec2025	11/15/2025	DEC2025 COBRA PREMIUM #	17.30	
				Dec2025	11/15/2025	DEC2025 COBRA PREMIUM #	18.36	
				Dec2025	11/15/2025	DEC2025 DENTAL PPO PREM	5,672.55	
				Dec2025	11/15/2025	DEC2025 DENTAL HMO PREM	1,307.79	
				Dec2025	11/15/2025	DEC2025 VISION PREMIUM #	1,611.73	8,627.73
124196	12/17/2025	55659	STAPLES	6045916731	10/25/2025	TIME CARDS FOR 2600, ETC	-13.12	
				6048704215	11/25/2025	SPINNING SORTER BLK MES	466.20	
				6048704213	11/25/2025	SPLS 8.5X11 30 REC COPY C	74.34	527.42
124197	12/17/2025	56212	SUN CITY NURSERY	25908	11/9/2025	LITTLE JOHN, ETC	190.31	190.31
124198	12/17/2025	00102	SUNLINE TRANSIT AGEN	INV09285	10/31/2025	OCT2025 CNG FUEL	717.68	717.68
124199	12/17/2025	36300	SWRCB FEES	WS-1054594	12/3/2025	#3310007, FY25/26 WATER SY	36,002.60	36,002.60
124200	12/17/2025	36300	SWRCB FEES	WD-0309945	11/19/2025	#7A330104021, FY25/26 WDP	28,205.00	
				WD-0309979	11/19/2025	#7A330104032, FY25/26 WDP	28,205.00	
				WD-0309915	11/19/2025	#7SSO10520, FY25/26 WDP F	3,945.00	
				SW-0323212	11/5/2025	#7 33M1000212, FY25/26, PHA	10,920.00	
				WD-0310331	11/19/2025	#7A333235001, FY25/26 SR86	563.00	71,838.00

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124201	12/17/2025	52125	TAG/AMS, INC.	5990	12/8/2025	OCT-NOV2025 DRUG TESTIN	255.00	255.00
124202	12/17/2025	54550	TBU INC.	51859	9/24/2025	EMERGENCY WTR LEAK RPF	4,802.54	
				51898	10/14/2025	WTR LEAK RPR @ WESTERF	13,109.90	
				51778	9/8/2025	RPR'D BROKEN MAINLINE @	13,507.16	
				51966	10/23/2025	INSTLL'D VLV COLLARS/HOT	15,958.84	
				51854	10/6/2025	9/25-26 RPR'D MAIN, ETC @	47,384.87	94,763.31
124203	12/17/2025	51918	THE GREATER COACHEL	30254	11/19/2025	2025 COACHELLA STATE OF	1,000.00	1,000.00
124204	12/17/2025	51918	THE GREATER COACHEL	30255	11/19/2025	2025 COACHELLA STATE OF	552.00	
				30256	11/19/2025	2025 COACHELLA STATE OF	552.00	1,104.00
124205	12/17/2025	56387	THE REGENTS OF THE U	GM00424020	9/15/2025	2/1-8/31 TCC COACHELLA PR	11,565.10	
				GM00427919	10/14/2025	9/1-30 TCC COACHELLA PRO	13,818.50	25,383.60
124206	12/17/2025	56218	TITO'S EVENTS & RENTAI	0000010	11/20/2025	12/3 GOLD THRONE CHAIR R	435.00	435.00
124207	12/17/2025	48152	TKE ENGINEERING, INC.	2025-1481	11/12/2025	PE9/30 SVCS, 84345 ARABY A	840.00	
				2025-1482	11/12/2025	PE9/30 SVCS, 46155 DILLON I	2,570.00	
				2025-1044	7/28/2025	PE6/30 SVCS, COACHELLA V/	65.00	
				2025-1045	7/28/2025	PE6/30 SVCS, GLENROY ENG	1,950.00	
				2025-1196	9/22/2025	PE7/31 SVCS, COACHELLA V/	75.00	
				2025-1197	9/22/2025	PE7/31 SVCS, TENTATIVE TR/	210.00	
				2025-1338	10/29/2025	PE8/31 SVCS, CVHC VILLA VE	131.25	
				2025-1478	11/12/2025	PE9/30 SVCS, CVHC VILLA VE	888.75	
				2025-1479	11/12/2025	PE9/30 SVCS, TRACT 38557-	390.00	7,120.00
124208	12/17/2025	51093	T-MOBILE USA, INC.	L2511270457	11/27/2025	9/29 CELL AREA DUMP	100.00	
				L2511300217	11/30/2025	9/16-10/15 TDOA & 10/15-11/1	165.00	
				L2511060067	11/6/2025	9/21-10/21 TDOA & 10/21-11/1	165.00	430.00
124209	12/17/2025	38250	TOPS N BARRICADES	1116960	11/7/2025	36X24 ROAD CLOSED & TAPE	302.11	
				1116793	10/29/2025	STRAPPING 3/4" ROLL, T-SHI	430.45	
				1116808	10/30/2025	36X24 RD CLOSED TO THRU	79.28	
				1116811	10/30/2025	MESH CLASS II LIME W/ ORG	36.70	
				1116877	11/4/2025	10/31-11/2 K-RAIL PLASTIC W	450.00	
				1116878	11/4/2025	10/31-11/3 BARRICADE RNTL	725.25	
				1116879	11/4/2025	10/20-11/2 CHNGBLE MSG SIC	3,870.00	
				1116921	11/6/2025	10/31-11/5 CHNGBLE MSG SIC	3,360.00	
				1116924	11/6/2025	11/3 CHNGBLE MSG SIGN RN	540.00	9,793.79
124210	12/17/2025	52204	TPX COMMUNICATIONS	188129424-0	11/16/2025	ACC 33325, 11/16-12/15	1,174.41	1,174.41
124211	12/17/2025	45053	TYLER TECHNOLOGIES, I	CI100-00228819	11/1/2025	DEC2025-NOV2026 TOUCHSC	442.00	442.00

Bank : wfb WELLS FARGO BANK (Continued)

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124212	12/17/2025	38800	UNDERGROUND SERVICI	25-261628	12/1/2025	CA STATE FEE FOR REGULAT	68.57	
				1120250132	12/1/2025	NOV2025- 47 NEW TICKETS+	198.00	266.57
124213	12/17/2025	55885	V.M. POOL SERVICES ANI	920	10/1/2025	OCT2025 FOUNTAIN/POOL M.	610.00	
				995	11/2/2025	NOV2025 FOUNTAIN/POOL M.	610.00	1,220.00
124214	12/17/2025	39640	VALLEY LOCK & SAFE	196068	11/18/2025	RPR'D CYLINDER @ CIVIC CE	225.00	225.00
124215	12/17/2025	39645	VALLEY OFFICE EQUIPME	IN2508-1217	8/21/2025	ACC #CO03, 7/23-8/22, CIVIC	449.06	
				IN2511-1355	11/24/2025	ACC #CO03, 10/23-11/22, CIVI	560.98	1,010.04
124216	12/17/2025	44966	VERIZON WIRELESS	6127366438	11/1/2025	AC371867190-00001, 10/2-11/	6,697.55	6,697.55
124217	12/17/2025	50934	VERIZON WIRELESS SER	9022418445	11/16/2025	10/21-11/13 PERIODIC LOCAT	150.00	150.00
124218	12/17/2025	55882	VISIT GREATER PALM SP	CI-000665	10/15/2025	FY25/26 Q2 CITY FUNDING	8,750.00	8,750.00
124219	12/17/2025	44775	VISTA PAINT CORPORATI	2025-161988-00	11/6/2025	GRA LL5-319 TIP LINE LAZER	372.94	372.94
124220	12/17/2025	42622	WCT PRODUCTS INC	W18429	9/23/2025	BATTERY CHARGER & HOLDI	209.76	209.76
124221	12/17/2025	53200	WEST CALI PLUMBING	1942	11/16/2025	INSTLL'D GLASS FILLER, WTI	2,893.00	
				1934	11/6/2025	INSTLL'D PRESSURE REGUL.	1,750.00	4,643.00
124222	12/17/2025	49778	WEST COAST ARBORIST	236064	10/31/2025	10/16-31 TREE MAINT @ DIST	590.00	
				236067	10/31/2025	10/16-31 TREE MAINT @ DIST	14,086.00	
				236068	10/31/2025	10/16-31 TREE MAINT @ DIST	437.00	
				236069	10/31/2025	10/16-31 TREE MAINT @ DIST	5,137.00	
				236063	10/31/2025	10/16-31 TREE MAINT @ PAR	342.00	
				236065	10/31/2025	10/16-31 TREE MAINT @ DIST	380.00	
				236066	10/31/2025	10/16-31 TREE MAINT @ DIST	1,220.00	
				236197	9/30/2025	9/16-30 TREE MAINT @ DIST	675.00	22,867.00
124223	12/17/2025	56558	WILLIAMS-GUERRERO, R	Refund	12/3/2025	DEPOSIT REFUND- 11/23 RLF	100.00	100.00
124224	12/17/2025	48971	XPRESS GRAPHICS & PR	25-75569	11/25/2025	CHRISTMAS TREE LIGHTING	216.71	
				25-75695	12/2/2025	HOMETOWN HERO BOARD	79.52	
				25-75726	12/2/2025	PALM SPRINGS ANIMAL SHEL	79.52	
				25-73664	9/24/2025	ECONOMIC DEVELOPMENT E	275.46	
				25-75744	12/3/2025	EMPLOYEE ANNIVERSARY B/	76.66	
				25-75708	12/2/2025	HOMETOWN HERO BOARD	79.52	807.39
						Sub total for WELLS FARGO BANK:		804,842.71

146 checks in this report.

Grand Total All Checks: 2,033,906.64

Date: **December 17, 2025**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124225	12/17/2025	56559	RAMIREZ, ISMAEL V.	Ref000256154	12/9/2025	UB Refund Cst #00004398	3,143.46	3,143.46
						Sub total for WELLS FARGO BANK:		3,143.46

1 checks in this report.

Grand Total All Checks: 3,143.46

Date: **December 17, 2025**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124226	12/17/2025	55878	AGUILAR, STEFANY	Ref000244178	7/1/2024	UB Refund Cst #00057149	48.16	48.16
						Sub total for WELLS FARGO BANK:		48.16

1 checks in this report.

Grand Total All Checks: 48.16

Date: **December 17, 2025**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124227	12/17/2025	56564	CHEYSADAWOOT, NUTTI	Ref000256233	12/16/2025	UB Refund Cst #00054859	89.27	89.27
124228	12/17/2025	56565	JAIMES, MICHAEL	Ref000256235	12/16/2025	UB Refund Cst #00060265	55.18	55.18
124229	12/17/2025	56563	MARTINEZ, LETICIA	Ref000256232	12/16/2025	UB Refund Cst #00035303	80.37	80.37
124230	12/17/2025	56545	PULTE GROUP CO, LLC	Ref000256234	12/16/2025	UB Refund Cst #00059438	71.94	71.94
						Sub total for WELLS FARGO BANK:		296.76

4 checks in this report.

Grand Total All Checks: 296.76

Date: **December 17, 2025**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124231	1/6/2026	54082	COACHELLA GREENERY	2025 Grant	9/18/2025	CANNABIS EQUITY GRANT PI	6,622.68	6,622.68
124232	1/6/2026	45757	IMPERIAL IRRIGATION DI	4040940	12/18/2025	200A OH 120/240 V 1 PH LIFT	2,080.00	2,080.00
124233	1/6/2026	56192	SOUTHERN CALIFORNIA	5	10/2/2025	8/1-9/30 TCC COACHELLA PR	19,223.20	
				Refund	12/3/2025	DEPOSIT REFUND- 11/21 LIBI	300.00	19,523.20
124234	1/6/2026	36300	SWRCB FEES	WD-0309945	11/19/2025	#7A330104021, FY25/26 WDP	28,205.00	
				WD-0309979	11/19/2025	#7A330104032, FY25/26 WDP	28,205.00	
				SW-0323212	11/5/2025	#7 33M1000212, FY25/26, PHA	10,920.00	
				WD-0309915	11/19/2025	#7SSO10520, FY25/26 WDP F	3,945.00	
				WD-0310331	11/19/2025	#7A333235001, FY25/26 SR86	563.00	71,838.00
						Sub total for WELLS FARGO BANK:		100,063.88

4 checks in this report.

Grand Total All Checks: 100,063.88

Date: **January 6, 2025**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

Bank : ewfb EFT FOR WELLS FARGO BANK -

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
3264	11/7/2025	48066	US BANK	Sta 10/27/25	10/27/2025	ACC XXXX-XXXX-XXXX-0925,	39,704.17	39,704.17
						Γ FOR WELLS FARGO BANK -SEPARATE CHECK:		39,704.17

1 checks in this report.

Grand Total All Checks: 39,704.17

Date: **November 7, 2025**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124235	1/14/2026	55717	ACEVES, MIGUEL S	Ref000250959	4/24/2025	UB Refund Cst #00004455 On	100.00	100.00
						Sub total for WELLS FARGO BANK:		100.00

1 checks in this report.

Grand Total All Checks: 100.00

Date: **January 14, 2026**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124236	1/14/2026	55717	ACEVES, MIGUEL S	Ref000254191	9/8/2025	UB Refund Cst #00004455 On /	350.00	350.00
						Sub total for WELLS FARGO BANK:		350.00

1 checks in this report.

Grand Total All Checks: 350.00

Date: **January 14, 2026**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124237	1/14/2026	56567	AGUILAR, STEFANY	Ref000256239	1/5/2026	UB Refund Cst #00060742	91.98	91.98
124238	1/14/2026	56564	CHEYSADAWOOT, NUTTI	Ref000256236	1/5/2026	UB Refund Cst #00054859	17.94	17.94
124239	1/14/2026	56545	PULTE GROUP CO, LLC	Ref000256238	1/5/2026	UB Refund Cst #00059438	11.89	11.89
124240	1/14/2026	56566	PULTE GROUP CO, LLC	Ref000256237	1/5/2026	UB Refund Cst #00059421	93.95	93.95
						Sub total for WELLS FARGO BANK:		215.76

4 checks in this report.

Grand Total All Checks: 215.76

Date: **January 14, 2026**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

Bank : ewfb EFT FOR WELLS FARGO BANK -

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
3265	1/14/2026	54859	AMAZON CAPITAL SERVI(	1FCQ-R419-9FY	1/7/2026	BANKERS BOX MEDIUM 20P	135.42	
				1KKY-94V4-PJY	12/10/2025	2-PACK 2 PRONG TV POWER	19.46	
				1NV3-TC3L-4R4	12/16/2025	BESTGLORY OFFICE DESK C	302.29	
				1FVQ-QFPQ-NF	12/17/2025	BANKERS BOX MEDIUM 20P	233.99	691.16
3266	1/14/2026	49989	ANDREAS LLC	88211	11/20/2025	BUSINESS CARDS: I. BARRO	147.61	
				88215	11/24/2025	#10 SECURITY ENVELOPES	641.36	
				88220	12/11/2025	BUSINESS CARDS: J. RUIZ+M	410.75	
				88240	12/11/2025	BUSINESS TAX LICENSE	575.58	1,775.30
3267	1/14/2026	53291	ANGENIOUS ENGINEERI	19-07A-061	11/30/2025	PE11/30 AVE 50 BRIDGE	4,816.86	
				19-07B-048	11/30/2025	PE11/30 SR-86/AVE 50 INTER(	6,711.92	11,528.78
3268	1/14/2026	45929	BECK OIL, INC.	193698	12/15/2025	PE12/15 WATER DEPT FUEL	1,302.67	
				193734	12/15/2025	PE12/15 SANITARY DEPT FUE	1,532.40	
				193701	12/15/2025	PE12/15 PARKS DEPT FUEL	518.78	
				193715	12/15/2025	PE12/15 VEHICLE MAINT DEF	444.23	
				193716	12/15/2025	PE12/15 SENIOR CNTR FUEL	222.99	
				193723	12/15/2025	PE12/15 CODE ENF DEPT FU	599.52	
				193740	12/15/2025	PE12/15 BLDG MAINT DEPT F	255.38	
				193741	12/15/2025	PE12/15 ADMIN DEPT FUEL	90.53	
				191262	11/30/2025	PE11/30 BLDG/PLANNING DE	246.73	
				191263	11/30/2025	PE11/30 LLMD DEPT FUEL	82.32	
				191267	11/30/2025	PE11/30 STREETS DEPT FUE	409.70	
				191271	11/30/2025	PE11/30 PARKS DEPT FUEL	439.71	
				191285	11/30/2025	PE11/30 VEHICLE MAINT DEP	237.75	
				191286	11/30/2025	PE11/30 SENIOR CNTR FUEL	178.20	
				191294	11/30/2025	PE11/30 CODE ENF DEPT FU	468.60	
				191309	11/30/2025	PE11/30 BLDG MAINT DEPT F	128.94	
				191310	11/30/2025	PE11/30 ADMIN DEPT FUEL	28.12	
				193690	12/15/2025	PE12/15 ENG DEPT FUEL	295.74	
				193691	12/15/2025	PE12/15 BLDG/PLANNING DE	220.93	
				193693	12/15/2025	PE12/15 LLMD DEPT FUEL	212.65	
				193697	12/15/2025	PE12/15 STREETS DEPT FUE	873.90	8,789.79

Bank : ewfb EFT FOR WELLS FARGO BANK - (Continued)

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
3269	1/14/2026	43462	BEST BEST & KRIEGER, L	1049003	12/8/2025	PE11/30, #80237, GENERAL R	37,819.40	
				1049004	12/8/2025	PE11/30, #80237.00211, CODE	340.00	
				1049005	12/8/2025	PE11/30, #80237.00445, DESE	748.00	
				1049006	12/8/2025	PE11/30, #80237.00500, PRA F	19,940.00	
				1049007	12/8/2025	PE11/30, #80237.00810, LABO	3,094.00	
				1049008	12/8/2025	PE11/30, #80237.00840, CANN	850.00	
				1049009	12/8/2025	PE11/30, #80237.00854, EMPL	442.00	
				1049010	12/8/2025	PE11/30, #80237.00857, RENE	23,998.10	
				1049011	12/8/2025	PE11/30, #80237.00858, COA \	1,802.00	
				1049012	12/8/2025	PE11/30, #80237.00866, KPC S	4,650.30	
				1049013	12/8/2025	PE11/30, #80237.00868, TRAV	1,175.30	
				1049014	12/8/2025	PE11/30, #80237.00869, AFFO	918.00	
				1049015	12/8/2025	PE11/30, #80237.00883, AIRPC	995.20	
				1049016	12/8/2025	PE11/30, #80237.77777, SHAR	850.00	97,622.30
3270	1/14/2026	02320	CALPERS	1000000181549	12/15/2025	#6373819375, JAN2026 HEALT	157,054.09	
				1000000181549	12/15/2025	#6373819375, JAN2026 HEALT	14,517.28	171,571.37
3271	1/14/2026	56271	CHARTER COMMUNICATI	18787020112212	12/21/2025	AC 187870201, 12/28-1/27	1,792.47	1,792.47
3272	1/14/2026	00749	COUNTY OF RIVERSIDE	SH0000049470	12/4/2025	9/18-10/15 LAW ENFORCEME	935,662.21	935,662.21
3273	1/14/2026	44036	DE LAGE LANDEN PUBLIC	593587433	12/12/2025	ACC #1338330, COLOR COPIE	216.41	
				593709108	12/21/2025	ACC #4209609, COLOR COPIE	392.10	608.51
3274	1/14/2026	42500	DEKRA-LITE INDUSTRIES	ARINV027542	11/21/2025	COOL WHITE LED MINI LIGHT	1,504.15	1,504.15
3275	1/14/2026	44713	FARMER BROTHERS CO.	95678606	12/10/2025	COFFEE, CREAMER, SWEETI	363.55	363.55
3276	1/14/2026	49100	GOLDMAN, RONALD A.	Nov/Dec2025	12/31/2025	NOV-DEC2025 SVCS: KPC	5,524.50	5,524.50
3277	1/14/2026	53123	GRANICUS	220404	12/12/2025	DEC2025/26 GOVACCESS (M/	24,298.61	24,298.61
3278	1/14/2026	51892	HERC RENTALS, INC.	36152283-001	12/11/2025	12/5-6 LIGHT TOWER RNTLS	5,646.00	
				36057553-002	12/1/2025	11/1-12/1 LIGHT TOWER RNTI	6,776.02	12,422.02
3279	1/14/2026	00996	HOME DEPOT	9021279	11/28/2025	PACKOUT ROLLING CARTS	269.70	
				6014630	12/1/2025	27GAL TOUGH TOTE, 8" CABI	318.15	
				7010617	12/10/2025	WAGNER FURNO 500 HEAT G	128.33	
				7023168	11/20/2025	HUSKY 280-PIECE MECHANIC	418.55	
				9013171	11/18/2025	250' BLACK LAMP WIRE, ETC	177.60	1,312.33
3280	1/14/2026	42709	LANDMARK CONSULTAN	LP1325-37	1/7/2026	PE12/17 SOIL TSTNG @ SHAI	960.00	960.00
3281	1/14/2026	54046	LERMA, ARMANDO M.	2026 Grant	1/6/2026	CANNABIS EQUITY GRANT PI	3,313.64	3,313.64
3282	1/14/2026	56291	MANNYS BUMPER REPAI	FAC0007	11/18/2025	AUTO BODY REPAIR & PAINT	11,962.50	
				FAC0008	12/15/2025	AUTO BODY REPAIR & PAINT	11,962.50	23,925.00

Bank : ewfb EFT FOR WELLS FARGO BANK -S (Continued)

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
3283	1/14/2026	51559	MORIN, JR, HECTOR	Reimb	1/6/2026	DEC2025 DOT PHYSICAL REI	100.00	100.00
3284	1/14/2026	56561	MUNICIPAL RESOURCE G	251261	12/17/2025	NOV2025 LEADERSHIP COAC	2,000.00	
				251193	12/11/2025	NOV2025 DEVELOPMENT SV	5,165.20	7,165.20
3285	1/14/2026	54985	MUNISERVICES LLC	INV06-021943	11/5/2025	CLEARVIEW/STARS 2025 SVC	347.29	
				INV06-022199	12/15/2025	OCT-DEC2025 SVCS: UTILITY	4,851.03	5,198.32
3286	1/14/2026	55682	SALCIDO, SANDRA E.	7	11/26/2025	NOV2025 ZUMBA CLASSES	390.00	390.00
3287	1/14/2026	50229	URBAN HABITAT	INV-00646	11/30/2025	RETENTION- AVE 50 ST & ME	165,162.82	165,162.82
3288	1/14/2026	50629	VINTAGE ASSOCIATES, IN	238910	10/31/2025	RYE SEED FOR PARKS	32,146.50	
				239275	12/15/2025	DEC2025 LNDSCPE MAINT @	5,201.50	
				238742	10/28/2025	INSTLL'D TREES @ BGDMA P	35,000.00	
				238911	10/31/2025	RPLC'D IRRGTN CONTROLLE	37,450.00	
				239089	11/25/2025	INSTLL'D SEASONAL PLANTS	140.00	
				239090	11/25/2025	INSTLL'D SEASONAL PLANTS	1,944.00	
				239269	12/15/2025	DEC2025 LNDSCPE MAINT @	13,017.50	
				239270	12/15/2025	DEC2025 LNDSCPE MAINT @	5,247.00	
				239272	12/15/2025	DEC2025 LNDSCPE MAINT @	5,432.50	
				239274	12/15/2025	DEC2025 LNDSCPE MAINT @	10,135.00	145,714.00
3289	1/14/2026	54433	WEX BANK	109474625	12/23/2025	ACC 0496-00-726338-7, 11/24-	2,177.60	2,177.60
3290	1/14/2026	00384	WILLDAN FINANCIAL SER	010-64476	12/26/2025	JAN-MAR2026 ADMIN SVCS, (	4,522.94	4,522.94
3291	1/14/2026	54776	WILMINGTON TRUST N. A	Feb2026	1/6/2026	CWA WATER REV REFUNDIN	63,869.50	63,869.50
3292	1/14/2026	54777	WILMINGTON TRUST N. A	Feb2026	1/6/2026	CWA WATER REV REFUNDIN	83,566.87	83,566.87
3293	1/14/2026	54719	YUNEX LLC	5610006826	11/24/2025	OCT2025 TRAFFIC SIGNAL C	1,274.35	
				90005734	11/24/2025	OCT2025 TRAFFIC SIGNAL M	3,028.50	
				5610006994	12/15/2025	NOV2025 TRAFFIC SIGNAL C	801.00	
				90005882	12/15/2025	NOV2025 TRAFFIC SIGNAL M	3,028.50	8,132.35
						Γ FOR WELLS FARGO BANK -SEPARATE CHECK:		1,789,665.29

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124241	1/14/2026	51489	AIRWAVE COMMUNICATI(	5994	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,117.82	
				5995	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	
				5996	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	
				5997	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	
				5998	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	
				5999	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	
				6000	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	
				6001	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	
				6002	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	
				6003	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	
				5412	11/25/2024	INSTLL'D HAVIS DOCKING ST	1,705.88	
				5993	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,189.55	
				6004	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	
				6005	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	
				6006	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	
				6007	12/1/2025	INSTLL'D LED LIGHTBAR, ET(	4,066.29	62,875.02
124242	1/14/2026	54546	ALL STATE INC	25-1112-11220	12/1/2025	12/1 TOWING: CALHOUN/AVE	275.00	275.00
124243	1/14/2026	54860	ARMSTRONG GROWERS	SI-384246	12/1/2025	GERANIUM ZONAL 'DYNAMO	87.00	87.00
124244	1/14/2026	54517	BLACK KNIGHT TECHNOI	997553868042B	12/31/2025	NOV2025 SITXPRO SBSCRPT	250.00	250.00
124245	1/14/2026	42459	BRUDVIK, INC.	61518	12/10/2025	12/5 GENERATOR+SPIDER B(	1,247.00	
				61541	12/12/2025	12/4-6 LIGHT TOWER RNTLS	3,226.00	4,473.00
124246	1/14/2026	46356	C.V. CONSERVATION COI	Nov 2025	12/18/2025	NOV2025 LDMF MULTI-SPECI	1,702.80	1,702.80
124247	1/14/2026	43634	CACEO	200036073	12/9/2025	CCEO APP FEE- P. HERNANE	210.00	
				300023223	12/9/2025	2026 MBRSHP RNWL: P. HER	100.00	310.00
124248	1/14/2026	53423	CBE OFFICE SOLUTIONS	INV16789-CBE	10/17/2025	ACC CB CC3502, COLOR CO	1,130.86	
				INV21719-CBE	11/4/2025	ACC CB CC3502, COLOR CO	486.99	
				INV30604-CBE	12/5/2025	ACC CB CC3502, COLOR CO	450.96	
				INV35389-CBE	12/22/2025	ACC CB CC3502, COLOR CO	1,097.13	3,165.94
124249	1/14/2026	02048	CDW GOVERNMENT, INC	AH2856Q	12/11/2025	ADOBE ACROBAT STANDARE	8,865.00	
				AH3EE9F	12/12/2025	EPSON TM-S9000II MF SCANI	1,493.61	10,358.61
124250	1/14/2026	53426	CELL BUSINESS EQUIPMI	593683330	12/21/2025	ACC 1338330, 12/15-1/14, SHA	581.50	581.50
124251	1/14/2026	55591	CICCS TRUST	2026-1	1/5/2026	JAN2026 CICCS TRUST EAP	181.80	181.80

Bank : wfb WELLS FARGO BANK (Continued)

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124252	1/14/2026	56178	CITIGUARD, INC.	76497	12/1/2025	NOV2025 SECURITY SVCS @	4,440.00	
				76499	12/1/2025	NOV2025 SECURITY SVCS @	7,308.00	
				75018	10/24/2025	10/22-23 ON-SITE SECURITY	1,022.00	
				76016	11/16/2025	11/12-13 ON-SITE SECURITY	255.00	
				76496	12/1/2025	NOV2025 SECURITY SVCS @	9,667.00	
				76498	12/1/2025	NOV2025 SECURITY SVCS @	6,405.00	29,097.00
124253	1/14/2026	53220	COACHELLA ACE HARDW	9938/1	12/1/2025	TENT STAKE STEEL 12", ETC	147.66	
				9946/1	12/3/2025	CORD EXTN 16/3 SJTW 100',	43.47	
				9915/1	11/24/2025	DRN DEODORIZR LMN	19.55	
				9944/1	12/2/2025	SUPPORT BACK X-LRG	25.00	
				9904/1	11/20/2025	MLT-US SPRYR HND HLD 32"	34.78	
				9906/1	11/20/2025	DIESEL CAN 5GAL	32.61	
				9917/1	11/24/2025	MEASURING WHL DIGITAL 12	114.17	
				9919/1	11/25/2025	DUCT TAPE	42.38	
				9959/1	12/4/2025	WORK LGT W/ MAGNET LED	69.58	
				9960/1	12/4/2025	DIPPED GLVS BLK CL5	20.65	
				9999/1	12/15/2025	JNT CMPND WALLBOARD, DI	80.21	630.06
124254	1/14/2026	44959	COMPUTER CONSULTAN	40802	1/4/2026	12/11+18+19 FIBER OPTIC SV	250.00	250.00
124255	1/14/2026	54137	CONSERVE LANDCARE L	545986	11/30/2025	INSTLL'D PLANTS @ DIST 39	3,069.49	
				546230	11/30/2025	INSTLL'D PLANTS AT PARK @	4,763.33	
				546231	11/30/2025	INSTLL'D PLANTS AT PARK @	1,622.04	
				546759	11/30/2025	RPR'D VALVE @ DIST 3	474.28	
				546760	11/30/2025	RPR'D VALVE @ DIST 15	239.10	
				547380	11/30/2025	RPR'D VALVE @ DIST 25	231.06	
				507196	8/13/2025	RPLC'D VALVE @ DIST 31	236.93	
				545161	11/30/2025	NOV2025 LNDSCPE MAINT @	60,697.00	71,333.23
124256	1/14/2026	56158	CULLIGAN QUENCH	INV10060593	1/1/2026	AC D347648, JAN2026 RNTL,	44.56	44.56
124257	1/14/2026	09650	CVAG	Nov2025	12/18/2025	NOV2025 TUMF FEES	2,840.00	2,840.00
124258	1/14/2026	09950	CVWD	Nov 2025	12/2/2025	CN 332543, NOV2025 WELL R	37,255.18	37,255.18
124259	1/14/2026	09950	CVWD	Deposit	1/7/2026	PLAN CK DEPOSIT- AVE 50 BI	10,000.00	10,000.00
124260	1/14/2026	54742	DELARA III, ANTONIO	Reimb	1/6/2026	DEC2025 DOT PHYSICAL REI	100.00	100.00
124261	1/14/2026	12870	DEPARTMENT OF JUSTIC	008023	11/25/2025	OCT2025 BLOOD ALCOHOL A	70.00	
				008087	11/25/2025	JULY2025 BLOOD ALCOHOL A	70.00	140.00
124262	1/14/2026	56250	DESERT ARC SHREDDIN	21371	12/18/2025	12/18 SHREDDING SVCS @ 5	332.50	332.50

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Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124263	1/14/2026	01089	DESERT ELECTRIC SUPF	S128954152.003	11/20/2025	ASTRO TIMER DIGITAL SWIT(	68.78	
				S129270557.001	11/20/2025	8" DIAG CUT PLIERS, ETC	66.46	135.24
124264	1/14/2026	13700	DEWEY PEST CONTROL I	17747061	10/30/2025	AC2102529, ONE TIME SVC @	490.00	
				17749341	12/1/2025	AC103361, DEC2025, 1540 7T	80.00	
				17753533	12/1/2025	AC2010194, DEC-FEB2026, AL	156.00	
				17753541	12/1/2025	AC1450610, DEC2025, DE OR	160.00	
				17758913	12/1/2025	AC2012540, DEC2025, 51301 I	1,200.00	
				17758914	12/1/2025	AC2012536, DEC2025, 48400 '	1,200.00	
				17771105	12/1/2025	AC1281215, DEC2025, SIERR/	301.00	
				17771107	12/1/2025	AC1281218, DEC2025, 51251 I	900.00	4,487.00
124265	1/14/2026	54924	EL TRANVIA RESTAURAN	105	12/5/2025	HOLIDAY PARADE DINNER	657.39	657.39
124266	1/14/2026	51604	FRONTIER	BD 1/1/26	1/1/2026	ACC 760-188-0055-061323-5, '	1,171.42	1,171.42
124267	1/14/2026	55660	GANNETT CALIFORNIA L(	0007461642	11/30/2025	NOV2025 PUBLISHED ADS	2,200.47	2,200.47
124268	1/14/2026	51494	GARDA CL WEST, INC.	20655673	11/30/2025	NOV2025 EXCESS ITEMS	102.67	
				10837543	1/1/2026	JAN2026 ARMORED TRANSP(	1,378.15	1,480.82
124269	1/14/2026	20450	IMPERIAL IRRIGATION DI:	50931642-DC25	1/5/2026	AC50931642, 12/2-30	136.03	
				50931643-DC25	12/16/2025	AC50931643, 12/2-11	49.30	
				50705542-NV25	12/9/2025	AC50705542, 11/4-12/4, PERM	1,080.84	
				50705544-NV25	12/9/2025	AC50705544, 11/4-12/4, PERM	231.41	
				50035560-NV25	12/4/2025	AC50035560, 10/30-12/1, ST LI	25,267.44	
				50035836-NV25	12/9/2025	AC50035836, 11/4-12/4, WELL	37.27	
				50217597-NV25	12/9/2025	AC50217597, 11/4-12/4	59.50	
				50387122-NV25	12/11/2025	AC50387122, 11/4-12/4, SEWE	44,719.06	
				50487676-NV25	12/9/2025	AC50487676, 11/4-12/4, LIFT S	20.98	
				50509172-NV25	12/9/2025	AC50509172, 11/4-12/4, CORP	2,576.67	
				50035755-DC25	1/5/2026	AC50035755, 12/2-30, PUMP/V	62.74	74,241.24
124270	1/14/2026	45757	IMPERIAL IRRIGATION DI:	4040940	12/18/2025	200A OH 120/240 V 1 PH LIFT	2,080.00	2,080.00
124271	1/14/2026	45108	IMPERIAL SPRINKLER SU	0023873940-003	11/24/2025	AQUALINE BRASS GATE VALV	369.64	
				0024234815-002	11/24/2025	RB PE-PLASTIC VALVE	82.29	
				0024234815-003	12/11/2025	SCH80 PVC MALE ADAPTER	51.05	
				0024265473-001	11/26/2025	IPS PVC CEMENT, IPS PVC P	77.88	
				0024343613-001	12/4/2025	YELLOW CAUTION TAPE, ETC	138.03	
				0024390772-001	12/9/2025	RB 1800 POP-UP W/ PRS, ETC	242.11	
				0024481912-001	12/16/2025	HUNTER MP ROTATOR, ETC	34.54	
				0024481912-002	12/16/2025	HUNTER MP ROTATOR	114.91	1,110.45

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Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124272	1/14/2026	55169	INDUSTRIAL HEALTH MEI	00016650	12/11/2025	DEC2025 DOT PHYSICAL SVC	65.00	65.00
124273	1/14/2026	56475	INDUSTRIAL TECHNICAL	1116177F	10/31/2025	STARTUP OF MITSUBISHI F8(	720.00	720.00
124274	1/14/2026	53801	INFOSEND, INC.	301439	12/31/2025	DEC2025 UTILITY BILLING SV	5,824.53	5,824.53
124275	1/14/2026	52906	JOHNSON CONTROLS SE	41890295	11/8/2025	12/1-2/28 ALARM @ 1515 6TH	1,829.88	1,829.88
124276	1/14/2026	56498	KILEY & ASSOCIATES, LL	CCA 260105	1/5/2026	PE12/31 FEDERAL LEGISLATI	4,000.00	4,000.00
124277	1/14/2026	47328	KONICA MINOLTA	48400951	12/31/2025	C550I, 1515 6TH ST, NOV-DE(	1,282.02	1,282.02
124278	1/14/2026	44047	KONICA MINOLTA BUSINE	9010682479	11/25/2025	BIZHUB 282, FIRE DEPT, 10/2	5.69	5.69
124279	1/14/2026	44767	KUNA FM	746670-2	12/14/2025	12/1-5 AD SPOT: TREE LIGHT	550.00	550.00
124280	1/14/2026	45051	LAMAR OF PALM SPRING	117412088	9/1/2025	9/1-28 POSTER ADVERTISING	1,273.00	
				117412089	9/1/2025	9/1-28 POSTER ADVERTISING	870.00	
				117784191	12/22/2025	12/22-1/18 POSTER ADVERTI:	870.00	
				117784194	12/22/2025	12/22-1/18 POSTER ADVERTI:	1,300.00	4,313.00
124281	1/14/2026	54362	LINDE GAS & EQUIPMEN	53356175	11/22/2025	10/20-11/20 IND HIGH PRESS(	48.63	48.63
124282	1/14/2026	24600	LOPES HARDWARE	0001867	11/17/2025	WRENCH, BIT HOLDER 6", GL	230.00	
				0001874	11/25/2025	BROOM, SCREWS, WATER N	195.53	
				1949	11/18/2025	EXTENSION CORD, BRUSH, (	312.28	
				1978	11/25/2025	UTILITY KNIFE, PLUGS, DUCT	239.74	977.55
124283	1/14/2026	54600	LORA, RISSETH	Mlge	12/18/2025	SEPT-DEC2025 MILEAGE REI	224.90	224.90
124284	1/14/2026	49857	MANPOWER US INC.	39755588	11/2/2025	WE 10/5: GALLEGOS+GONZA	2,896.62	
				39809791	11/30/2025	WE 11/30: GALLEGOS+ROME	1,595.36	
				39821968	12/7/2025	WE 12/7: GALLEGOS+ROMEF	4,634.60	
				39833916	12/14/2025	WE 12/14: M. GALLEGOS	1,096.26	10,222.84
124285	1/14/2026	55842	MIG, INC.	0094630	12/22/2025	PE11/30 ADA SELF-EVALUATI(	606.59	606.59
124286	1/14/2026	42224	NUNEZ, JOSE	Reimb	1/6/2026	DEC2025 DOT PHYSICAL REI	100.00	100.00
124287	1/14/2026	52757	OLLIN STRATEGIES	380	12/15/2025	DEC2025 CONSULTING SVCS	5,000.00	5,000.00

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Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124288	1/14/2026	47192	O'REILLY AUTO PARTS	2855-424295	8/26/2025	SUNSHADE & SPOT MIRROR	40.20	
				2855-424299	8/26/2025	HD MIRROR HEAD	3.27	
				2855-435314	10/1/2025	HD MIRROR HEAD & UNIV GL	35.87	
				2855-397224	12/17/2021	BOOSTER CBL	64.15	
				2855-444026	10/29/2025	5GAL MOTOR OIL & GEAR LU	190.29	
				2855-445667	11/3/2025	BRAKE PADS	55.03	
				2855-446275	11/5/2025	HD AIR FILTER, OIL FILTER, E	108.37	
				2855-448306	11/12/2025	TETH FUEL CAP	18.39	
				2855-448744	11/13/2025	BATTERY	220.72	
				2855-450143	11/17/2025	STRIPE OFF	51.74	
				2855-450330	11/18/2025	MOTOR OIL & OIL FILTER	39.99	
				2855-452400	11/24/2025	14OZ BRAKE CLN	45.54	
				2855-454660	12/2/2025	OIL FILTER, MOTOR OIL & AIF	52.69	
				2855-455085	12/3/2025	TOWING KIT	244.63	
				2855-456855	12/9/2025	RADIATOR, THERMOSTAT, G/	325.15	1,496.03
124289	1/14/2026	50595	PACIFIC LIGHTWAVE INC	100069	12/25/2025	JAN2026 INTERNET SVCS	799.00	799.00
124290	1/14/2026	52650	PALMS TO PINES PRINTI	1130COCSOTEI	12/12/2025	SOMOS T-SHIRTS	1,363.20	1,363.20
124291	1/14/2026	02028	PETE'S ROAD SERVICE, I	25-0882044-00	11/18/2025	MOUNT/BALANCE NEW TIRE	457.19	
				25-0882539-00	11/19/2025	FLAT REPAIR	40.61	
				25-0883238-00	11/24/2025	FLAT REPAIR	40.61	
				25-0884180-00	12/1/2025	FLAT REPAIR	40.61	
				25-0885166-00	12/4/2025	DISMOUNT/MOUNT NEW TIR	1,915.30	
				25-0885352-00	12/4/2025	FLAT REPAIR	40.61	
				25-0886916-00	12/11/2025	FLAT REPAIR	40.61	2,575.54
124292	1/14/2026	01395	PJ'S DESERT TROPHIES	28629	11/28/2025	HOMETOWN HERO PLAQUES	304.63	304.63
124293	1/14/2026	42759	PROPER SOLUTIONS, IN(	17732	12/5/2025	WE 12/5: A. GONZALEZ	1,677.20	
				17733	12/5/2025	WE 12/5: L. MARTINEZ	2,206.40	
				17749	12/12/2025	WE 12/12: A. GONZALEZ	1,677.20	
				17750	12/12/2025	WE 12/12: L. MARTINEZ	2,206.40	
				17769	12/19/2025	WE 12/19: A. GONZALEZ	1,530.45	
				17770	12/19/2025	WE 12/19: L. MARTINEZ	2,206.40	11,504.05
124294	1/14/2026	52344	QUADIENT FINANCE USA	CD 12/12/25	12/12/2025	NOV/DEC2025 POSTAGE BY I	5,053.05	5,053.05
124295	1/14/2026	52327	QUADIENT LEASING USA	Q2149065	12/19/2025	JA-AP2026, LSE #N22061758,	723.39	723.39
124296	1/14/2026	52306	QUINN COMPANY	33689701	12/2/2025	11/5-12/3 85' STRAIGHT BOOI	6,257.83	
				33689702	12/4/2025	DIESEL FUEL FOR RENTAL	241.99	6,499.82

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124297	1/14/2026	42443	RDO EQUIPMENT CO.	P2571445	12/11/2025	SWITCH & TOGGLE/ROCKER	166.68	166.68
124298	1/14/2026	54500	RELIABLE TRANSLATION:	32021	10/8/2025	10/8 DOCUMENT TRANSLATI(	75.00	
				32144	10/19/2025	10/19 DOCUMENT TRANSLAT	207.18	
				32583	12/8/2025	12/8 DOCUMENT TRANSLATI(	196.02	
				32666	12/16/2025	12/16 PARK & REC MTG SVCS	147.00	
				32679	12/17/2025	12/17 PLANNING COMM MTG	196.00	821.20
124299	1/14/2026	11080	RIVERSIDE COUNTY REC	PE 12/31/25	12/31/2025	NOV-DEC2025 RECORDINGS	100.00	100.00
124300	1/14/2026	44161	ROBERT HALF	65718860	12/16/2025	WE 12/12: K. BROWN	5,600.00	
				65744046	12/23/2025	WE 12/19: K. BROWN	5,600.00	
				65765118	12/30/2025	WE 12/26: K. BROWN	2,800.00	
				65785960	1/6/2026	WE 1/2: K. BROWN	1,400.00	15,400.00
124301	1/14/2026	55272	SALAS, LAWRENCE Y.	Nov-25	12/3/2025	NOV2025 CITIZENSHIP CLAS:	1,160.00	1,160.00
124302	1/14/2026	55790	SILVERADO TOWING	4256	12/15/2025	12/15 TOWING- 1609 4TH ST	150.00	150.00
124303	1/14/2026	35450	SOCALGAS	1540 7th-DC25	12/29/2025	AC 008 423 3900 4, 11/24-12/2	103.48	
				84626Bag-DC25	12/29/2025	AC 153 323 6215 9, 11/24-12/2	96.44	
				1377 6th-DC25	12/29/2025	AC 012 623 3791 6, 11/24-12/2	170.26	
				1500 6th-DC25	12/29/2025	AC 020 678 1257 4, 11/24-12/2	22.41	
				1515 6th-DC25	12/29/2025	AC 031 523 3700 6, 11/24-12/2	342.85	
				87075Av54-DC2	12/29/2025	AC 123 573 5834 5, 11/24-12/2	75.32	
				BagPool-DC25	12/29/2025	AC 069 323 6500 7, 11/24-12/2	14.30	825.06
124304	1/14/2026	35430	SOUTH COAST A.Q.M.D.	4627543	11/4/2025	ID 98112, FY25/26, EMISSION:	170.94	
				4625261	11/4/2025	ID 98112, D75075, EM ELEC G	565.63	736.57
124305	1/14/2026	55590	STANDARD INSURANCE (	Jan2026	12/15/2025	JAN2026 DENTAL PPO PREMI	6,270.28	
				Jan2026	12/15/2025	JAN2026 DENTAL HMO PREM	1,082.92	
				Jan2026	12/15/2025	JAN2026 VISION PREMIUM #7	1,910.12	
				Jan2026	12/1/2025	JAN2026 COBRA PREMIUM #7	41.24	
				Jan2026	12/15/2025	JAN2026 COBRA PREMIUM #7	19.68	9,324.24
124306	1/14/2026	55659	STAPLES	6051206715	12/25/2025	SPLS 8.5X11 30 REC COPY C:	278.64	
				6048704208	11/25/2025	SPLS 8.5X11 30 REC COPY C:	132.85	
				6048704211	11/25/2025	PERK CUBE FACIAL	10.89	
				6048704209	11/25/2025	DISINFECTANT SPRAY LYSOL	230.31	652.69
124307	1/14/2026	00102	SUNLINE TRANSIT AGEN(	INV09334	11/30/2025	NOV2025 CNG FUEL	545.48	545.48
124308	1/14/2026	43837	TERRA NOVA PLANNING (	TN022217	1/1/2026	PE12/31 AIRPORT BUSINESS	2,925.00	2,925.00
124309	1/14/2026	54879	THREE PEAKS CORP	91	11/1/2025	FAB/INSTALL CONTROLLER (	6,250.00	6,250.00

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124310	1/14/2026	48152	TKE ENGINEERING, INC.	2025-1647	12/5/2025	PE10/31 SVCS, CVHC VILLA V	1,513.75	
				2025-1648	12/5/2025	PE10/31 SVCS, TRACT 38557-	230.00	
				2025-1649	12/5/2025	PE10/31 SVCS, 84345 ARABY	210.00	
				2025-1650	12/5/2025	PE10/31 SVCS, 46155 DILLON	1,714.00	
				2025-1651	12/5/2025	PE10/31 SVCS, COVA PJCT	200.00	
				2025-1652	12/5/2025	PE10/31 SVCS, COA LIBRARY	1,370.00	
				2025-1653	12/5/2025	PE10/31 SVCS, TTM 39347- FI	210.00	5,447.75
124311	1/14/2026	38250	TOPS N BARRICADES	1117480	12/8/2025	12/5 TRAFFIC BEACON RED &	554.00	
				1117410	12/4/2025	PAINT CHALK SPRAY	36.87	
				1117479	12/8/2025	12/5 K-RAIL PLASTIC WTR FIL	105.00	
				1117201	11/21/2025	36X18 CROSS TRAFFIC	95.70	
				1117230	11/25/2025	PAINT BLACK RAPID DRY 5G/	135.94	
				1117252	11/26/2025	10/27-11/25 CHNGBLE MSG S	13,800.00	
				1117294	11/28/2025	10/29-11/28 CHNGBLE MSG S	2,477.00	
				1117467	12/8/2025	HIGH-VIZ KNIT LIME BEANIE,	165.57	
				1117483	12/8/2025	12/5 HOLIDAY PARADE ROUT	2,000.00	
				1117485	12/8/2025	11/21-12/5 CHNGBLE MSG SIC	7,740.00	
				1117538	12/11/2025	PAINT RED STRIPING 5GAL	380.63	27,490.71
124312	1/14/2026	52204	TPX COMMUNICATIONS	188548509-0	12/16/2025	ACC 33325, 12/16-1/15	123.10	123.10
124313	1/14/2026	45053	TYLER TECHNOLOGIES, I	045-545249	11/20/2025	11/20 ADDL IMP-R AND PM	2,400.00	
				045-545769	11/26/2025	11/16-21 ERP MIGRATION (TR	2,940.99	
				045-546354	11/30/2025	11/17-20 ERP MIGRATION	6,400.00	
				045-547346	12/10/2025	12/1+3 ERP MIGRATION	3,200.00	
				045-548092	12/18/2025	12/8 ADDL IMP-R AND PM	2,400.00	
				045-548093	12/18/2025	12/8 ERP MIGRATION	1,600.00	18,940.99
124314	1/14/2026	39640	VALLEY LOCK & SAFE	197359	12/10/2025	CYBER CYLINDER MAINT SV(	860.00	860.00
124315	1/14/2026	39645	VALLEY OFFICE EQUIPME	IN2512-1572	12/29/2025	ACC #CO03, 11/23-12/22, CIVI	652.76	652.76
124316	1/14/2026	55669	VEGA, ABRAHAM	Edu Reimb	12/10/2025	ECI-2 & CWEA MBRSHP RNW	370.00	370.00
124317	1/14/2026	55530	VENLO RV	032235	11/10/2025	HITCH W/ 2 5/16 BALL, ETC	200.86	200.86
124318	1/14/2026	44966	VERIZON WIRELESS	6129867269	12/1/2025	AC371867190-00002, 11/2-12/'	230.22	
				6129867268	12/1/2025	AC371867190-00001, 11/2-12/'	8,540.45	8,770.67
124319	1/14/2026	55882	VISIT GREATER PALM SP	CI-000691	1/1/2026	FY25/26 Q3 CITY FUNDING	8,750.00	8,750.00
124320	1/14/2026	53200	WEST CALI PLUMBING	1954	12/13/2025	RPLC'D SHUT OFF VALVES, E	846.89	846.89

Bank : wfb WELLS FARGO BANK (Continued)

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124321	1/14/2026	49778	WEST COAST ARBORIST	236635	11/15/2025	11/1-15 TREE MAINT @ DIST :	6,760.00	
				236637	11/15/2025	11/1-15 TREE MAINT @ DIST -	4,005.00	
				236638-A	11/15/2025	11/1-15 TREE MAINT @ DIST :	4,005.00	
				236640	11/15/2025	11/1-15 TREE MAINT @ DIST :	535.00	
				236636	11/15/2025	11/1-15 TREE MAINT @ DIST :	6,214.00	
				237111	11/30/2025	11/16-30 TREE MAINT @ DIST	2,057.00	
				237112	11/30/2025	11/16-30 TREE MAINT @ DIST	1,505.00	
				237125	11/30/2025	11/16-30 TREE MAINT @ DIST	1,605.00	
				237113	11/30/2025	11/16-30 TREE MAINT @ DIST	2,450.00	
				237114	11/30/2025	11/16-30 TREE MAINT @ DIST	1,180.00	
				237119	11/30/2025	11/16-30 TREE MAINT @ DIST	3,448.00	33,764.00
124322	1/14/2026	42100	ZUMAR INDUSTRIES INC	11343	12/16/2025	812F 90 DEG XP FOR FLAT BI	4,503.65	4,503.65
						Sub total for WELLS FARGO BANK:		539,714.87

111 checks in this report.

Grand Total All Checks: 2,329,380.16

Date: **January 14, 2026**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

Bank : wfb WELLS FARGO BANK

Check #	Date	Vendor		Invoice	Inv Date	Description	Amount Paid	Check Total
124323	1/15/2026	55520	GARCIA, GABRIEL	Ref000239226	11/16/2023	UB Refund Cst #00057218	57.75	57.75
						Sub total for WELLS FARGO BANK:		57.75

1 checks in this report.

Grand Total All Checks: 57.75

Date: **January 15, 2026**

Finance Director: Lincoln Bogard

City Manager: William B. Pattison

CITY OF COACHELLA
TREASURER'S REPORT - INVESTMENT REPORT
As of October 31, 2025
Fiscal Year 2025-2026

DESCRIPTION	CURRENT YIELD	BALANCE AS OF 9/30/2025	NET: DEPOSITS/ (WITHDRAWALS)	INTEREST EARNED / CHANGE IN VALUE	PAYMENT OF (INTEREST)	PAYMENT OF (PRINCIPAL)	BALANCE AS OF 10/31/2025	
CASH ON HAND								
Wells Fargo-General Checking	N/A	6,964,951.61	243,305.16	-	-	-	7,208,256.77	
Sweep Account	4.966%	-	-				-	
Wells Fargo-Road Maintenance	N/A	2,482,374.68	106,140.86		-	-	2,588,515.54	
Wells Fargo-Gas Tax	N/A	600,854.57	121,673.21	-	-	-	722,527.78	
Wells Fargo- Payroll Acct	N/A	(240,128.39)	162,335.72				- (77,792.67)	
Wells Fargo- TCC Grant	N/A	2,295,584.37	(502.56)	1,118.35			2,296,200.16	
Petty Cash	N/A	7,000.00	-	-	-	-	7,000.00	
Total Cash on Hand		**12,110,636.84**	**632,952.39**	**1,118.35**	**-**	**-**	**12,744,707.58**	
INVESTMENTS								
State of California - LAIF	2.17%	14,967,836.41	180,935.05	-	(3,000,000.00)	-	12,148,771.46	
Investment Management Acct	1.47%	37,370,781.13		130,725.67	-	-	37,501,506.80	
Total Investments		**52,338,617.54**	**180,935.05**	**130,725.67**	**(3,000,000.00)**	**-**	**49,650,278.26**	
CASH WITH FISCAL AGENT								
US Bank	varies	4,219,620.12	(46,087.51)	568.11	-	-	4,174,100.72	①
Wells Fargo Bank, N.A.	5.83%	155.24	71,700.00	0.49	-	-	71,855.73	②
Wilmington Trust, N. A.	0.03%	1,703,730.39	-	3,744.56	-	-	1,707,474.95	③
Total Cash with Fiscal Agent		**5,923,505.75**	**25,612.49**	**4,313.16**	**-**	**-**	**5,953,431.40**	
Grand Total		**70,372,760.13**	**839,499.93**	**136,157.18**	**(3,000,000.00)**	**-**	**68,348,417.24**	

Completed By: ***Lourdes Marrón - Accountant***

Reviewed By: ***Lincoln Bogard - Finance Director***

CITY OF COACHELLA
TREASURER'S REPORT - INVESTMENT REPORT
As of October 31, 2025
Fiscal Year 2025-2026

DESCRIPTION	CURRENT YIELD	BALANCE AS OF 9/30/2025	NET: DEPOSITS/ (WITHDRAWALS)	INTEREST EARNED / CHANGE IN VALUE	PAYMENT OF (INTEREST)	PAYMENT OF (PRINCIPAL)	BALANCE AS OF 10/31/2025
CASH WITH FISCAL AGENT							
US BANK							
COACHELLA FINANCING AUTHORITY							
Successor Agency to the Coachella Redevelopments Agency 2014 Series							
A/C #: 6712104701 Debt Service Fund	0.00%	2,088.37	80.18	6.70	-	-	2,175.25
A/C #: 6712104702 Interest Account	0.00%	(0.00)	(13.49)	13.49	-	-	(0.00)
A/C #: 6712104703 Principal Account	0.00%	0.00	(66.69)	66.69	-	-	0.00
A/C #: 6712104704 Reserve Account	0.00%	827,612.50	-	-	-	-	827,612.50
COACHELLA SANITARY DISTRICT							
WASTEWATER SERIES 2015A							
A/C #: 6712148601 Bond Fund	0.00%	28.04	35.43	119.26	-	-	182.73
A/C #: 6712148602 Interest Account	0.00%	46,087.51	(46,122.94)	35.43	-	-	(0.00)
A/C #: 6712148603 Principal Account	0.00%	-	-	-	-	-	-
A/C #: 6712148604 Reserve Account	0.00%	310,175.00	-	-	-	-	310,175.00
COACHELLA SANITARY DISTRICT: PROJECT FUND 2011							
A/C #: 6711963500 Project Fund 2011	0.0100%	29,131.44		97.71	-	-	29,229.15

CITY OF COACHELLA
TREASURER'S REPORT - INVESTMENT REPORT
As of October 31, 2025
Fiscal Year 2025-2026

DESCRIPTION	CURRENT YIELD	BALANCE AS OF 9/30/2025	NET: DEPOSITS/ (WITHDRAWALS)	INTEREST EARNED / CHANGE IN VALUE	PAYMENT OF (INTEREST)	PAYMENT OF (PRINCIPAL)	BALANCE AS OF 10/31/2025	
COACHELLA SUCCESSOR AGENCY								
MERGED PROJECT AREAS BONDS 98 & 99: BONDS 2013								
A/C #: 6712071401 Debt Service	0.00%	1,098.18	42.19	3.53	-	-	1,143.90	
A/C #: 6712071402 Interest Account	0.00%	(0.00)	(3.43)	3.43	-	-	(0.00)	
A/C #: 6712071403 Principal Account	0.00%	0.00	(38.76)	38.76	-	-	0.00	
A/C #: 6712071404 Reserve Account	0.00%	406,487.50	-		-	-	406,487.50	
SA TO COACHELLA RDA REFUNDING BONDS SERIES 2016A & 2016B								
A/C #: 6712160601 Debt Service	0.00%	4,251.41	163.18	13.65	-	-	4,428.24	
A/C #: 6712160602 Interest Account	0.00%	0.00	(35.49)	35.49	-	-	0.00	
A/C #: 6712160603 Principal Account	0.00%	(0.00)	(127.69)	127.69	-	-	(0.00)	
A/C #: 6712160604 Reserve Account	0.00%	1,978,368.49	-	-	-	-	1,978,368.49	
COACHELLA LEASE BONDS 2016								
A/C #: 6712179801 Payment Account	0.0000%	1,960.42	-	6.28	-	-	1,966.70	
A/C #: 6712179802 Interest Account	0.0000%	(0.00)	-	-	-	-	(0.00)	
A/C #: 6712179803 Principal Account	0.0000%	-	-	-	-	-	-	
A/C #: 6712179804 Reserve Account	0.0000%	612,331.26	-	-	-	-	612,331.26	
TOTAL US BANK OF CALIFORNIA		**4,219,620.12**	**(46,087.51)**	**568.11**	**-**	**-**	**4,174,100.72**	①
WELLS FARGO BANK, N.A.								
GAS TAX BONDS SERIES 2019								
A/C #: 83925300 Debt Service Fund	0.0000%	30.84	71,700.00	0.10	-	-	71,730.94	
A/C #: 83925301 Interest Account	0.0000%	33.25	-	0.10	-	-	33.35	
A/C #: 83925302 Principal Account	0.0000%	91.15	-	0.29	-		91.44	
TOTAL WELLS FARGO BANK, N.A.		**155.24**	**71,700.00**	**0.49**	**-**	**-**	**71,855.73**	②

CITY OF COACHELLA
TREASURER'S REPORT - INVESTMENT REPORT
As of October 31, 2025
Fiscal Year 2025-2026

DESCRIPTION	CURRENT YIELD	BALANCE AS OF 9/30/2025	NET: DEPOSITS/ (WITHDRAWALS)	INTEREST EARNED / CHANGE IN VALUE	PAYMENT OF (INTEREST)	PAYMENT OF (PRINCIPAL)	BALANCE AS OF 10/31/2025	
WILMINGTON TRUST, N. A.								
CITY OF COACHELLA TAXABLE PENSION OBLIGATION BONDS								
A/C #: 144613-000 Revenue Account	0.03%	834.29	-	2.78	-	-	837.07	
A/C #: 144613-001 Interest Account	0.03%	0.00	-	-	-	-	0.00	
A/C #: 144613-002 Principal Account	0.00%	2.11	-	-	-	-	2.11	
CITY OF COACHELLA 2022A BOND FUND								
A/C #: 154278-000 Bond Fund	1.76%	8,278.55	3,675.88	37.85	-	-	11,992.28	
A/C #: 154278-001 Interest Account	0.00%	-	-	-	-	-	-	
A/C #: 154278-002 Principal Account	0.00%	-	-	-	-	-	-	
A/C #: 154278-004 Project FD Account	1.76%	1,161,794.25	(3,675.88)	3,700.25	-	-	1,161,818.62	
CITY OF COACHELLA 2022B BOND FUND								
A/C #: 155657-000 Bond Fund	1.76%	1,122.86	-	3.68	-	-	1,126.54	
A/C #: 155657-001 Interest Account	0.00%	-	-	-	-	-	-	
A/C #: 155657-002 Principal Account	0.00%	-	-	-	-	-	-	
A/C #: 155657-004 COI Account	0.00%	-	-	-	-	-	-	
CITY OF COACHELLA BOFA 2023 ESCROW								
A/C #: 166682-000 Bond Fund		531,698.33	-				531,698.33	
TOTAL WILMINGTGON TRUST BANK, N.A.		**1,703,730.39**	**-**	**3,744.56**	**-**	**-**	**1,707,474.95**	③
TOTAL CASH WITH FISCAL AGENT		**5,923,505.75**	**25,612.49**	**4,313.16**	**-**	**-**	**5,953,431.40**	

pfm asset management

Managed Account Detail of Securities Held

For the Month Ending **October 31, 2025**

CITY OF COACHELLA - OPERATING PORTFOLIO - 995343 - (14201484)

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
U.S. Treasury Bond / Note											
US TREASURY N/B DTD 02/01/2021 0.375% 01/31/2026	91282CBH3	160,000.00	AA+	Aa1	05/03/22	05/04/22	145,500.00	2.95	151.63	159,035.45	158,643.68
US TREASURY N/B DTD 02/01/2021 0.375% 01/31/2026	91282CBH3	850,000.00	AA+	Aa1	02/17/22	02/18/22	802,751.95	1.84	805.54	847,020.39	842,794.55
US TREASURY N/B DTD 03/01/2021 0.500% 02/28/2026	91282CBQ3	310,000.00	AA+	Aa1	03/05/21	03/09/21	305,676.95	0.79	265.47	309,716.87	306,607.36
US TREASURY N/B DTD 03/01/2021 0.500% 02/28/2026	91282CBQ3	630,000.00	AA+	Aa1	12/03/21	12/07/21	613,019.53	1.15	539.50	628,691.27	623,105.28
US TREASURY N/B DTD 06/01/2021 0.750% 05/31/2026	91282CCF6	80,000.00	AA+	Aa1	06/02/21	06/04/21	79,825.00	0.79	252.46	79,979.73	78,623.44
US TREASURY N/B DTD 06/01/2021 0.750% 05/31/2026	91282CCF6	325,000.00	AA+	Aa1	06/06/22	06/08/22	297,857.42	2.99	1,025.61	321,058.44	319,407.73
US TREASURY N/B DTD 09/30/2021 0.875% 09/30/2026	91282CCZ2	300,000.00	AA+	Aa1	04/05/22	04/07/22	276,222.66	2.77	230.77	295,163.19	292,364.10
US TREASURY N/B DTD 02/15/2017 2.250% 02/15/2027	912828V98	295,000.00	AA+	Aa1	07/05/22	07/07/22	287,371.48	2.85	1,406.86	292,866.37	289,756.97
US TREASURY N/B DTD 02/15/2017 2.250% 02/15/2027	912828V98	925,000.00	AA+	Aa1	09/14/22	09/15/22	871,451.17	3.68	4,411.35	909,373.30	908,559.98
US TREASURY N/B DTD 04/30/2020 0.500% 04/30/2027	912828ZN3	1,110,000.00	AA+	Aa1	08/03/22	08/05/22	992,062.50	2.92	15.33	1,072,824.79	1,059,703.68
US TREASURY N/B DTD 08/15/2017 2.250% 08/15/2027	9128282R0	1,050,000.00	AA+	Aa1	09/01/22	09/06/22	995,490.23	3.40	5,007.47	1,030,299.13	1,025,391.15
US TREASURY N/B DTD 09/30/2022 4.125% 09/30/2027	91282CFM8	330,000.00	AA+	Aa1	11/01/22	11/03/22	327,847.26	4.27	1,196.70	329,161.49	333,106.62
US TREASURY N/B DTD 10/31/2022 4.125% 10/31/2027	91282CFU0	340,000.00	AA+	Aa1	12/06/22	12/08/22	344,728.13	3.81	38.74	341,927.74	343,400.00
US TREASURY N/B DTD 11/02/2020 0.500% 10/31/2027	91282CAU5	1,210,000.00	AA+	Aa1	01/04/23	01/06/23	1,030,437.89	3.91	16.71	1,135,582.27	1,138,486.58

pfm asset management

Managed Account Detail of Securities Held

For the Month Ending **October 31, 2025**

CITY OF COACHELLA - OPERATING PORTFOLIO - 995343 - (14201484)

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
U.S. Treasury Bond / Note											
US TREASURY N/B DTD 02/01/2021 0.750% 01/31/2028	91282CBJ9	605,000.00	AA+	Aa1	02/07/23	02/08/23	521,458.01	3.82	1,146.71	567,272.84	568,203.90
US TREASURY N/B DTD 03/31/2023 3.625% 03/31/2028	91282CGT2	325,000.00	AA+	Aa1	05/01/23	05/02/23	324,669.92	3.65	1,035.71	324,837.99	325,241.15
US TREASURY N/B DTD 03/31/2021 1.250% 03/31/2028	91282CBS9	575,000.00	AA+	Aa1	05/08/23	05/09/23	517,095.70	3.51	631.87	546,468.85	544,116.18
US TREASURY N/B DTD 05/01/2023 3.500% 04/30/2028	91282CHA2	420,000.00	AA+	Aa1	05/01/23	05/01/23	418,047.66	3.60	40.61	419,025.97	419,048.28
US TREASURY N/B DTD 05/01/2023 3.500% 04/30/2028	91282CHA2	460,000.00	AA+	Aa1	05/15/23	05/16/23	460,844.53	3.46	44.48	460,424.83	458,957.64
US TREASURY N/B DTD 05/31/2023 3.625% 05/31/2028	91282CHE4	165,000.00	AA+	Aa1	06/01/23	06/02/23	164,342.58	3.71	2,516.70	164,660.66	165,122.43
US TREASURY N/B DTD 05/31/2024 4.500% 05/31/2029	91282CKT7	240,000.00	AA+	Aa1	06/05/24	06/06/24	242,090.63	4.30	4,544.26	241,545.58	246,853.20
US TREASURY N/B DTD 07/01/2024 4.250% 06/30/2029	91282CKX8	505,000.00	AA+	Aa1	07/02/24	07/03/24	502,139.65	4.38	7,231.93	502,843.17	515,415.63
US TREASURY N/B DTD 07/31/2024 4.000% 07/31/2029	91282CLC3	170,000.00	AA+	Aa1	08/01/24	08/02/24	171,182.03	3.85	1,718.48	170,907.64	172,045.27
US TREASURY N/B DTD 09/03/2024 3.625% 08/31/2029	91282CLK5	850,000.00	AA+	Aa1	09/04/24	09/05/24	851,759.77	3.58	5,277.28	851,381.07	848,970.65
US TREASURY N/B DTD 09/30/2024 3.500% 09/30/2029	91282CLN9	1,575,000.00	AA+	Aa1	10/01/24	10/02/24	1,573,031.25	3.53	4,846.15	1,573,430.40	1,565,956.35
US TREASURY N/B DTD 10/31/2024 4.125% 10/31/2029	91282CLR0	175,000.00	AA+	Aa1	11/14/24	11/15/24	173,701.17	4.29	19.94	173,932.51	177,959.95
US TREASURY N/B DTD 10/31/2024 4.125% 10/31/2029	91282CLR0	275,000.00	AA+	Aa1	11/01/24	11/04/24	274,323.24	4.18	31.34	274,447.51	279,651.35
US TREASURY N/B DTD 12/02/2024 4.125% 11/30/2029	91282CMA6	290,000.00	AA+	Aa1	12/05/24	12/06/24	290,521.09	4.08	5,033.40	290,435.00	294,961.61

pfm asset management

Managed Account Detail of Securities Held

For the Month Ending **October 31, 2025**

CITY OF COACHELLA - OPERATING PORTFOLIO - 995343 - (14201484)

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
U.S. Treasury Bond / Note											
US TREASURY N/B DTD 12/31/2024 4.375% 12/31/2029	91282CMD0	400,000.00	AA+	Aa1	01/06/25	01/07/25	399,109.38	4.43	5,896.74	399,242.83	410,734.40
US TREASURY N/B DTD 01/31/2025 4.250% 01/31/2030	91282CMG3	470,000.00	AA+	Aa1	02/04/25	02/05/25	468,255.86	4.33	5,048.03	468,492.81	480,446.69
US TREASURY N/B DTD 02/28/2023 4.000% 02/28/2030	91282CGO8	295,000.00	AA+	Aa1	03/04/25	03/05/25	296,140.82	3.91	2,020.99	296,003.34	298,756.53
US TREASURY N/B DTD 03/31/2025 4.000% 03/31/2030	91282CMU2	140,000.00	AA+	Aa1	04/01/25	04/02/25	140,700.00	3.89	492.31	140,625.53	141,771.84
US TREASURY N/B DTD 05/31/2023 3.750% 05/31/2030	91282CHF1	1,000,000.00	AA+	Aa1	06/02/25	06/03/25	987,031.25	4.04	15,778.69	988,012.59	1,002,266.00
US TREASURY N/B DTD 06/30/2025 3.875% 06/30/2030	91282CNK3	150,000.00	AA+	Aa1	07/01/25	07/01/25	150,451.17	3.81	1,958.56	150,423.70	151,142.55
US TREASURY N/B DTD 07/31/2025 3.875% 07/31/2030	91282CNN7	305,000.00	AA+	Aa1	08/27/25	08/28/25	307,144.53	3.72	2,986.80	307,075.20	307,275.61
US TREASURY N/B DTD 09/02/2025 3.625% 08/31/2030	91282CNX5	750,000.00	AA+	Aa1	09/02/25	09/03/25	746,015.63	3.74	4,656.42	746,137.37	747,363.00
US TREASURY N/B DTD 09/30/2025 3.625% 09/30/2030	91282CPA3	135,000.00	AA+	Aa1	10/30/25	10/31/25	134,419.92	3.72	430.22	134,420.73	134,493.75
Security Type Sub-Total		**18,190,000.00**					**17,484,717.96**	**3.45**	**88,751.76**	**17,944,748.55**	**17,976,705.08**
Federal Agency Commercial Mortgage-Backed Security											
FHMS K061 A2 DTD 01/01/2017 3.347% 11/01/2026	3137BTUM1	229,649.73	AA+	Aa1	05/19/23	05/24/23	222,580.82	4.29	640.53	227,497.10	227,438.89
FHMS K064 A2 DTD 05/01/2017 3.224% 03/01/2027	3137BXQY1	360,000.00	AA+	Aa1	08/16/23	08/18/23	339,581.25	4.94	967.20	352,065.50	356,406.12
FHMS K065 A2 DTD 07/01/2017 3.243% 04/01/2027	3137F1G44	205,000.00	AA+	Aa1	08/16/23	08/18/23	193,284.57	4.93	554.01	200,285.58	202,847.91
FHMS K066 A2 DTD 08/01/2017 3.117% 06/01/2027	3137F2LJ3	320,000.00	AA+	Aa1	08/17/23	08/22/23	299,250.00	4.97	831.20	311,087.85	315,962.56

pfm asset management

Managed Account Detail of Securities Held

For the Month Ending **October 31, 2025**

CITY OF COACHELLA - OPERATING PORTFOLIO - 995343 - (14201484)

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Federal Agency Commercial Mortgage-Backed Security											
FHMS K507 A1 DTD 09/01/2023 4.800% 04/01/2028	3137HAMR4	294,408.90	AA+	Aa1	09/20/23	09/28/23	289,788.75	5.19	1,177.64	291,714.73	299,042.01
FHMS K506 A1 DTD 09/01/2023 4.650% 05/01/2028	3137HAMG8	166,115.98	AA+	Aa1	09/07/23	09/14/23	163,631.72	5.01	643.70	164,682.52	168,447.25
FHMS KJ46 A1 DTD 07/01/2023 4.777% 06/01/2028	3137HAD45	269,488.69	AA+	Aa1	07/19/23	07/27/23	269,481.93	4.78	1,072.79	269,485.04	271,535.72
FHMS K505 A2 DTD 07/01/2023 4.819% 06/01/2028	3137HACX2	325,000.00	AA+	Aa1	07/13/23	07/20/23	328,246.10	4.59	1,305.15	326,744.66	331,539.98
FNA 2023-M6 A2 DTD 07/01/2023 4.181% 07/01/2028	3136BQDE6	329,387.76	AA+	Aa1	07/18/23	07/31/23	323,803.61	4.58	1,147.77	326,324.88	330,081.13
FHMS KJ47 A1 DTD 09/01/2023 5.272% 08/01/2028	3137HAMN3	95,252.33	AA+	Aa1	09/19/23	09/28/23	95,251.85	5.27	418.48	95,252.08	96,579.96
FHMS K506 A2 DTD 09/01/2023 4.650% 08/01/2028	3137HAMH6	340,000.00	AA+	Aa1	09/07/23	09/14/23	334,970.38	4.99	1,317.50	336,978.33	345,544.72
FHMS K508 A2 DTD 10/01/2023 4.740% 08/01/2028	3137HAQ74	345,000.00	AA+	Aa1	10/11/23	10/19/23	337,432.08	5.25	1,362.75	340,361.88	351,488.07
FHMS K509 A2 DTD 10/01/2023 4.850% 09/01/2028	3137HAST4	260,000.00	AA+	Aa1	10/25/23	10/31/23	251,710.42	5.60	1,050.83	254,732.86	265,823.48
FHMS K507 A2 DTD 09/01/2023 4.800% 09/01/2028	3137HAMS2	335,000.00	AA+	Aa1	09/20/23	09/28/23	330,995.75	5.07	1,340.00	332,509.12	341,918.42
FHMS K510 A2 DTD 11/01/2023 5.069% 10/01/2028	3137HB3D4	135,000.00	AA+	Aa1	11/14/23	11/21/23	134,609.72	5.14	570.26	134,751.64	138,852.36
FHMS K511 A2 DTD 12/01/2023 4.860% 10/01/2028	3137HB3G7	190,000.00	AA+	Aa1	11/28/23	12/07/23	189,454.13	4.93	769.50	189,650.41	194,484.00
FHMS K512 A2 DTD 12/01/2023 5.000% 11/01/2028	3137HBCF9	175,000.00	AA+	Aa1	12/11/23	12/21/23	176,634.15	4.79	729.17	176,064.03	179,783.80
FHMS K513 A2 DTD 01/01/2024 4.724% 12/01/2028	3137HBFY5	195,000.00	AA+	Aa1	01/10/24	01/18/24	196,947.86	4.50	767.65	196,294.99	199,096.37

pfm asset management

Managed Account Detail of Securities Held

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CITY OF COACHELLA - OPERATING PORTFOLIO - 995343 - (14201484)

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Federal Agency Commercial Mortgage-Backed Security											
FHMS K514 A2 DTD 02/01/2024 4.572% 12/01/2028	3137HBLV4	195,000.00	AA+	Aa1	02/01/24	02/08/24	196,949.81	4.34	742.95	196,307.94	198,157.05
FHMS K518 A2 DTD 03/01/2024 5.400% 01/01/2029	3137HC2L5	245,000.00	AA+	Aa1	03/19/24	03/28/24	250,915.53	4.83	1,102.50	249,185.12	255,038.39
FHMS K517 A2 DTD 03/01/2024 5.355% 01/01/2029	3137HC2C5	305,000.00	AA+	Aa1	03/05/24	03/14/24	314,145.73	4.67	1,361.06	311,319.20	316,963.63
FHMS K515 A2 DTD 02/01/2024 5.400% 01/01/2029	3137HBPD0	340,000.00	AA+	Aa1	02/14/24	02/22/24	349,159.60	4.79	1,530.00	346,264.59	353,333.78
FHMS K516 A2 DTD 03/01/2024 5.477% 01/01/2029	3137HBPM0	340,000.00	AA+	Aa1	02/29/24	03/07/24	350,198.98	4.79	1,551.82	347,028.39	354,845.42
FHMS K520 A2 DTD 04/01/2024 5.180% 03/01/2029	3137HCKV3	195,000.00	AA+	Aa1	04/23/24	04/30/24	195,791.51	5.09	841.75	195,579.27	201,870.63
FHMS K524 A2 DTD 07/01/2024 4.720% 05/01/2029	3137HDV56	290,000.00	AA+	Aa1	07/16/24	07/25/24	291,780.89	4.58	1,140.67	291,374.86	296,428.14
FHMS K522 A2 DTD 06/01/2024 4.803% 05/01/2029	3137HDJJ0	331,241.13	AA+	Aa1	06/05/24	06/13/24	331,240.13	4.80	1,325.79	331,241.13	339,189.92
FHMS K526 A2 DTD 08/01/2024 4.543% 07/01/2029	3137HDXL9	315,000.00	AA+	Aa1	08/07/24	08/15/24	317,946.51	4.33	1,192.54	317,284.68	320,376.11
FHMS K530 A2 DTD 11/01/2024 4.792% 09/01/2029	3137HHJL6	350,000.00	AA+	Aa1	11/19/24	11/27/24	351,822.45	4.67	1,397.67	351,528.18	359,204.65
Security Type Sub-Total		**7,475,544.52**					**7,427,606.23**	**4.83**	**28,852.88**	**7,463,596.56**	**7,612,280.47**
Corporate Note											
BRISTOL-MYERS SQUIBB CO (CALLABLE) DTD 11/13/2020 0.750% 11/13/2025	110122DN5	72,000.00	A	A2	06/17/21	06/21/21	71,282.88	0.98	252.00	71,994.56	71,931.67
BANK OF AMERICA NA (CALLABLE) DTD 08/18/2023 5.526% 08/18/2026	06428CAA2	175,000.00	A+	Aa2	10/23/23	10/24/23	173,526.50	5.85	1,960.96	174,582.94	176,923.08
TARGET CORP (CALLABLE) DTD 01/24/2022 1.950% 01/15/2027	87612EBM7	25,000.00	A	A2	01/19/22	01/24/22	24,957.50	1.99	143.54	24,989.70	24,450.50

pfm asset management

Managed Account Detail of Securities Held

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CITY OF COACHELLA - OPERATING PORTFOLIO - 995343 - (14201484)

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Corporate Note											
TARGET CORP (CALLABLE) DTD 01/24/2022 1.950% 01/15/2027	87612EBM7	125,000.00	A	A2	01/27/22	01/31/22	124,923.75	1.96	717.71	124,981.45	122,252.50
BANK OF NY MELLON CORP (CALLABLE) DTD 01/26/2022 2.050% 01/26/2027	06406RBA4	200,000.00	A	Aa3	01/26/22	01/28/22	200,644.00	1.98	1,081.94	200,150.61	195,578.60
BANK OF NY MELLON CORP (CALLABLE) DTD 01/26/2022 2.050% 01/26/2027	06406RBA4	300,000.00	A	Aa3	08/02/22	08/04/22	280,158.00	3.66	1,622.92	294,522.52	293,367.90
ADOBE INC (CALLABLE) DTD 02/03/2020 2.150% 02/01/2027	00724PAC3	360,000.00	A+	A1	12/13/22	12/15/22	332,316.00	4.20	1,935.00	351,616.55	352,712.88
JPMORGAN CHASE & CO (CALLABLE) DTD 04/22/2021 1.578% 04/22/2027	46647PCB0	260,000.00	A	A1	08/02/22	08/04/22	235,172.60	3.81	102.57	252,235.95	256,816.82
GOLDMAN SACHS BANK USA (CALLABLE) DTD 05/21/2024 5.414% 05/21/2027	38151LAG5	110,000.00	A+	A1	05/21/25	05/22/25	110,691.90	5.08	2,646.84	110,389.11	110,700.04
GOLDMAN SACHS BANK USA (CALLABLE) DTD 05/21/2024 5.414% 05/21/2027	38151LAG5	155,000.00	A+	A1	05/21/25	05/22/25	155,974.95	5.08	3,729.64	155,548.29	155,986.42
HOME DEPOT INC (CALLABLE) DTD 09/14/2017 2.800% 09/14/2027	437076BT8	350,000.00	A	A2	01/25/23	01/27/23	330,256.50	4.15	1,279.44	342,029.17	343,655.20
JPMORGAN CHASE & CO (CALLABLE) DTD 02/24/2022 2.947% 02/24/2028	46647PCW4	125,000.00	A	A1	09/14/23	09/18/23	114,296.25	5.13	685.59	119,413.39	123,138.25
KENVUE INC (CALLABLE) DTD 10/17/2023 5.050% 03/22/2028	49177JAF9	190,000.00	A	A1	06/27/25	06/30/25	194,485.90	4.12	1,039.46	193,942.72	193,932.81
JPMORGAN CHASE & CO (CALLABLE) DTD 04/22/2024 5.571% 04/22/2028	46647PEE2	50,000.00	A	A1	08/08/24	08/09/24	51,033.50	4.95	69.64	50,580.47	51,016.95
JPMORGAN CHASE & CO (CALLABLE) DTD 04/22/2024 5.571% 04/22/2028	46647PEE2	110,000.00	A	A1	06/03/24	06/04/24	110,733.70	5.38	153.20	110,389.30	112,237.29
JOHN DEERE CAPITAL CORP DTD 07/14/2023 4.950% 07/14/2028	24422EXB0	115,000.00	A	A1	07/11/23	07/14/23	114,828.65	4.98	1,691.94	114,907.38	118,080.74
JOHN DEERE CAPITAL CORP DTD 07/14/2023 4.950% 07/14/2028	24422EXB0	135,000.00	A	A1	07/13/23	07/17/23	136,833.30	4.64	1,986.19	135,992.65	138,616.52

pfm asset management

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CITY OF COACHELLA - OPERATING PORTFOLIO - 995343 - (14201484)

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Corporate Note											
NATIONAL RURAL UTIL COOP (CALLABLE) DTD 08/25/2025 4.150% 08/25/2028	63743HFZ0	140,000.00	NR	A2	08/19/25	08/25/25	139,843.20	4.19	1,065.17	139,852.36	140,296.10
TOYOTA MOTOR CREDIT CORP DTD 09/11/2023 5.250% 09/11/2028	89236TLB9	110,000.00	A+	A1	09/06/23	09/11/23	109,808.60	5.29	802.08	109,884.63	113,872.00
CITIBANK NA (CALLABLE) DTD 09/29/2023 5.803% 09/29/2028	17325FBB3	115,000.00	A+	Aa3	05/01/24	05/03/24	117,224.10	5.30	593.20	116,511.50	120,557.49
CITIBANK NA (CALLABLE) DTD 09/29/2023 5.803% 09/29/2028	17325FBB3	400,000.00	A+	Aa3	09/26/23	09/29/23	400,000.00	5.80	2,063.29	400,000.00	419,330.40
BANK OF AMERICA CORP (CALLABLE) DTD 01/24/2025 4.979% 01/24/2029	06051GMK2	220,000.00	A-	A1	04/01/25	04/02/25	222,437.60	4.66	2,951.44	221,958.97	223,921.06
STATE STREET CORP (CALLABLE) DTD 08/20/2024 4.530% 02/20/2029	857477CN1	165,000.00	A	Aa3	08/14/24	08/20/24	165,000.00	4.53	1,474.14	165,000.00	166,554.47
ASTRAZENECA FINANCE LLC (CALLABLE) DTD 02/26/2024 4.850% 02/26/2029	04636NAL7	265,000.00	A+	A1	06/26/25	06/27/25	270,962.50	4.18	2,320.59	270,426.88	271,741.33
BLACKROCK FUNDING INC (CALLABLE) DTD 03/14/2024 4.700% 03/14/2029	09290DAA9	30,000.00	AA-	Aa3	03/05/24	03/14/24	29,945.70	4.74	184.08	29,962.12	30,664.89
BLACKROCK FUNDING INC (CALLABLE) DTD 03/14/2024 4.700% 03/14/2029	09290DAA9	350,000.00	AA-	Aa3	04/09/24	04/11/24	348,376.00	4.81	2,147.64	348,849.18	357,757.05
MASTERCARD INC (CALLABLE) DTD 05/31/2019 2.950% 06/01/2029	57636QAM6	300,000.00	A+	Aa3	06/26/24	06/27/24	275,595.00	4.82	3,687.50	281,697.23	290,007.30
PEPSICO INC (CALLABLE) DTD 07/17/2024 4.500% 07/17/2029	713448FX1	165,000.00	A+	A1	07/15/24	07/17/24	164,744.25	4.53	2,145.00	164,805.40	168,373.92
TOYOTA MOTOR CREDIT CORP DTD 08/09/2024 4.550% 08/09/2029	89236TMK8	25,000.00	A+	A1	08/06/24	08/09/24	24,949.25	4.60	259.10	24,960.68	25,403.25
TOYOTA MOTOR CREDIT CORP DTD 08/09/2024 4.550% 08/09/2029	89236TMK8	55,000.00	A+	A1	08/07/24	08/09/24	54,936.75	4.58	570.01	54,951.17	55,887.15
TOYOTA MOTOR CREDIT CORP DTD 08/09/2024 4.550% 08/09/2029	89236TMK8	60,000.00	A+	A1	08/08/24	08/09/24	59,753.40	4.64	621.83	59,809.00	60,967.80

pfm asset management

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CITY OF COACHELLA - OPERATING PORTFOLIO - 995343 - (14201484)

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Security Type Sub-Total		**325,000.00**					**325,685.75**	**5.45**	**7,701.78**	**325,347.84**	**331,544.85**
Asset-Backed Security											
HAROT 2023-3 A3 DTD 08/22/2023 5.410% 02/18/2028	43815OAC1	135,449.79	AAA	NR	08/15/23	08/22/23	135,421.86	5.42	264.62	135,435.49	136,451.44
TAOT 2023-C A3 DTD 08/15/2023 5.160% 04/17/2028	89231FAD2	47,859.82	AAA	NR	08/08/23	08/15/23	47,848.99	5.17	109.76	47,854.11	48,135.25
TAOT 2023-D A3 DTD 11/14/2023 5.540% 08/15/2028	89239FAD4	60,730.97	AAA	NR	11/07/23	11/14/23	60,724.42	5.54	149.53	60,727.06	61,380.49
FITAT 2023-1 A3 DTD 08/23/2023 5.530% 08/15/2028	31680EAD3	163,158.81	AAA	Aaa	08/15/23	08/23/23	163,148.69	5.53	401.01	163,153.14	164,509.43
CHAIT 2023-A1 A DTD 09/15/2023 5.160% 09/15/2028	161571HT4	270,000.00	AAA	NR	09/07/23	09/15/23	269,925.16	5.17	619.20	269,954.69	272,731.05
AMXCA 2023-3 A DTD 09/19/2023 5.230% 09/15/2028	02582JKD1	275,000.00	AAA	NR	09/12/23	09/19/23	274,987.71	5.23	639.22	274,992.68	277,946.63
HART 2023-C A3 DTD 11/13/2023 5.540% 10/16/2028	44918CAD4	85,210.84	AAA	NR	11/03/23	11/13/23	85,199.64	5.54	209.81	85,203.88	86,038.75
BACCT 2023-A2 A2 DTD 12/14/2023 4.980% 11/15/2028	05522RDH8	120,000.00	NR	Aaa	12/07/23	12/14/23	119,983.88	4.98	265.60	119,989.87	121,223.16
GMCAR 2024-1 A3 DTD 01/17/2024 4.850% 12/18/2028	36268GAD7	32,959.77	NR	Aaa	01/09/24	01/17/24	32,953.14	4.85	66.61	32,955.37	33,133.76
CHAIT 2024-A1 A DTD 01/31/2024 4.600% 01/15/2029	161571HV9	305,000.00	AAA	NR	01/24/24	01/31/24	304,953.55	4.60	623.56	304,969.15	307,516.86
HART 2025-A A3 DTD 03/12/2025 4.320% 10/15/2029	44935CAD3	220,000.00	AAA	NR	03/04/25	03/12/25	219,967.55	4.32	422.40	219,972.05	221,345.74
TAOT 2025-B A3 DTD 04/30/2025 4.340% 11/15/2029	89231HAD8	135,000.00	AAA	NR	04/24/25	04/30/25	134,992.26	4.34	260.40	134,993.51	136,040.85
HAROT 2025-3 A3 DTD 08/12/2025 4.040% 02/21/2030	43813OAD1	210,000.00	AAA	Aaa	08/05/25	08/12/25	209,995.61	4.04	235.67	209,995.86	210,458.43
ALLYA 2025-1 A3 DTD 10/16/2025 3.960% 03/15/2030	02008KAC7	75,000.00	AAA	NR	10/07/25	10/16/25	74,989.29	3.96	123.75	74,989.48	74,953.80

pfm asset management

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CITY OF COACHELLA - OPERATING PORTFOLIO - 995343 - (14201484)

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
Asset-Backed Security											
TAOT 2025-C A3 DTD 07/30/2025 4.110% 03/15/2030	89238VAD0	145,000.00	AAA	Aaa	07/22/25	07/30/25	144,984.72	4.11	264.87	144,985.52	145,726.45
FORDO 2025-B A3 DTD 09/26/2025 3.910% 04/15/2030	34532BAG6	145,000.00	NR	Aaa	09/23/25	09/26/25	144,984.35	3.91	251.98	144,985.20	144,845.43
GMCAR 2025-2 A3 DTD 05/14/2025 4.280% 04/16/2030	362549AD9	60,000.00	AAA	Aaa	05/06/25	05/14/25	59,991.17	4.28	107.00	59,991.98	60,375.48
BACCT 2025-A1 A DTD 06/12/2025 4.310% 05/15/2030	05522RDK1	160,000.00	AAA	NR	06/05/25	06/12/25	159,999.39	4.31	306.49	160,000.00	161,827.68
TAOT 2025-D A3 DTD 10/23/2025 3.840% 06/17/2030	89231GAD0	195,000.00	AAA	NR	10/15/25	10/23/25	194,977.58	3.84	166.40	194,977.71	194,571.98
CCCIT 2025-A1 A DTD 06/26/2025 4.300% 06/21/2030	17305EHA6	350,000.00	AAA	Aaa	06/18/25	06/26/25	349,905.05	4.31	5,225.69	349,911.10	353,536.75
COPAR 2025-1 A3 DTD 11/05/2025 3.850% 07/15/2030	**14043YAD7**	**85,000.00**	**(P)A**	**NR**	**10/28/25**	**11/05/25**	**84,982.00**	**3.85**	**0.00**	**84,982.00**	**85,068.48**
AMXCA 2025-4 A DTD 07/22/2025 4.300% 07/15/2030	02582JKV1	200,000.00	AAA	NR	07/15/25	07/22/25	199,971.18	4.30	382.22	199,972.78	202,351.20
CHAIT 2025-A1 A DTD 07/25/2025 4.160% 07/15/2030	161571HZ0	280,000.00	AAA	NR	07/18/25	07/25/25	279,994.37	4.16	517.69	279,995.22	282,211.16
Security Type Sub-Total		**3,755,369.99**					**3,754,881.56**	**4.55**	**11,613.48**	**3,754,987.85**	**3,782,380.25**
Managed Account Sub-Total		**37,512,914.51**					**36,615,080.93**	**4.07**	**197,352.05**	**37,183,723.58**	**37,495,658.98**
Securities Sub-Total		**$37,512,914.51**					**$36,615,080.93**	**4.07%**	**$197,352.05**	**$37,183,723.58**	**$37,495,658.98**
Accrued Interest											**$197,352.05**
Total Investments											**$37,693,011.03**

Bolded items are forward settling trades.

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Lincoln Bogard, Finance Director

SUBJECT: Investment Report – October 31, 2025

STAFF RECOMMENDATION:

Staff recommends that the City Council receive and file the investment report for October 2025.

EXECUTIVE SUMMARY:

On June 12, 2024, the City of Coachella along with its component units (Sanitary District, Educational & Governmental Access Cable Corporation, Fire Protection District and Water Authority) approved and adopted the current "Statement of Investment Policy".

Pursuant to Section 16 of that policy, the City Treasurer shall provide to the City Council a monthly investment report which provides a clear picture of the status of the current investment portfolio. This report shall include, at a minimum, the following information for each type of investment held in the City's investment portfolio: the issuer; amount of investment; current market value; yield on investment; income generated from investments; dollar amount invested on all securities, investments and moneys held by the local agency; and shall additionally include a description of any of the local agency's funds, investments, or programs; and a description of unusual investment activity or developments during the month for which the report is prepared. This information shall be provided for all City and component unit pooled investments, as well as for bond accounts, which are managed by outside Fiscal Agents.

The interest rates presented are the most current rates available as of the date of these reports. The market values presented for pooled City investments are based on closing prices for the related investments as of the date of these reports. This information was obtained from the Wall Street Journal or other reliable sources of market prices.

The Market values presented for investments managed by fiscal agents are based on amounts reported by the fiscal agent on their investment statements. The purchase date and type of investment are not included for funds held by fiscal agents.

Attached is the Treasurer's Report of Investments which includes an overview on investments which provides information on investment activity, withdrawals and deposits, interest earned, payment of interest and payment of principal as of the months ended October 31, 2025. In addition, this report includes detailed information and current activity on individual investments.

All City investments are in compliance with the guidelines established for Authorized Investments as specified in the Investment Policy, Section 8.

There was no unusual investment activity to report.

The City and Districts have sufficient funds to meet their expenditure requirements for the next six months.

FISCAL IMPACT:

None, this report is to receive and file only.

City of Coachella Building Activity Report
OCTOBER 2025

Permits	Current Month	Past Month	This Month Last Year	This Year to Date	Last Year to Date
Res. Solar Panels	13	21	14	312	184
Misc. Building Permits	39	46	21	418	297
Residential Additions/Ga	15	15	9	127	65
Single Family Dwellings	7	0	10	25	68
Commercial Bldgs.	0	0	0	2	2
Commercial Ten. Improv	1	3	0	11	0
Multi- Family Units	0	0	0	0	0
Plan Check	0	0	0	0	0
TOTALS	75	85	54	895	621
Revenue Fees					
Building Fees	$33,639.00	$19,030.50	$36,812.50	$272,736.41	$368,033.00
Dev. Impact Fees	$94,540.04	$0.00	$156,153.14	$363,495.67	$992,774.90
Sewer &Water Fees	$82,576.22	$1,811.47	$86,721.80	$371,550.73	$635,354.53
Misc. (TUMF, MSF, FIRE)	$19,880.00	$0.00	$27,400.00	$119,867.16	$343,440.68
Plan Check	$13,051.00	$14,008.50	$10,334.00	$165,091.93	$144,420.75
Cert of Occupancy	$1,792.00	$768.00	$2,560.00	$8,704.00	$17,664.00
SB1473	$182.00	$95.00	$133.00	$2,541.60	$1,976.00
TOTALS	$245,660.26	$35,713.47	$320,114.44	$1,302,728.22	$2,503,664.46
1% Construction Tax	$22,357.40	$0.00	$15,988.80	$122,540.82	$195,227.90
Strong Motion Instr.	$440.62	$138.41	$363.47	$4,990.69	$5,955.01
TOTALS	$22,798.02	$138.41	$16,352.27	$127,531.51	$201,182.91
Valuations	$4,036,188.00	$1,272,700.00	$2,764,627.00	$32,773,350.40	$42,245,919.71
Inspections					
General	268	309	332	3095	3082
Final Single Family	8	9	3	58	77
Final Multi Family	0	0	0	2	1
Final Commercial	3	2	0	14	16
Final Miscellaneous	32	54	24	459	356
Final Solar	16	15	11	197	120
Code Enforcement Insp.	2	2	0	18	73
TOTALS	329	391	370	3849	3725

TOTAL DWELLING UNITS IN THE CITY OF COACHELLA 9662

Submitted by:

Rosa Vasquez
Development Services Technician

City of Coachella Building Activity Report
NOVEMBER 2025

Permits	Current Month	Past Month	This Month Last Year	This Year to Date	Last Year to Date
Res. Solar Panels	15	13	58	327	242
Misc. Building Permits	39	39	32	457	329
Residential Additions/Ga	11	15	1	138	66
Single Family Dwellings	1	7	20	26	88
Commercial Bldgs.	0	0	0	2	2
Commercial Ten. Improv	1	1	0	12	0
Multi- Family Units	0	0	0	0	0
Plan Check	1	0	0	1	0
TOTALS	68	75	111	963	732
Revenue Fees					
Building Fees	$20,798.00	$33,639.00	$70,196.00	$293,534.41	$438,229.00
Dev. Impact Fees	$15,985.37	$94,540.04	$269,858.58	$379,481.04	$1,262,633.48
Sewer &Water Fees	$11,303.02	$82,576.22	$226,060.40	$382,853.75	$861,414.93
Misc. (TUMF, MSF, FIRE)	$2,840.00	$19,880.00	$54,800.00	$122,707.16	$398,240.68
Plan Check	$15,503.50	$13,051.00	$21,553.00	$180,595.43	$165,973.75
Cert of Occupancy	$256.00	$1,792.00	$5,120.00	$8,960.00	$22,784.00
SB1473	$94.00	$182.00	$358.00	$2,635.60	$2,334.00
TOTALS	$66,779.89	$245,660.26	$647,945.98	$1,369,508.11	$3,151,610.44
1% Construction Tax	$1,800.00	$22,357.40	$62,855.00	$124,340.82	$258,082.90
Strong Motion Instr.	$213.19	$440.62	$974.90	$5,203.88	$6,929.91
TOTALS	$2,013.19	$22,798.02	$63,829.90	$129,544.70	$265,012.81
Valuations	$1,478,694.00	$4,036,188.00	$7,690,485.50	$34,252,044.40	$49,936,405.21
Inspections					
General	273	268	281	3368	3363
Final Single Family	6	8	0	64	77
Final Multi Family	0	0	0	2	1
Final Commercial	1	3	0	15	16
Final Miscellaneous	26	32	21	485	377
Final Solar	11	16	16	208	136
Code Enforcement Insp.	3	2	0	21	73
TOTALS	320	329	318	4169	4043

TOTAL DWELLING UNITS IN THE CITY OF COACHELLA 9663

Submitted by:

Rosa Vasquez
Development Services Technician

City of Coachella Building Activity Report
DECEMBER 2025

Permits	Current Month	Past Month	This Month Last Year	This Year to Date	Last Year to Date
Res. Solar Panels	10	15	8	337	250
Misc. Building Permits	30	39	19	487	348
Residential Additions/Ga	9	11	13	147	79
Single Family Dwellings	0	1	8	26	96
Commercial Bldgs.	0	0	0	2	2
Commercial Ten. Improv	0	1	0	12	0
Multi- Family Units	0	0	0	0	0
Plan Check	0	1	0	1	0
TOTALS	49	68	48	1012	780
Revenue Fees					
Building Fees	$13,019.00	$20,798.00	$30,111.00	$306,553.41	$468,340.00
Dev. Impact Fees	$0.00	$15,985.37	$107,747.46	$379,481.04	$1,370,380.94
Sewer &Water Fees	$0.00	$11,303.02	$90,424.16	$382,853.75	$951,839.09
Misc. (TUMF, MSF, FIRE)	$0.00	$2,840.00	$21,920.00	$122,707.16	$420,160.68
Plan Check	$9,213.00	$15,503.50	$10,002.00	$189,808.43	$175,975.75
Cert of Occupancy	$0.00	$256.00	$2,048.00	$8,960.00	$24,832.00
SB1473	$64.00	$94.00	$155.40	$2,699.60	$2,489.40
TOTALS	$22,296.00	$66,779.89	$262,408.02	$1,391,804.11	$3,414,018.46
1% Construction Tax	$0.00	$1,800.00	$24,358.10	$124,340.82	$282,441.00
Strong Motion Instr.	$124.57	$213.19	$429.58	$5,328.45	$7,359.49
TOTALS	$124.57	$2,013.19	$24,787.68	$129,669.27	$289,800.49
Valuations	$955,956.00	$1,478,694.00	$3,309,311.00	$35,208,000.40	$53,245,716.21
Inspections					
General	196	273	242	3564	3605
Final Single Family	6	6	1	70	78
Final Multi Family	0	0	0	2	1
Final Commercial	2	1	0	17	16
Final Miscellaneous	40	26	17	525	394
Final Solar	3	11	29	211	165
Code Enforcement Insp.	3	3	0	24	73
TOTALS	250	320	290	4419	4333

TOTAL DWELLING UNITS IN THE CITY OF COACHELLA 9663

Submitted by:

Rosa Vasquez
Development Services Technician

City of Coachella
Development Status Report
January 2026



Prepared By:
Community Development Department
Kendra Reif, Community Development Director
Adrian Moreno, Associate Planner
Vanessa Sanchez, Planning Technician
Anahi Fernandez, Management Analyst

Coachella Permit Center
53-990 Enterprise Way
Coachella, CA 92236
(760) 398-3102 Fax (760) 398-5421
www.coachella.org

*Cannabis-related businesses/developments are identified in green text.

City of Coachella
Development Status Report
JANUARY 2026

	Case	*No.*	*Name / Description*	*Location*	*Contact Person*	*Approval Date & Status*
	AR EA	14-02 14-03	Double Date Packing Facility Construct new 35,500 sq. ft. date packing facility	86301 Industrial Way APN 763-131-061	Steven Gilfenbain 9777 Wilshire Blvd., #900 Beverly Hills, CA. 90212 (310) 651-2591	PC approved 12/17/14 1st Phase Complete
	AR	16-04	Truck Storage To develop a vehicle storage yard in the M-S Zone on 3.10 acres.	49-640 Oates Lane	Julia Molinar P.O. Box 3091 Indio, CA. 92201 (760) 578-2108	PC Approved 4/20/16 1st Phase Complete (Off-site improvements pending)
	AR TPM CZ EA CUP DA	16-19 37209 16-03 16-06 290	Date Palm Business Park To subdivide 80 acres into a multi-tenant industrial park.	East of Harrison Street, North and South of Avenue 49	Wesley Ahlgren Sundate/Anthony Vineyards P O Box 9578 Bakersfield CA 93389-9578 (760)406-4060	PC Approved 10/18/17 CC Approved 12/13/17 PC Approved (DA) 12/20/18 CC Approved (DA) 1/17/18 CC - 1st Final Map 9/14/20
	AR DA	17-07	Glenroy Resort - Project A To construct a 76-unit Bungalow-Style Hotel with 160,656 sq. ft. on 24.43 acres in the CG zone.	SE Corner of Avenue 48 and Van Buren Street	Glenroy Coachella, LLC 1801 S. La Cienega Blvd. Los Angeles CA 90035 (310) 207-6990	PC Approved 6/7/17 CC Approved (DA) 10/11/17 (Ord 1110) Construction Stalled
	AR CZ VAR	17-12 17-02 17-06	Coachella Village To construct a new 242-unit multifamily residential project on 9.69 acres	South side of Ave 48, west of Van Buren St	David Schuman Coachella Village Partners, LLC 1014 S. Westlake Bl Ste 14 Westlake Village CA 91361 (213)321-9689	PC Approved 11/15/17 CC Approved 1/17/18 Plans Approved and ready for permit issuance
	AR	18-05	Coachella Village - Phase #2 To construct a new 110-unit multifamily residential gated community on 4.51 acres of vacant land.	South side of Ave 48, west of Van Buren St	David Schuman Coachella Village Partners, LLC 1014 S. Westlake Bl Ste 14 Westlake Village CA 91361 (213)321-9689	PC Approved 10/17/18 *Expired* Plans Approved
	AR	18-10 (Admin)	Golden State Energy Services Construct new electrical substation	NE Corner Polk St. and Industrial Way	Golden State Energy Services 3421 Gato Ct. Riverside CA 92507 (951) 906-9865	Plans Approved

City of Coachella
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	AR	18-11	Pueblo Viejo Plaza Construct new 6,900 sq. ft. commercial center with two restaurants and retail suite.	Northwest corner of 9th St. and Grapefruit Blvd.	Pedro Padilla 49305 Grapefruit Blvd Coachella, CA. 92236 (760) 972-2441	PC Approved 4/17/19 *Expired*
	AR	19-01	Oraway Engineering To construct a new 825 sq. ft. office and contractor yard on 2.89 acres.	54-101 Enterprise Way	Armando Bravo 83-850 Corte Solis Coachella, CA. 92236 (760) 791-4383	PC Approved 4/17/19 *Completed 2024*
	AR	19-02	Guardado Commercial Center To construct a new 22,300 sq. ft. multi-tenant retail/office complex on 1 acre	Southeast Corner of Valley Rd. and Cesar Chavez Street	Jual Carlos Guardado 82204 Hwy 111 Ste A Indio, CA. 92201 (760) 578-3669	PC Approved 8/7/19 **1 yr time ext** PC approved on 11/3/21 to 8/7/22 **2nd 1 yr time ext** PC approved on 10/26/22 to 8/7/22 In Plan Check *Expired 8/7/22*
	AR	19-03 (Admin)	Vista Escondida – Phase 3 Review of 3 production home models ranging in size from 1,378 sq. ft. to 1,874 sq. ft.	North side of Avenue 54 east of Cesar Chavez Street (Tract 32264)	Mario Alberto Ornelas 2280 Wardlow Circle Ste 100 Corona CA 92880	Approved 8/27/19 *Complete*
	AR CZ	19-06 19-01	Villa Verde Apartments To construct 152 multifamily apartments on 9.25 acres of vacant land.	84-824 Calle Verde (SW Corner of Calle Techa & Calle Verde)	Villa Verde I., LP 1149 S. Hill St Suite 700 Los Angeles CA 90015 (213) 255-2815	Director Approved 2/20/20
	AR	19-08	Pueblo Viejo Villas To construct of new 3-story mixed use building with 105 dwelling units and 3,000 sq. ft. of commercial and Transit Hub (Related to CZ 17-03)	NE Corner of Cesar Chavez Street, and 6th St	Dave Davis Chelsea Investment Corp 6339 Paseo Del Lago Carlsbad CA 92011 (619)987-7780	PC Approved 1/15/20 *Complete*

City of Coachella
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	AR TPM	19-10 37833	CV Apartments (renamed Placita Dolores Huerta) To demolish 50 dwellings and construct 110 new multifamily apartments with community building, in two phases with a lot split sudivision.	84-900 Bagdad Avenue	Vincent Nicholas Community Housing Opportunities 5030 Business Center Drive Suite Fairfield CA 94534 (707)759-6043 ext. 112	PC Approved 2/5/20 CC Approved 3/11/20 Final Map Recorded *Phase 1 Complete*
	AR	19-11 (Admin)	Valencia by Pulte Homes Review of 3 production home models ranging in size from 1,959 sq. ft. to 2,824 sq. ft.	East side of Van Buren Street south of Avenue 50 (Tract 31698)	Cole Theel Pulte Homes 27-401 Los Altos Mission Viejo CA 92691	Director Approved 2/14/20 *Completed*
	AR	20-05 (Admin)	New SFR Home Construct new 1,775 sq. ft. 4 bedroom, 2 bath homes with attached garage	52878 Calle Camacho	Juan Carlos Lopez 52443 Calle Avila Coachella CA 92236 (760)619-8680	Director Approved 8/13/20 *Completed*
	AR	20-10 (Admin)	Meza Storage Shed Construct new 6,000 sq. ft. storage shed on the site of a wholesale palm tree nursery.	Southeast Corner of Vista Del Sur and Tyler Street	Nicolas Meza 50580 Calle Mendoza Coachella CA 92236 (760)541-9034	Director Approved 2/10/21 *Expired 2/10/22*
	AR	21-01 (Admin)	Nova Homes DBA Inland Builders Review of three (3) production homes for final phase of Rancho Mariposa	NW Corner of Ave. 50 and Frederick Street	Nicolas Meza 50580 Calle Mendoza Coachella CA 92236 (760)541-9034	*Pending*
	AR	21-02 (Admin)	Cathron Residence Construct new 1,659 sq. ft. single family residence with attached garage.	84-499 Calle Cathron	Gabriel Gonzalez 43-738 Commanche St Indio CA 92201 (760)574-0601	*Complete*
	AR	21-04	Ocean Mist Proposed 3.99	86709 and 86790 Ave	Christopher Drew	Admin. Approval 8/18/21

City of Coachella
Development Status Report
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			acre outdoor box storage	52	52300 Enterprise Way Coachella, CA 92236	*Complete*
	AR	21-06	29 Palms Band of Mission Indians Temporary Event Parking Proposed event parking on 26 acres.	Portion of Planning Area 1 of the Shadow View Specific Plan (APN 603-102-021, 603-110-016, 603-102-029, 603-102-037, 603-102-003, 603-102-002)	Twenty Nine Palms Band of Mission Indians 46-200 Harrison Place Coachella, CA 92236	Pending *Application deemed incomplete*
	CZ EA	20-07 20-04	B-4 Ranch Change of Zone City-Initiated Change of Zone for 5th Cycle Housing Element	North side of Ave. 52, east and west of Education Way	City of Coachella 53-990 Enterprise Way Coachella, CA 92236 (760) 398-3502	PC Recommended Approval 05-05-21 CC approved 6/9/21
	CUP AR	254 (Mod) 12-07	Gateway AM/PM Project Construct carwash, drive-thru restaurant modification	Southwest corner of Ave. 48 and Grapefruit Blvd.	The Chandi Group USA P.O. Box 2817 Indio, CA. 92202 (760) 396-9260	PC approved 10/21/15 *Complete*
	CUP EA DA	265 15-07	Cultivation Technologies To develop a 111,000 sq. ft. multi-tenant medical cannabis cultivation facility.	84-811 Avenue 48	Michael Meade Desert Rock Development 72100 Magnesia Falls Rancho Mirage CA 92270 (760)837-1880	PC Approved 7/6/16 CC Approved (DA) 7-27-16 PC Approved Mod.-12/19/19 Project Re-Entitled as: Desert Research Park #4
	CUP AR TTM TPM EA	266 16-03 37040 37083 16-01	Coachella Vineyards Luxury RV Park To develop a 185-Lot RV Park and subdivision on 29.41 acres of vacant land	NE Corner of Tyler Street and Vista Del Norte	Patty Nugent Coachella Vineyards Luxury RV Park, LLC 45-920 Meritage Lane Coachella, CA. 92236 (760) 289-5279	PC Approved 7/18/18 CC Approved 9/26/18 PM Approved 4/10/19 Reso-2019-23 ***1 Yr. Ext 9/26/21 (TTM 37040)*** ***AB 1561 Extends TTM to 3/26/23***

City of Coachella
Development Status Report
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						1 Yr. Ext 3/26/24 (TTM 37040) ***1 Yr. Ext 3/26/25 and Modification PC Approved 2/29/24*** ***Under Construction*** ***Phase 1 Operational***
	CUP CUP AR TTM EA	267 268 16-05 37088 16-02	Ravella - To develop 20 acres Planned Development with a service station on 5 acres of Neighborhood Commercial center, and 115 residences on 15 acres.	NW Corner of Avenue 50 & Calhoun Street	Tower Energy Group 1983 W. 190th St., Ste. 100 Torrance, CA. 90504 (310) 535-8000	**P.C. Approved 6/15/16** **CC Approved 7/13/16** **Automatic 36 month extension to July 13, 2021 per Map Act.** **AB 1561 18 month extension to 7/13/2023** ***1st 1 Yr. Ext 1/13/24*** ***2nd 1 Yr. Ext 1/13/25*** ***3rd 1 Yr. Ext 1/13/26*** ***4th 1. Yr. Ext 1/13/127*** ***Approved 12/17/25***
	CUP	268 (Mod.)	Borrego Health To modify the Ravella/Tower Energy Planned Development to alow a new 40,919 sq. ft., 2-story, medical clinic with 294 parking spaces on approx. 4 acres in Tract 37088-1	NW Corner of Avenue 50 & Calhoun Street	Tower Energy Group 1983 W. 190th St., Ste. 100 Torrance, CA. 90504 (310) 535-8000	P.C. Approved 4/17/19 *Complete*
	CUP AR	275 16-14	Mosque & Assembly Hall To construct a new 20,260 square foot mosque to be built in two phases.	84-650 Avenue 49	Shakil Patel 25982 Hinkle St Loma Linda CA 92354 (909)796-0300	PC Approved 12-21-16 *Grading Permit Issued*

City of Coachella
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	CUP AR EA	276 16-18 16-05	Coachella Warehouses To construct a 255,800 sq. ft. multi-tenant medical cannabis cultivation facility	84-851 Avenue 48	Kevin Stumm PCC Industrial/Commercial 760 Garden View Court, Suite 200 Encinitas, CA 92024 (760)452-8075	PC Approved 12/21/16 CC Approved 02/08/17 *Phase 1 Complete*
	CUP AR VAR	278 17-02 17-03	Kismet Organic To construct a phased 77,400 sq. ft. medical cannabis cultivation facility.	48-050 Harrison Street	Ed Sapigao 5151 California Ave Ste 100 Irvine CA 92617 (949)280-4782	PC Approved 7/19/17 CC (Appeal) Approved 9/27/17
	CUP CUP CUP	284 285 286	Mobilitie Mono-Pole To install 3 new wireless communications poles in the street right-of-way	SEC of Ave 52 & Tyler SWC Ave 50 & Harrison NWC Westerfield & Harrison	Robert Lewis Mobilitie, LLC 2955 Red Hill Ave Ste 200 Costa Mesa CA 92626 (951) 212-5825	PC Approved 12/21/17 *CUP 284 Withdrawn*
	CZ CUP AR EA	17-01 279 17-03 17-01	Coachella Green LLC To construct a phased 833,829 sq. ft. medical cannabis industrial park.	86-601 Industrial Way	Barry Walker 1933 S. Broadway No. 806 Los Angeles CA 90007 (323) 997-9914	PC Approved 11/15/17 CC Approved 11/29/17 1st - 12-month time extension 11/29/2019 PC Approved 24 month retroactivetime extension 11/18/20 – Expired 11/29/21 Project under new Ownership
	CUP AR	289 17-11	Coachella Brands To construct a new 91,948 sf cannabis cultivation facility in the MW zone.	84-805 Ave. 48	Richard O'Connor 2 Curie Ct Rancho Mirage CA 92270 (760)409-6464	AR Approved 8/30/17 CUP Approved 11/1/17 *Interim Use In Operation Amendment to the CUP submitted in April 2022.*
	CUP AR	280 17-04	Coachella Research Park #2 To develop an 833,829 sq. ft.	48-451 Harrison Street	Michael Meade Desert Rock Development	PC Approved 10/4/17 CC Approved 10/25/17

City of Coachella
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	TPM EA	37266 17-02	multi-tenant medical cannabis cultivation facility, with industrial condo lots, on 20 acres in the MW zone.		72-100 Magnesia Falls Dr. Ste 2 Rancho Mirage CA 92270 (760)837-1880	*In Plan Check*
	CUP AR DA VAR	280 (Mod) 17-04 (Mod) 18-05	Coachella RP #2 (Modified) To allow two 3-story industrial buildings (98,520 sf) and four greenhouses (404,308 sf) for cannabis cultivation uses.	48-451 Harrison Street	Michael Meade Desert Rock Development 72-100 Magnesia Falls Dr. Ste 2 Rancho Mirage CA 92270 (760)837-1880	PC Approved 11/28/18 CC Approved 2/13/19 *Phase 1 Complete*
	CUP AR TPM EA	281 17-05 37265 17-03	Coachella Research Park #1 To develop an 311,250 sq. ft. multi-tenant medical cannabis cultivation facility, with industrial condo lots on 11.28 acres in the MW zone.	NE Corner of Ave. 48 and Harrison Street	Michael Meade Desert Rock Development 72-100 Magnesia Falls Dr. Ste 2 Rancho Mirage CA 92270 (760)837-1880	PC Approved 10/4/17 CC Approved 10/25/17 *Grading commenced*
	CUP TPM EA	282 37333 17-04	REI / Ponte Hotel Project To develop a 5.45 acre site with 2 hotels, drive-thru pad, and restaurant.	NE Corner of Vista Del Norte and Dillon Road	Claudio Ponte 726 W. Ventura Blvd Ste F Camarillo CA 93010 (805)383-0367	PC Approved 7/19/17 CC Approved 8/9/17 Final Map Recorded ***CUP Expired 8/9/2019***
	CUP CUP CZ	299 300 18-03	HOTN/Sinsemilla Dispensary & Pub Project Proposed 1,839 sq. ft. retail cannabis dispensary and 1,432 sq. ft. bar/pub	1694 6th Street	Pedro Ordoñez 6th Street Tap Room 45631 Capistrano St Indio CA 92201 (760)409-6169	PC Approved 3/20/19 CC Approved 5/8/19 *Under Construction*
	CUP	292	Verizon Wireless To install a new wireless communications pole at	Northeast corner of Frederick St and Ave 52	Bryce Novak 7711 Normal Ave La Mesa CA 91941	PC Approved 1/31/18 *Complete*

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			Bagdouma Park			
	CUP AR	293 17-14	Coachella Herb Plantation To construct a new 67,240 sf medical cannabis cultivation facility on 3.2 acres in the MW zone.	84-801 Ave 48	Marcelo Morales 84-801 Ave. 48 Coachella CA 92236 (760)699-1332	PC Approved 11/28/17 ***Time Extension to 11/28/19*** ***Time Extension to 11/28/20*** Interim Use Under Construction
	CUP	294	Chelsea Mixed Use Project To establish "PD" land use regulations and development standards for TOD project (105 Apartments w/ 3,000 sf commercial and Transit Hub)	East side of Cesar Chavez Street, north of 6th Street	Walter Heiberg Chelsea Investment Corp 6339 Paseo Del Lago Carlsbad CA 92011 (760)456-6000	PC Approved 12/21/17 CC Approved 11/29/18 Modification Approved 1/30/19 *Complete*
	CUP AR VAR	297 18-01 18-01	CoachellaGro Corp. To construct a new 257,051 sf cannabis cultivation facility on 10.99 acres of vacant land in the M-W zone.	East side of Harrison Street, South of Ave. 48	CoachellaGro Corp. 3060 Saturn St #250 Brea CA 92821 (760)940-0100	PC Approved 6/6/18 ***Time Extension to 6/6/20***
	CZ CUP AR VAR	18-09 307 18-07 18-04	Polk Cannabis Redevelopment Project To construct a new 174,500 sf cannabis cultivation facility on 10 acres of land.	53-800 Polk St.	Peter Solomon 53-800 Polk St Coachella CA 92236 (760)895-2621	PC Approved 11/7/18 CC Approved 12/12/18 ***Time Extension to March 18, 2021 related to litigation***
	CUP	301	AT & T Wireless Antenna To install a new wireless communications mono-palm at 50 ft high	Jackson Square SE Corner of Jackson St. and Ave. 48	AT & T c/o Melissa Francisco 19519 Jacob Ave. Cerritos CA 90703 (562)972-5161	PC Approved 9/19/18 *Complete*
	CUP	302	AT & T Wireless Antenna To install a new wireless communications mono-palm at 50 ft high	Bagdouma Park 51-711 Douma St.	AT & T c/o Melissa Francisco 19519 Jacob Ave. Cerritos CA 90703 (562)972-5161	PC Approved 9/19/18 *Complete*

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	CUP AR EA TPM	313 18-13 18-06 37670	Luxor Luxury RV Storage To develop an indoor 123,940 sq. ft. indoor RV storage facility with repair and washing service, and caretaker unit	49-751 Oates Lane	Luxtor Limited, LLC 450 Kansas Street #104 Redlands CA 92373 (909)556-5848	PC Approved 3/6/19 CC Approved 7/10/19 *Under Construction*
	CUP AR EA	308 18-08 18-03	Red Moon RV Park To develop a 78.3-acre RV Resort with 46 long-term rental spaces and 390 short-term rental spaces	44-790 Dillon Rd.	Jim Komick Red Moon Dev. & Construction 4320 Priceless View Dr. Gold Canyon AZ 85118 (480)947-9253	PC Approved 3/06/19 *Completed*
	CUP AR EA VAR	318 (Mod) 19-09 19-01 19-03	NB Coachella Cannabis Cultivation Facility To construct a new industrial greenhouse park for commercial cannabis cultivation uses on 49.97 acres of vacant land in the MS-IP Zone.	86-601 Industrial Way	NB Coachella Properties, Inc. 1650 Black Road Santa Maria CA 93458 c/o CV Engineers (760)360-4200	Pending *Application On Hold*
	CUP	319	Botanero Mexicali- Alcohol Sales. To allow beer and wine sales with 1121 sq. ft. snack bar.	51-704 Cesar Chavez St. Unit #3	Maria Carrera 51-704 Cesar Chavez St Unit #3 Coachella CA 92236 (760)574-5543	Application Withdrawn (Not Needed due to grandfathered ABC license)
	CUP VAR	320 20-01	K.C. Vargas Tattoo Parlor To allow an 800 sq. ft. tattoo parlor in the CG zone.	48-975 Grapefruit Boulevard, Suite #4	Kenny Coronel Vargas 31-180 Desert Palm Dr. Thousand Palms CA 92276 (442)400-1562	PC Approved 5/20/20 *Business Open*
	CUP CUP AR	321 322 20-03	7-Eleven Service Station/ Retail Center. To allow a 10,588 sq. ft. retail center	NE Corner of 1st St. and Cesar Chavez St.	Mr. Francis Chu Coachella Retail Realty, LP 1401 Quail St. Suite #100	PC Approved 7/15/20 CC Approved 9/23/20 PC Approved AR 20-03 and

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	TPM	37940	with service station, drive-thru coffee /office buildings on 3 acres in the CG zone.		Newport Beach CA 92660 (949)752-2515	TPM 37940 CUP 321 AR 20-03 Mod PC Approved 1/5/22 CC AR 20-03 TPM 37940 CC Mod Approval 1/26/22 *Under Construction*
	CUP	323	The Foundation Delivery To allow a 650 sq. ft. non-storefront retail cannabis (delivery only) microbusiness in the CG zone.	51-544 Cesar Chavez St., Suite #J1	CHAD Enterprises, LLC 43-100 Palm Royale Dr. #1627 La Quinta, CA 92253 (760)799-3636	PC Approved 9/2/20 *Now operating*
	EA CUP CUP CUP CZ AR TTM GPA	20-01 324 325 326 20-01 20-04 37921 20-01	Coachella Airport Business Park. To construct a 628,825 sq. ft. industrial center w/ Cannabis Cultivation, mini-storage, and service station on 42.69 acres in the MS-IP zone.	NW Corner of Airport Blvd and CA-86 Expressway	Empire Airport, LLC (Haagen Co.) 12302 Exposition Blvd. Los Angeles CA 90064 (310)820-1200	Notice of Preperation EIR 8/25/23 *Under Review*
	CUP EA AR	327 20-02 20-06	Bejarano Project To construct a new 172,61 sq. ft. cannabis cultivation facility on 9.98 acres in the MW zone.	48-100 Harrison Street	David E. Argudo 15835 E. Main St. La Puente CA 91744 (415)640-4420	PC Approved 11/18/20 *Expired*
	CUP CZ AR	328 20-02 20-08	Cairo Casitas Project To construct new 8-unit apartments project and remodel existing commercial building on 0.498 acres in the CG zone.	51-704 Cesar Chavez St.	Tomer Tzadok 23679 Calabasas Rd. #280 Calabasas CA 91302 (310) 751-4125	PC Approved 9/2/20 *Expired*
	CUP CUP	334 293 (Mod.)	Coachella Greenery To allow a 1,100 sq. ft. retail cannabis business in an existing industrial building	84-801 Avenue 48	Diana Palacios 83614 Eagle Avenue Coachella CA 92236 (760)50-14878	PC Approved 3/17/21 *Business Open*

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			on 3.2 acres in the M-W zone.			
	CUP	335	Kismet Organic Non-Storefront Retail Cannabis To allow a 225 sq. ft. non-storefront retail cannabis business in the MW zone.	48-050 Harrison St. #2	Mr. Kyle Friend 9 Cushing Irvine CA 92617	PC Approved 11/18/20
	CUP CZ	336 20-08	Pueblo Cannabis To allow a 1,500 sq. ft. retail cannabis dispensary in an existing building on 0.30 acres of land in the CG-RC zone.	85-591 Grapefruit Blvd	Armando Lerma 83-983 Fiesta Road Coachella, CA 92236	PC Approved 8/4/21 CC Approved 5/26/21- CUP CC Approved 6/9/21 – CZ Time Extension for CUP Approved by PC 6-15-22 *Under Construction*
	CUP CZ VAR	337 21-01 21-01	Coachella Releaf Dispensary Proposed 3,800 sq. ft. retail cannabis microbusiness in the MS-IP zone.	86-705 Avenue 54 Ste H	Adriana Gonzalez 84-095 Tera Vista Coachella CA 92236	PC Approved 4/7/21 CC Approved CUP 337 and Variance 21-01 on 8/25/21 9/8/21 Change of Zone adopted *Business is open*
	CUP VAR	338 21-02	Coachella Paradise Convenience Store New 2,500 sq. ft. convenience store with off-sale general liquor sales.	50-233 Cesar Chavez St.	Mr. Nesrin Steih 6988 Cantera Way Fontana, CA 92336 (909)728-0379	PC Denied 6/16/21 CC Denied Appeal 7/14/21
	CUP VAR	340 21-03	Best Friends Farms Proposed 1,200 sq. fdt. Non-Storefront Retail Cannabis	84-705 Ave 50, Suite #4	Craig Guggolz 69-822 Via del Sur Cathedral City, CA 92234	PC Approved 6/16/21 (Res. 21-13) Operational
	CUP	344	Meza Interim Outdoor Cannabis Cultivation 24 hoop houses coveraing 1.1 acres for the interim outdoor cultivation of cannabis located on a 5 acre parcel	86099 Tyler Street	Nicolas Meza/CSC Growers 50580 Calle Mendoza Coachella, CA 92236 cscoachella@yahoo.com	PC Approved 10/16/21

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	CUP	345	CVG Interim Outdoor Cannabis Cultivation 11 acres of proposed outdoor cannabis cultivation in hoop houses.	50501 Fillmore Street	Wyatt Nelson 2323 Bonfield Ct, Camarillo, CA (805)910-8587	PC approved 1/20/22
	CUP CZ VAR	342 21-03 21-04	American Desert LLC Multi-tenant Microbusiness Project conversion of an existing 18,960 square foot multi-tenant (12 units) industrial building for cannabis business uses on a 1.29 acre parcel	86695 Avenue 54	American Desert LLC 15303 Arrow Blvd Fontana, CA 92335 (213) 81603214	PC approved 10/20/21 CC approved 11/10/21
	TTM EA CUP CZ GPA	32263 05-11 207 05-04 07-04	322 SF Units Subdivision 64.64 acres See AR 05-21 Nickel creek	Ave 44, West of Dillon	Coachella-Nickel Creek LLC 5744 Canyon Road Amarillo, TX. 79109	PC approved 9/5/07 CC approved 9/12/07 ***SB1185 Ext to 9/12/10*** ***AB333 Ext to 9/12/12*** ***AB208 Ext to 9/12/14*** ***AB116 Ext. to 9/12/16*** ***1 Yr. Ext. to 9/12/17*** ***1 Yr. Ext. to 9/12/18*** *Statutory Ext. to 9/12/21*
	TTM AR EA CUP CZ GPA Annex	35523 07-13 07-16 231 07-08 07-05 60	Villa Palmeras 111 Single Family attached & detached residential 11.58 acres	South side of Ave 50 between Jackson St & Calhoun St	DSE Turco, L.P. Attn: Scott Carino 8910 University Center Ln Suite 690 San Diego CA 92122 (858) 458-3432 (858) 458-3412 FAX	*PC approved 1/16/08* *CC approved 5/28/08* *TTM Expired 5/28/19*
	SP GPA CZ EA TPM	14-01 14-01 14-01 14-04 36872	Vista del Agua Specific Plan 280-acre subdivision with single-family residential, multi-family residential and commercial development.	S of Vista del Sur N of Ave. 48, E of Tyler St., W of Polk Street	James Kozak Strategic Land Partners, LP 12671 High Bluff Dr., Suite 150 San Diego, Ca. 92130	PC Workshop 3/20/19 PC Approved 6/19/19 CC Approved 5/13/20

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					(858) 699-7440	
	TPM VAR	37758 21-05	Cervantes Lot Split Subdivision of 10 acres into 2 lots	50800 Van Buren St	Greg Cervantes 82265 Padova Dr. Indio, CA 92203	PC Approved 7-21-21 CC Approved 8-25-21 *Final Map approved*
	TTM AR VAR EA	38084 21-03 21-04 21-01	Pulte Coachella Subdivision "Sevilla I" Subdivide 26.8 acres of vacant land into 107 SFR lots.	Northside of Ave 51, 500 East of Van Buren St. (APN 768-050-002)	Daniel Wozniak Pulte Homes Company LLC 27401 Los Altos St 400 Mission Viejo, CA 92691	PC Approved 5/19/21 CC Approved 6/23/21 *Completed*
	TTM	31978	Bellssima Subdivision Subdivide 38 acres into 160 single family lots	Southeast corner of Avenue 53 and Fredrick Street	Brighton Properties, LLC (original TTM applicant)	PC Approved CC Approved 5/20/06 ***1 Yr. Ext. to 8/24/18 (Reso 2017-53)*** ***1 Yr Ext. to 8/24/19*** ***1 Yr Ext. to 8/24/20*** ***AB 1561 Ext. to 2/24/2022*** ***Grading Commenced in April 2022*** *Completed*
	TPM AR CUP	38218 21-07 354	JJWR Holdings, LLC construction of two 25,750 sq. ft. industrial building to create up to 32 warehouse condos and 8 office condos	53-457 and 53-459 Enterprise Way	JJWR, LLC 440 Santa Lucia Drive Hemet, CA 92543	PC Approved 5/18/22 CC Approved 6/8/22 ***Expired 6/8/24***
	VAR	18-02	Desert Research Park #1 To exceed height limit for 3 new industrial buildings.	NE Corner of Ave. 48 and Harrison St.	Michael Meade Desert Rock Development 72-100 Magnesia Falls Rancho Mirage CA 92270 (760)837-1880	PC Approved 4/18/18 *Plans Approved*
	AR	21-09	Coachella 155 Proposed construction 155, 1	SEC of Calhoun Street and 50th	D.R. Horton Mario Ornelas	Admin. Approval 1/5/22

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			and 2-story residences within Tract 32074	Avenue	2280 Wardlow Circle #100 Corona, CA 92880 (951)739-5481	*Completed*
	AR	21-15	Bellissima proposed construction of 111 single family residences in an unfinished Tract 31978	East of Fredrick Street between Avenue 53 and 54.	Pulte Home Company, LLC 27401 Los Altos, Suite 400 Mission Viejo, CA 92691 (760)775-1806	Admin Approval 4/5/22 *Completed*
	CUP CUP AR	346 347 21-12	Fountainhead Plaza. To allow a 20,422 sq. ft. Aldi supermarket and 2,600 sq. ft. Panda Express in the CG zone. (related to CUP 321, 322, AR 20-03, TPM 37940)	NE Corner of 1st St. and Cesar Chavez St.	Mr. Francis Chu Coachella Retail Realty, LP 1401 Quail St. Suite #100 Newport Beach CA 92660 (949)752-2515	PC Approved 1/5/21 Mod to CUP 321, AR 20-03, TPM 37940 Approved by CC 1/26/22 *Completed*
	CUP	348	Gunther Investments To allow interim outdoor cannabis cultivation on a 38.48 acre site	Southwest corner of Avenue 50 and Filmore Street	Brandon Calandri P.O. Box 8010 Lancaster, CA 93539	*Withdrawn*
	CUP	349	DAFCO To allow interim outdoor cannabis cultivation on a 199.39 acre site	Northeast corner of Filmore & 52nd Stsreet	Brandon Calandri P.O. Box 8010 Lancaster, CA 93539	*Withdrawn*
	CZ CUP AR	22-01 351 22-04	Tripoli Mixed-Use Project 108 Affordable Apartment units and 2 retail units with Building A 3-Stories and Building B 4-Stories.	Northeast corner of Cesar Chavez Street and Bagdad Avenue	Chelsea Investment Corporation Attn: Dave Davies 6339 Paseo Del Lago Carlsbad, CA 92011 (619)987-7780	PC Approved 4/20/22 CC Approved 5/11/22 PC Approved 10/26/22 (Revisions by applicant) CC Approved 11/9/22 (Revisions) PC Approved 5/17/22 (3rd Amendment) CC Approved 5/24/23 (3rd Amendment) *Completed*
	TTM	38145 38146	Vista del Agua •TTM 38145 is to subdivide 42.92 acres into 204 single-	North of Avenue 48 and West of Polk Street	CVP Palm Springs, LLC c/o Strategic Land Partners, LP 12671 High Bluff Drive, Suite 150	*Under Review*

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			family lots, located east of Tyler Street, North of Avenue 48 and west of Polk Street. (APN: 603-150-005 & 007). •TTM 38146 is to divide 46.92 acres into 254 single-family lots APN: 603-150-009, 010, & 011.		San Diego, CA 92130	
	SP GPA CZ EA DA	22-01 22-03 22-04 22-05 22-02	KPC Coachella Specific Plan entails construction of approximately 9,536 dwelling units (DUs) of a variety of residential types; approx. 305 acres of mixed-use areas; approx. 71 acres of proposed school facilities for a total of 2,807 acres for the project	Northeast portion of the City of Coachella, North of the I-10 Freeway and East of the All American Canal	KPC Development Company, LLC 9 KPC Parkway, Suite 301 Corona, CA 92879 (951)987-8100	*Under Review*
	GPA EA	23-01 23-01	Santa Rosa Business Park General Plan Amendment Proposed General Plan Amendment of 39 acres from Urban Employment District to Industrial	Southeast corner of Tyler Street and Avenue 54	Santa Rosa Business Park, LLC 32823 Temecula Parkway, CA	*Under Review*
	GPA CZ TTM AR EA	22-04 22-05 38429 22-11 22-04	Encanto Proposed subdivision for 112 single family residences on 19.2 acres	Westside of Van Buren Street between Avenue 51 and Avenue 52	Josepth Rivani 3470 Wilshire Blvd Los Angeles, CA 90010	PC Approved 4/17/24 CC Approved 5/8/24
	GPA CZ TTM EA	22-05 22-06 38577 22-06	Sevilla II (Pyramid Ranch) Proposed residential development of 204 single family residences on 39 acres,	West of Van Buren Street and South of Avenue 50 (APN 779-280-002, 779-320-001)	Pulte Group 27401 Los Altos, Suite 400 Mission Viejo, CA 92691 (760)578-9334	PC Approved 10/18/23 CC Approved 10/30/23 *Under Construction*
	AR	22-05	La Terraza	1562 6th Street	William A Aguirre, PE	*Under Review*

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			Mixed-Use with 2,302 sq. ft. retail space on the first floor and 1,583 sq. ft. on the 2nd floor.		68207 Pasada Rd Cathedral City, CA 92234 (951)204-1013	
	AR	22-03	State Towing & Recovery Metal shade cover	85220 Ave 50, Ste. 4	Statewide Emergency Services 623 S Waterman Ave San Bernardino, CA 92408 (951) 682-9336	*Under Review*
	AR	22-06	Eberhard Equipment Installation of a freestanding identification sign at 21' high sign. APN: 763-141-007	86100 Avenue 54	Eberhard Equipment No. 2 86100 Avenue 54 Coachella, CA 92236	PC approved 10/5/22 *Completed*
	AR	22-07	Jordan Central Proposed new 5,400 sq. ft. commercial building with parking lot and site improvements.	86878 Ave 54	Chris Ellison 1280 Main Street Brawley, CA 92227 (760) 344-3322	PC approved 4/5/23 *Expired*
	AR	21-13	Sunline Transit Hub transit center for Line 111, Line 91, Line 92, Line 95 and will include a 540 sq. ft. breakroom/office building, three bus shelters, landscape improvements	Southeast corner of Cesar Chavez Street and 4th Street.	Sunline Transit Agency	PC Approved 7/7/22 *Completed*
	AR	22-08	Coachella Lakes RV Resort Installation for main monument, entrance monument and building sign.	44800 Dillon Road	Image Services, Inc. 2281 Lacrosse Ave, Ste. 501 Colton, CA 92324 909-370-4500	PC Approved 7/6/22 *Complete*
	CUP	358	McDonalds Restaurant drive through reconfiguration	50090 Cesar Chavez Street	153 E City Place Santa Ana, CA 92705	PC Approved 11/2/22 *Improvements complete*
	CUP	360	Taco Shop 760 Type 47 On-Sale Alcohol	48975 Grapefruit Blvd #3	83850 Corte Eclipse Coachella, CA 92236 (760)969-9934	PC Approved 1/4/22 *Complete*

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	CUP	361	Mr. Clamato Type 41 ABC License	51557 Cesar Chavez St.	Eric Aguilar (661) 204-3499	PC Approved 2/15/23 *Business Open*
	CUP	364	AMPM Type 21 ABC License	48055 Grapefruit Blvd.	GSC & Son Corporation	PC Approved 4/19/23 *PC Approved Modification 9/18/24*
	CUP	367	El Dorado Liquor Type 20 ABC License	49647 Cesar Chavez St.	Jose Luis Cedano Zamudio (769) 574-3480	PC Approved 7/19/23
	CUP AR VAR	369 23-06 23-02	AAA Storage – Sunridge Self Storage	APN: 763-141-018	Sunridge Self-Storage 38375 Turnberry Court Murrieta, CA (951) 594-2100	PC Approved 11/15/23
	AR (Admin)	23-07	Rancho Mariposa - 20 single family home lots, 5 floor plans ranging from 1,241-2,408 SF, final phase of Rancho Mariposa	NW Corner of Ave. 50 and Frederick Street	Martin Coyne/Coyne Companies	*Tabled*
	CUP	365	Monarca Salon Studio 25 salon studios within one complex	84090 Ave 50	Humberto Cortez 760-609-3077	PC Approved 6/7/23 *Complete*
	AR AR	23-08 23-08 (MOD)	Love's Travel Stop Architectural modifications to existing fuel center convenience store building	45-761 Dillon Rd	Myrna Smith (913)236-3440	PC Approved 2/21/2024 PC Approved 4/2/2025 (MOD) *Under Construction*
	CUP	366	Sushi Marisco Guamuchil to allow an expansion of alcohol sales as part of a 2,463 sq. ft. square foot restaurant and (ABC Type 47, On-Sale Beer, Wine, and Distilled Spirits)	49-405 Grapefruit Blvd	Mayra Bojorquez	PC Approved 7/19/23 *Complete*
	AR	23-10	Armtec Defense Technologies Architectural Review for (7) solar canopies in the parking	85901 53rd Avenue	Bayware Power Solutions permit.powersolutionsus@baywa-re.com	PC Approved 2/29/24 *Expires 2/29/26*

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			lot totaling 486 kWp at 85901 53rd Avenue (APN 778-390-008).			
	CUP	370	Yamama Liquor Type 21(Off-Sale General) ABC License for new convinience store.	1030 6th Street	Eileya Makhoul (818) 568-61111	PC Denied 9/6/23
	AR	23-11	Rancho Mariposa – 20 Lots 20 single family home lots, 5 floor plans ranging from 1,815-2,121 SF, final phase of Rancho Mariposa	NW Corner of Ave. 50 and Frederick Street	MV A24 LLC / Steve Landis (951) 231-7206 steve@landexcorp.com	Admin Approved 12/12/23 *Complete*
	AR CUP	23-14 375	Coachella Islamic Center Parking Lot Parking Lot to serve the existing Coachella Islamic Society of Palm Springs building at 84650 49th Avenue.	84650 Avenue 49	Islamic Society of Palm Springs radmouses@gmail.com	PC Approved 6/5/24
	AR	23-15	Foxpoint Digital Billboard	45800 Dillon Rd	Sierra Langbehn 8590 E Shea Blvd., Ste. 130 Scottsdale, AZ 85260	Admin Approved 10/30/23
	CUP	373	Family Dollar Type 20 ABC License	52226 Cesar Chavez Street	Family Dollar LLC c/o Rob Hosack 770-235-5662 rhosack@decisions-consulting.com ab-licensing@dollartree.com	PC Approved 2/7/24
	AR CUP	24-02 377	Coachella Gateway 4,627 SF shell building with drive thru at an existing commercial center.	48151 Grapefruit Blvd	Chandi & Karan LLC nsc@chandigroupusa.com 760-396-9260	PC Approved 7/17/24 *Under Construction*
	TTM 38943 AR	24-05	Coachella Vault luxury storage facility on 11 acres for classic cars, boats,	East of Harrison Street and South of Avenue 48 (APN: 603-290-005)	Steve Myers – Coachella Vault LLC 78206 Varner Road, Suite D 152 Palm Desert, CA 92211	*Under Review*

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	CUP		RVs and other luxury vehicles		760-342-4400 steve@coachellavault.com	
	AR CUP	24-07 381	Sun Community Credit Union 4,130 sq. ft. commercial bank building on 1.97 acres.	NEC of Cesar Chavez St and Valley Rd.	Patrick Carey 1068 Broadway, El Centro, CA 92243	PC Approved 7/3/24
	AR	24-08	Library Annex Construction of the Coachella Library Annex building.	1538 7th Street	City of Coachella 760-398-3502	PC Approved 9/3/25
	AR	24-09	Kaul Patio Reconstruction of a 1,759 SF commercial patio at 51800 Cesar Chavez Street	51800 Cesar Chavez Street	Lisa Fisher (760) 668-1653	Admin Approved 11/19/24
	AR CUP	23-16 374	Roots Cafe 1,854 SF retail cannabis business within an existing commercial building located at 45-800 Dillon Road.	45800 Dillon Road	Greg Klibanov 310-486-8000 greg@rykal.net	PC Approved 7/3/24
	CUP	378	La Mango Type 40 ABC License	51704 Cesar Chavez Street Suite B	Arlent I. Torres Cardenas 760-899-2807 Torresarlent1883@gmail.com	PC Approved 4/17/24
	EP	22-04	Coachella Valley Event Center 20 acre event center	46600 Tyler Street	Edwart Rostamian 1146 N Central Ave #340 Glendale, CA 91202 associate4renotes@gmail.com	CC Approved 7/24/2024
	CUP EP	380 24-01	VMP Nightclub & Event Center Night Club and Event Center at existing shopping center that will host live music events. Type 48 ABC license.	49974 Cesar Chavez Street	Reyes Hernandez Belindahernandez2@aol.com 760-888-7140	PC Approved 9/4/24 CC Approved 9/25/24
	EP	23-02	Mi Lindo Sinaloa Family resteraunt with live entertainment.	49291 Grapefruit Boulevard	Josue Milton Paiz Guevara 760-398-8538	*Tabled*
	VAR	23-04	Rochin, Setback 5'5" setback variance and 5%	48440 Charlton Peak St	Ramon Rochin Mmgonzalez0386@gmail.com	PC Approved 3/20/24

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			lot coverage variance for a rear yard patio			
	CUP (MOD)	289	Coachella Brands Modification for permanent status of renovated 5,000 sq. ft. structure, permanent status grant for conjoined and existing container structures, and an extension to develop twenty-five (25) greenhouse structures.	84805 Avenue 48	Ferrel Raskin 602-469-3333 fraskin@d9mfg.com Russell Stamm 602-499-3810 russ@azvector.com	*Under Review*
	CUP (MOD)	345	Coachella Valley Growers Modify condition of approval No. 23 to amend responsibilities of street improvements for Fillmore Street for the Coachella Valley Growers project.	50501 Fillmore Street	Wyatt Nelson 805-910-8587 Wnelson24@protonmail.com	PC Approved 9/4/24
	AR	24-10	Clinica Coachella 6,900 SF medical clinic that includes medical offices.	NE corner of Van Buren and Avenue 50	Alpha Rue, LLC 760-861-1436 ruelasnp@gmail.com drjalfaro@gmail.com	PC Approved 2/5/25
	CUP	382	A & G Mart Type 20 License ABC Type 20 License (Beer and Wine Only) with a new proposed market to include sale of fresh produce within a 2,625 SF suite.	50223 Cesar Chavez St, Suite B102	A & G Mart, Inc. Agmart760@gmail.com	PC Approved 7/17/24
	CUP	383	Galilee Center Thrift Store 2,610 SF thrift store within an existing shopping center.	49291 Gaprefruit Blvd, Unit 1	Gloria Gomez 760-396-9100 ggomez@galileecenter.org	PC Approved 11/6/24 *Complete*
	CUP	387	Joe's Sushi – Type 47 ABC License For a Type 47 – On-Sale General – Eating Place Alcohol License for the Joe's	83103 Avenue 48, Suite 1F	Jesus Inzunza 760-408-6148 Inzunza14@aol.com	PC Approved 2/19/25

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			Sushi the Cabo Way restaurant.			
	CUP	388	El Tranvia – Type 47 ABC License Type 47 – On Sale General – Eating Place Alcohol License for El Tranvia restaurant to allow the on-sale, services, and consumption of beer, wine, and distilled spirits.	1221 6th Street	Oscar Ventura Saavedra 760-619-6550 Oscarv9772@gmail.com	PC Approved 4/2/2025
	AR CUP VAR	24-12 384 25-01	Garcia Parking Lot Installation of a new concrete parking lot for residential apartments.	52849 Cesar Chavez	Alex Garcia 626-575-3070 Michael.garcia@mzbrokerage.com	*Under Review*
	AR TPM EA	24-13 37892 24-02	Acosta Commercial Center Commerical project with modern architecture consisting of 6 buildings proposed in two phases on 19.56 acres.	48441 Van Buren Street (APN: 612-250-002 612-230-005)	Dr. Juan Acosta Juan.acostamd@gmail.com	*Under Review*
	CUP (MOD)	253	Los Compadres Thrift Store Modification Modifications to a thrift store discount boutique within units 2,3, and 4.	1030 6th Street	Guadalupe Nuno lp.sure@yahoo.com	PC Approved 5/21/25
	AR CUP	24-17 386	Coachella Bar Remodel of a two-story commercial building with a restaurant, bar, and offices that includes a Type 41 – On Sale Beer & Wine – Eating Place alcohol license.	1694 6th Street (APN: 778-100-001)	Nicolas Meza 760-541-9034 cscoachella@yahoo.com	*Under Review*
	AR VAR	25-01 25-02, 25-03	Ocean Mist Signage Approval of (4) directional signs, (1) monument sign, and (1) building sign at the	52300 Enterprise Way	Daniel Martinez 760-398-1631 danny@oceanmist.com	PC Approved 5/7/25 (VAR) PC Approved 6/18/25 (AR)

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			Ocean Mist Farm property.			
	AR CUP EA	25-02 389 25-01	Armtec Masterplan Phase 2 & 3 Expansion Design review for Phase 2 (consutction of a 15,000 SF warehouse and a 3,000 SF R&D Facility) of the Armtec project and environmental reviews for both Phase 2 and 3.	85901 Avenue 53 (APN: 778-420-013, 778-390-008)	Miguel A. Badena 760-398-5586 Miguel.badena@armtecdefense.com	PC Approved 6/4/25
	AR	25-04	Jones Court Office For the construction of a office at 85526 Jones Court	85926 Jones Ct, Coachella, CA 92236	Edgar Chavez (760) 289-2505 Edgar@grandlionpools.com	Admin Approved 1/7/26
	CUP TTM EA	390 39051 25-02	Calhoun Street Subdivision Subdivision of an existing 39.98-acre parcel into 255 lots to include 1.96 acres of open space dedicated as a public park and (5) retention basins.	SW corner of Calhoun Street and Avenue 49 (APN: 612-260-010)	Pacific Modern Builders LLC 760-799-8227 Rod4real@aol.com	PC Approved 12/17/25 *Scheduled for CC 1/28/26*
	CUP	391	Taqueria Allende 2 – ABC License, Type 41 Type 41 – On-Sale Beer & Wine – Eating Place Alcohol License for the Taqueria Allende 2 restaurant.	83103 Avenue 48, Suite 1A	Teresa Leon Huerta Teresahuerta669@gmail.com	PC Approved 6/4/25
	CUP	392	Kiddie Kingdom Childcare Center Convert an existing day care center into a community center (learning center).	83191 Mariana Avenue	Elizabeth Cota elicquinunez@hotmail.com	*Withdrawn*
	CUP	393	TJ Evergreen 10-acres of outdoor cannabis cultivation.	NE of Avenue 52 and Fillmore Street (APN: 763-100-019 and 018)	Steve Hodges 760-636-8592 Steve.hodges7@gmail.com	*Under Review*
	CUP	394	6th Street Tattoo Co	1030 6th Street, Unit 7	Ernest Gonzales	PC Approved 7/16/25

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	VAR	25-04	Tattoo/piercing shop within an a leased unit in a commercial building.		Erniegee760@gmail.com	
	CUP	395	Tropicana Supermarket Type 20 – Off-Sale Beer & Wine Alcohol License for the Tropicana Supermarket to allow the sale of beer and wine for consumption off the presmises where sold.	84076 Avenue 50	Abdul Ali 559-639-7006 abdul@tropicanasupermarket.com	PC Approved 9/3/25
	AR	25-08	Mariposa Pointe – CVHC Construction of 24 single-story self-help homes that will complete the Mariposa Pointe community.	SE corner of Avenue 50 and Calhoun Street	Coachella Valley Housing Coalition 760-347-3157 Slawomir.rutkowski@cvhc.org	PC Approved 10/15/25
	AR	25-09	American Made Coachella Tenant improvements that include the construction of (12) 47' stainless steel silos, (4) 12' tall water towers, and mechanical equipment.	52200 Industrial Way	Moe Vazin 310-779-9223 moevazin@vmi-am.com	Admin Approved 10/16/25
	AR TTM CUP EA	25-07 39330 396 25-03	COVA Coachella 87-acre masterplaned destination resort and residential community that includes 162 single-family homes and 120-unit townhome style resort hotel.	SW corner of Avenue 52 & Van Buren (APN: 780-040-001, 003, 780-060-001 and 002)	Relevant Coachella Owner, LLC 310-270-6222 grant@relevantgroup.com	*Under Review*
	AR	25-12	6th Street Senior Apartments 0.86-acre mixed-used project proposing 53 affordable housing units for seniors and commercial space.	SE corner of Tripoli Ave and 6th Street (APN: 778-113-001 and -002)	Chelsea Investment Corporation 858-699-7510 wmorrison@straightarrowteam.com	PC Approved 11/19/25
	TTM AR (MOD)	38429 22-11 376	Encanto Modification Modification to the approved Encanto project that consists	Van Buren Street between Avenue 51 and Avenue 52 (APN: 779-	Joseph Rivani 213-365-0005 jrivani@gidllco.com	PC Approved 11/19/25 CC Approved 12/10/25

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	CUP (MOD)		of 192 single-family homes on 19.2 acres. The modification is for the previously approved project elevations.	360-001)		
	TPM CUP AR EA DA	39060 397 25-10 25-04 25-03	Empyreal Battery Storage Subdivision of an existing 40.9 acre parcel into three separate parcels and construction of a 250MW unmanned Battery Energy Storage System on 9.5 acres.	Avenue 52 (APN: 763-100-016)	Apya Power 704-968-8800 nharagos@aypa.com	*Under Review*
	TTM CUP EA	39170 398 25-05	Buena Vida Subdivision of 69.88 gross acres for a gated residential neighborhood consisting of 327 parcels.	SE Corner of Avenue 49 and Calhoun Street (APN: 612-270-002,004,005 & 612-250-007)	Hall & Tenney Investment, Ltd 604-882-8201 bhall@bdhall.ca	*Under Review*
	CUP	399	APC Tower Construction of a 85' wireless telecommunication facility.	49640 Oats Lane (APN: 603-300-013)	David Elliott, Eukon Group 808-489-1191 David.elliott@eukongroup.com	*Under Review*
	TTM	38986	Coachella 46 Lots Subdivision of 4.31 gross acres for 46 residential lots and 1 common area private street lot, located in the existing Vineyards gated community.	44800 Dillon Road (APN: 679-330-016)	Ben Rubin, CA46 LLC 763-489-1640 brubin@deephaveninc.com	*Under Review*
	AR	25-13	Eberhard Maintenance Building Construction of a 2,700 SF building for repairs and maintenance.	86100 Avenue 54	Stephen Eberhard 775-461-6647 Steve.eberhard@eberhardequipment.com	*Under Review*
	VAR	25-05	Velazquez Setback Variance for an existing detached accessory structure.	50346 Camino Loreto	Alexis Velazquez 760-289-0802 Avelazquez1997@gmail.com	*Scheduled for PC 2/4/26*

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	TTM CUP	39348 400	Anthony Vineyard Maximum of 176 residential dwelling units on about 37.68 acres.	NWC of Avenue 52 and Frederick Street (APN: 768-290-003)	D.R. Horton 951-733-8867 rrprovoost@drhorton.com	*Under Review*
	TTM	39347	Chuchian Ranch 268 lots on approximately 38.3 acres.	Northwest corner of Frederick Street and Avenue 52	D.R. Horton 951-733-8867 rrprovoost@drhorton.com	*Under Review*
	GPA CZ DA AR EA TPM	26-01 26-01 26-01 26-01 26-02	Coachella Valley Technology Campus Multi-phased technology campus that includes a dedicated-megawatt microgrid, standby generators, and battery energy storage systems to support advanced information technology and computing operations.	APN: 763-090-002, 763-100-003, 763-100-009, and 763-100-010	Stronghold Power Systems, Inc. 951-906-9865 sb@teamsei.com	*Under Review*
	AR	25-15	Jackson St – SFR 6,211 sq. ft. single family residence with a 1,074 sq. ft. 4-car garage, five terraces, and 422 sq. ft. exterior restroom.	51683 Jackson Street (APN: 779-500-003)	Salvador Carbajal 760-673-2550 info@s-acdesigngroup.com	*Under Review*

City of Coachella
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January, 2026

PC = Planning Commission
CC = City Council
Types = RS Single Family Residential, RM Multifamily Residential, CG Commercial General, NC Neighborhood Commercial
MH Manufacturing Heavy, MS Manufacturing Service, MW Wrecking Yard, RE Residential Estate
Status of Projects = Under Construction, Approved, Pending Approval
Status of Maps = Constructed, Under Construction, Recorded, Approved Tentative, Pending Approval
AR Architectural Review
CUP Conditional Use Permit
CZ Change of Zone
DA Development Agreement
EIS (EA) Environmental Initial Study (Environmental Assessment)
GPA General Plan Amendment
PD Planned Development
TTM Tentative Tract Map or Tentative Subdivision Map
TPM Tentative Parcel Map
VAR Variance

Tentative Maps (Tract and Parcel) are approved for 2 years and may be extended an additional year three times upon approval of their request and payment of application fees.

Assembly Bill 1561 (AB1561) automatically grants an18-month extension to any Tentative Tract or Tentative Parcel Map that was valid between March 4, 2020 and 18 months after passage of the Bill.

Senate Bill (SB 1185) automatically grants a 12 month extension to any Tentative Tract or Tentative Parcel Map that was valid as of July 15, 2008 and will normally expire before January 1, 2011.

Assembly Bill 333 (AB333) automatically grants a 24 month extension to any Tentative Tract or Tentative Parcel Map that was valid as of July 15, 2009 and will normally expire before January 2, 2012.

Assembly Bill 208 (AB208) automatically grants a 24 month extension to any Tentative Tract or Tentative Parcel Map that was valid as of July 15, 2011 and will normally expire before January 1, 2014.

ENGINEERING:

October 2025 – December 2025

Capital Improvement Projects

Design Phase:

P-31 Rancho Las Flores Expansion



Project will complete Rancho Las Flores Park and include an amphitheater, splash pad, sports courts, dog park and flexible open space for fields, walking, exercising and gatherings. Expansion will also include complete landscaping and lighting. Plans have been submitted for final review and approval. City Staff met with State Parks Committee onsite as a part of the Land Water Conservation Grant. City Staff has applied for a $7M grant.

F-33 Library Annex



Structural analysis has been completed. Design team continues to work on final design. Library Annex to include seismic retrofit, upgraded HVAC and electrical systems, and a restructured layout to provide better services to residents. Staff continues to work with consultant to provide direction and keep project moving forward. Project was discussed during Planning Commission on September 3rd and was approved. Final plans have been re-submitted to Building Department and are currently under review. City Staff is coordinating with Library Staff to discuss library requirements

F-39 Community Resilience Center (CRC)



The Coachella Resilience Center will rehabilitate the City owned facility on Peter Rabbit Lane to provide emergency services and resources to the community. Presentation regarding project update was given at the April 9 Council Meeting. A RFQ was drafted for design-build services. The project will be out for bid soon.

ST-69 Avenue 50 Bridge over Whitewater Channel

The Avenue 50 Bridge will replace the low water crossing with a bridge over the whitewater channel. The plans are complete and are being reviewed by Caltrans. City staff has been coordinating with Caltrans to execute a high-cost agreement to begin construction on the bridge. An Environmental Site Assessment (Phase I) was performed to evaluate the abandonment of an irrigation line. Right-of-Way Acquisition was submitted to Caltrans and a High-Cost Agreement is being finalized. City Staff submitted Right-Of-Way certification to Caltrans. Plans & specs have been finalized, City Staff continues to coordinating with utility companies to relocate utilities.



ST-81 Avenue 50 Interchange

Avenue 50 Interchange is phase 2 of the Avenue 50 corridor improvements. Staff has been working with CVAG for a reimbursement amendment to complete the PS&E phase. CVAG has notified staff that the amendment for $5,000,000 was approved at their April 7 meeting. AnGenious Engineering Services, Inc. has been awarded a reimbursement amendment for design. City Staff and Caltrans are coordinating a Cooperative Agreement.

ST-128 FY24/25 Pavement Project

There are currently two paving projects in the design phase. Avenue 52 pavement rehab is a City lead project that will rehab Avenue 52 from Tyler Street to the bridge. The second project is a County lead project that will slurry seal Avenue 54 as a joint project with the County. Pavement Coatings Co. completed the slurry seal of Avenue 54 from Grapefruit Blvd to Cesar Chavez Street. The contractor has recently installed striping, stop bars, and stop legends.





ST-147 HSIP Cycle 12

The City was awarded $3,041,058 from the Highway Safety Improvements Program (HSIP) Cycle 12 for three projects aimed to increase the safety of pedestrians and bicyclists. City staff is working with Caltrans to authorize funds and begin design phase. Funding allocations have been approved and staff will present PSA to City Council in May. The HSIP projects will include raised crosswalks, buffered bike lanes, pedestrian signal improvements and high-intensity activated crosswalks (HAWK). City Staff is coordinating with Caltrans to obtain a Request for Allocation. City staff has received two state agreements and currently waiting for a federal agreement.

ST-138 Connecting Coachella (ATP)



The Connect Coachella project will add bicycle facilities along Grapefruit Blvd from Avenue 48 to Avenue 54 and along Avenue 54 from the CV Link to Van Buren Street within City limits. ATP funds were awarded for the design of the project and are anticipated to be in effect in June 2025 to begin work. City Staff is coordinating with Caltrans and has sent in a Request for Allocation. City Staff is currently waiting for State Budget approval.

ST-140 Arts and Music Line



The Arts and Music Line project is led by CVAG and is a joint project that will span La Quinta, Indio and Coachella to add a multi-modal path along Avenue 48. A temporary construction easement was approved for the connector at Rancho Las Flores Park. An agreement was approved with Union Pacific Railroad. The contractor is modifying the intersection of Dillon Road and Avenue 48, extending the bike lane on Avenue 48 to the CV Link, with no construction taking place on tribal land.

Construction Phase:

ST-139 Avenue 52 Street Rehabilitation Project

This project will provide street rehabilitation on Avenue 52 from Tyler Street to the Whitewater Bridge. Council has awarded a construction contract to Rove Engineering. The contractor has completed the construction of curb and gutter along the south side of Avenue 52. The Aventine Neighborhood Pavement Rehabilitation Project has been completed. The contractor has completed paving operations on Avenue 52. The contractor has raised all utilities back to grade and striping operations have been completed. The project is substantially complete.



Shady Lane Mobile Home Park Septic - To - Sewer Project & Water Consolidation Project

The project involves the extension of essential utility services to the Shady Lane Mobile Home Park through the installation of new infrastructure. Contractor has completed the installation of the offsite & onsite sewer mainline, laterals, and manholes. The contractor has completed the installation of the offsite water mainline with services to fire hydrants along Shady Lane and is currently working on the onsite water mainline and services. The contractor has completed the tie-in for the 18" Irrigation Line under CVWD inspection. The contractor continues working onsite to complete the construction of the Sewer Lift Station.









TCC Grant Projects

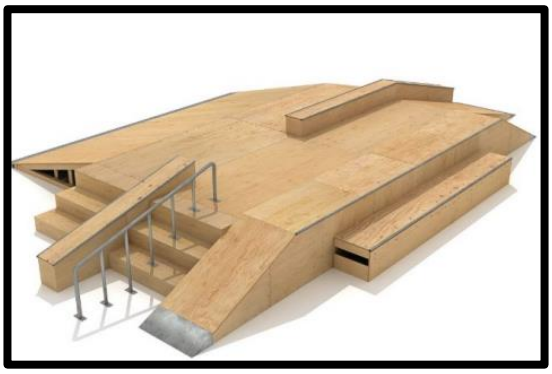
P-29 Avenue 53 Tot Lot

Project will add a safety fence around park perimeter, new playground equipment, updated landscaping, ADA upgrades, and a roundabout at the Avenue 53 and Calle Empalme intersection. City Staff has filed a Notice of Exemption and submitted an amendment to TCC. Revisions for the park and round about plans are being worked on by designer. The California Strategic Growth Council approved to award the City $7.37 million, bringing the TCC award total to $29.5 million. Plans & specs shall be completed in January in order to put the project out for bid in February.



P-27 Date Land Park

It is a revitalization project at Date Land Park aimed at enhancing recreational opportunities and promoting active lifestyles for local youth and families. A key component of this project is the reconstruction of the existing skate park, which will replace outdated features with a modern, professionally designed facility that accommodates skaters of all skill levels. The project is in the design phase. The California Strategic Growth Council approved to award the City $7.37 million, bringing the TCC award total to $29.5 million. A Request for Proposals (RFP) has been issued for Civil & Landscaping services.





P-28 Sierra Vista Park

Sierra Vista Park is the focus of a new enhancement project designed to increase comfort, accessibility, and environmental value for the surrounding community. This project includes the installation of a new public restroom, providing much-needed amenities to support park visitors, families, and organized activities. The project will also include the planting of new trees throughout the park. The California Strategic Growth Council approved to award the City $7.37 million, bringing the TCC award total to $29.5 million. A Request for Proposals (RFP) has been issued for Civil & Landscaping services.





F-37 Bagdouma Wellness Hub / Bagdouma Park

The Bagdouma Wellness Center is undergoing a revitalization project aimed at enhancing the quality of life for community residents through improved facilities and expanded programming opportunities. Central to this initiative is the rebuilding of a commercial kitchen and an interior renovation of the building to create a more welcoming, functional, and flexible environment. The renovated space will be designed to support a wide range of extracurricular activities for residents of all ages, including wellness programs, educational workshops, recreational events, and after-school programs. A new swing set will also be installed at the Bagdouma Park playground. The California Strategic Growth Council approved to award the City $7.37 million, bringing the TCC award total to $29.5 million. An RFQ has been reposted to account for the budget increase on the project.





Fifth Street Paseo

The project will enhance the Fifth Street Paseo to create a more welcoming, walkable, and environmentally friendly public space. As part of this effort, the project will include the addition of new trees along the paseo, aimed at increasing shade, improving air quality, and enhancing the overall aesthetic of the corridor. The California Strategic Growth Council approved to award the City $7.37 million, bringing the TCC award total to $29.5 million.



Private Development Projects

Covalda Apartments:

Covalda apartments will build 108 affordable housing units in Pueblo Viejo and will include commercial units as well. The construction of Building A has been completed. Offsite improvements along Tripoli Avenue have also been finalized. The contractor is currently working on the installation of a transformer from IID to energize a meter pedestal that will serve the streetlights located on Sixth Street, between Tripoli Avenue and Palm Avenue. City staff continues to conduct regular inspections of the project.



9th Street Park

Staff has been coordinating with Chelsea Investment Corp to develop a park on 9th Street and Shady Lane. It will include open grass areas, landscaping, spaces for artwork and lighting. Construction has been completed. The California Strategic Growth Council approved to award the City $7.37 million, bringing the TCC award total to $29.5 million. TCC funds will allow the City to implement artwork and additional features to the park in the future.



Pyramid Ranch

The Pyramid Ranch housing development will build 192 houses on Van Buren Street between Avenue 50 and Avenue 51. City Staff inspected water & sewer systems & completed final approvals for all homes in Phases 7 and 8 of construction. Homes in Phase 9 are currently under construction. The contractor continues to construct sidewalk for future phases. Drilling operations have commenced for the development of Well 20. City Staff continues to inspect.



Sun Community Credit Union

The project involves the construction of a new branch for Sun Community Credit Union located on the North East corner of Cesar Chavez Street and Valley Road. The contractor excavated a trench to install conduits for the electrical crossing on Valley Road. All conduit installation and slurry work were performed under IID inspection. The contractor has completed the trench repair and striping restoration. City Staff continues to inspect.



Coachella Gateway Starbucks

The project involves the construction of a Starbucks located on the corner of Grapefruit Blvd. and Avenue 48. The contractor has completed grading and compaction operations for the subgrade and base grade for the parking lot. All parking lot flatwork has been completed. The parking lot light footings have been poured and the light poles have been installed. The contractor has poured curb and gutter and barrier curb onsite. The contractor has installed a proposed streetlight and poured sidewalk along Grapefruit Blvd. The contractor continues to coordinate with IID to obtain access to the existing transformer to provide power for the proposed streetlight. City Staff continues to inspect.





City of Coachella
Public Works Department
53462 Enterprise Way, Coachella, CA 92236

Departmental Mission:

In a balanced effort to maintain cost effective operations and provide maintenance and emergency response services in a reasonable and efficient manner, it is the mission of the Public Works department to provide quality maintenance and repair of facilities and infrastructure for the City of Coachella Community and its city departments.

Executive Summary:

The Public Works Department is responsible for the operations of our: facilities, fleet, landscape lighting and maintenance districts, parks, and streets. The Department is also the home to our Emergency Services Division and Recreation Division. As reflected below, the Public Works department staff responded to a myriad of requests as reflected below between October – December 2025.

Streets Division	
Task Assignments	Quantity
Illegal Dumping	• **14** Removals • **40** Shopping Carts • **66** Tires • **3** Homeless Camp
Striping	• **46** Legends (40 gallons)
Trash, Tire & Concrete Bins	• **14** Trash • **5** Tire • **4** Concrete • **8** Recycle
Potholes & Street Repair	• **2,552** Potholes Filled • **2** Sink Hole Filled • **15** Water Service Lines
Street Sign Main.	• **11** Repairs • **54** Delineators • **17** Replacements • **1** Pole / Post • **2** Anchors • **2** Beacon Lights • **8** Solar Batteries • **4** PED Crossing • **2** “Cross Traffic Does Not Stop” Signs

	• Grind off Stop bar • Grind off Stop legend • Removed Stop sign • Relocate "Subject to Flooding" sign on the Avenue 50 wash/CV Link Crossing
Street Light Repair	• **4** Sensor Replacement • **2** Fixture Replacement • **2** Bulb Replacement • **2** Camera Installations • **30** Streetlight cover plates welded (Mariposa Pointe)
Traffic Control / Lane Closure	• **5** Assignments
Callouts	• **24** Callouts
Weed Abatement / Grading ROW	• **16** Job Sites (295 Gallons -RoundUp) • **2** Grading shoulders
Storm Drain Main.	• **22** Storm Drains Cleaned • **1** Catch Basin drained due to street flooding
Special Events	• **1** Community Cleanup • **1** Closed off Veteran's Park • **1** Closed off Library for event • **1** Community Cleanup • **1** Christmas Tree Lighting • **1** Christmas Parade
Interdepartmental Assistance	• **1** Sanitation • **2** Code Enforcement • **3** Water Department
Training	• **1** Hazardous Waste Training • **1** Safety Training
Holiday Decorations & Lighting	• **6** Banners on Sixth Street • **9** Veteran banners removed • **6** Dia De Los Muertos banners installed • **4** Veteran banners installed • **77** Holiday Banners • **88** Holiday Lighting Decor • Christmas Tree & Parade Decorations

City of Coache
Public Works Department
53462 Enterprise Way, Coachella, CA 92236

Parks / Building Maintenance	
Task Assignments	Quantity
Daily operations	**Parks Department** • Open and wash all park restrooms twice daily • Baseball field dragging everyday M-TH & Sat. • Playground and hardscape power washing once per week • Service Bagdouma pools 4 times a week during off season. • Bagdouma pool vacuuming every Thursday or as needed to prevent plaster staining. **Building Maintenance Department** • Provide janitorial services for all City Buildings. • Trash out all common areas for Civic Center, Corporate Yard, and Library.
Park & Building Lighting / Signage	• Retrofit 14 pole lights to LED at Dateland Park. • Repaired 2 pole light fixtures at Bagdouma Pool parking lot prior to car show rental. • Completed retrofit to LED of all walking path lights at Dateland Park. • Replaced 2 Acorn light fixtures at Dateland Park by skate park. • Repaired and retrofit to LED 6 keystone lights for Dateland Park entrance signs on Cairo St. and Bagdad Ave. • Retrofit to LED 30 palm tree lights on Grapefruit Blvd. median between Ave 48 and the "Y" of Grapefruit Blvd. and Cesar Chavez St. • Replaced 2 light fixtures for recently rehab restrooms at Dateland Park. • Replaced photocell and retrofit to LED 3 lights fixtures inside storage area between the restrooms at Bagdouma by soccer field #. • Broken light fixture replaced at Grapefruit Blvd. median in front of Mitchell Dr. • Checked all outlets on Cesar Chavez medians before the install of Christmas lights around palm trees.

Turf Maintenance	• Etherea, City Hall and Library - Ongoing scalping and seeding. These areas will be ready for Nov. 1st Run with los Muertos Event. • Dateland Park- Ongoing scalping and seeding. Park will be ready for Nov. 1st Run with los Muertos Event and Synergy Nov. 8 • Sierra Vista, Shady Lane, De Oro and Tot Lot- Ongoing scalping, seeding. • Turned off irrigation, rescheduled removal of temporal fencing after sod installs and ongoing lowering of turf height at Bagdouma and Rancho Las Flores Parks to prepare them for scalping first week of Oct. • Vintage Landscape fertilized all newly installed grass at Bagdouma and RLF Park. • Ongoing scalping and seeding at RLF Park. • Ongoing scalping and seeding at Bagdouma soccer fields 1,2 ,5 & 6. • Mowing perform at the height of 1 ½" for all recently scalped turf areas. • Turned in all scalped fields back to soccer leagues on Monday Nov. 10. • Evaluated sports field conditions after the rain on 11/15 and provided Recreation Coordinator recommendations for field use.
Irrigation Repairs	• Precision backflow came out and installed 2 guard shock cages for 2 backflows located on Cesar Chavez Parkway by Coachellita area to prevent theft and/or vandalism. • 2" irrigation valve replacement at Rancho Las Flores soccer field #3, valve was not turning on with controller. • Vintage Landscape removed old controllers and install 2 new IQ Rainbird Irrigation controllers at Bagdouma by snack bar. • Checked and adjusted irrigation at RLF and Bagdouma soccer fields 1,2,5 & 6 after scalping and before seeding. • Replaced leaking 2" irrigation valve to water infield sand at Bagdouma Baseball field #4. • Repaired broken PVC at Bagdouma soccer field #1. • Checked drip irrigation after main water line repair by Water Dept. at Bagdouma Park expansion area.

	• Replaced leaking 1.5" splash pad valve at Bagdouma expansion. • Repaired broken ¾" PVC line at Bagdouma expansion by the grass area. • Repaired broken ½" PVC line at RLF Park. • Replaced broken 1.5" irrigation valve at Veteran's Park. • Checked and adjusted irrigation to water at night before turning in the recently scalped fields back to the soccer leagues on Nov. 10. • Replaced broken sprinkler head at Bagdouma soccer field #6. • Replaced stolen irrigation controller at Ave 53 Parkway. • Replaced 3 broken ½" PVC risers around planter areas at the Bagdouma Community. • Repaired broken ¾" PVC water line under a tree at Bagdouma Park soccer field #5.
Floor / Wall Maintenance	• Floor buffing at all City buildings performed weekly. • Floor auto scrubbing performed at all city buildings once a week. • Shampoo and deep clean carpet after Ag Vision Event for Library rooms 1 & 2.
HVAC System Serviced	• Unclogged drain line on 10-ton A/C Unit at the Senior Center leaking into light fixture at the dining room area.

Misc. Park Repairs	• Completed restroom repairs, block wall partition and new doors installation at Dateland Park. • Power washed floors for Dateland restrooms and opened them back to the public after remodel. • WCA came out and removed fallen Palo Verde tree at Dateland Park near Splash pad after rainstorm on 9/19/25, pending replacement. • Put restrooms and splash pad at Bagdouma Park expansion out of service due to water leak repair by Water Dept. • Assisted Streets' dept. on cleaning up lot on Ave 52 by CV Link. • Unclogged and repaired leaking restroom valve at Bagdouma Park by Community Center. • Weed abatement and roundup spraying on recently clean up lots on 5th Ave and Avenida De Oro. • Aerated sand for all Bagdouma Baseball infields to remove cores of soil and mixing in sand to prevent compaction, improve drainage, and create a safer, more consistent playing surface. • Replaced malfunction chlorinator for Bagdouma waddle pool. • Unclogged restrooms at Bagdouma by soccer fields 1 & 2 and install new solenoid to repair leaking. • Dirt filled washed DG for walking path at RLF Park near Southwest basin. • Rudy's Electric came out to troubleshoot and repair power outage for all East side of RLF Park, they found a short due to burnt wires between 2 poles by the gazebo area. • Checked all outlets for the palm trees on the Cesar Chavez medians before Christmas lights installation. • Replaced ripped belt swing at RLF Park playground. • Replaced with longer 6 pairs of chains for swings at RLF Park playground. • Checked and safely disposed of old pesticides and paint at City's Community clean up. • Checked and secured old chamber of Commerce building. • Completed Christmas lights and decoration install for Christmas tree, City Hall and Fire Station.

- Parks standby opened and closed restroom for rental at Vista Escondida Housing Community.
- Lowered all flags half-staff to honor the memory of former Vice President Richard Cheney.
- Cleaned up trash and illegal dumping from 5th Street Paseo area and installed 3 No Loitering signs around park area.
- Repaired and secured with tamper proof bolts 1 vandalized light pole at RLF Park.
- Sprayed bug and ant repellant, took cardboard trash cans and 36" ribbon cutting scissors to Ave 52 CV Link Ribbon Cutting Event.
- Unclogged restroom at Bagdouma Park by soccer fields 1 & 2.

Graffiti abatement at the following locations

- Dateland Park men restroom's
- De Oro Park brick wall west side of the park by walking path.
- Bagdouma Park men and women restrooms by Boxing Club.
- Graffiti removal for south goal frame at RLF field #1

Repairs before turning in fields back to the soccer leagues on Nov. 10.

- Net repair for south goal at RLF Park field #2
- Replaced 1 ripped goal net at Bagdouma Park south side of field #2
- Replaced 1 ripped goal net at Bagdouma Park southwest side of field #6

Prepared Veteran's Park for Pancake Breakfast Event

- City staff picked up rental equipment from Signature Part Rentals and stored it inside the Parks Bay.
- Mowing and Landscape detailing
- Ant and bug repellant spraying
- Power wash hardscape and stage area
- Power wash playground, restrooms and picnic tables
- Replace flags as needed
- Check all electrical outlets to make sure they all work
- City staff took back rental equipment to Signature Part Rentals after Event.

Prepared Dateland Park for Synergy Festival Event

	• Landscapers turned off irrigation 2 days before event and detailed landscape and DG areas as needed. • Ant and bug repellant spraying • Power washed playground, picnic tables and hardscape. *Prepared Library Park for Ag Vision Event* • Picked up 8'x2' Grape label panels from Palm Desert, took to Library and set them up the day of the event. • Parks staff teamed up with BM staff and took stage and podium from Corporate Yard to Library rooms 1 & 2. • Landscapers turned off irrigation 2 days before event and detailed landscape and DG areas as needed. • Power washed picnic tables and hardscape. • Checked all electrical outlets and strings lights to make sure they all worked. • Provided power throughout park. • Sprayed ant and bug repellant on grass areas.
Building Repairs / Additions	• Asbestos testing performed by Air Quality Testing services at City Hall by Council Chamber after mini split install. Asbestos was not detected in the building materials disturbed by the mini split installation. • Built shelf and removed 2 non-working microwaves and installed new ones at Civic Center kitchen. • Ice machine reported not working, cleaned, serviced and reset at Senior Center. • Installed 2 new touchless soap dispensers at the Corporate Yard men's restrooms downstairs. • Repaired broken floor tile at Corporate Yard lobby. • Installed whiteboard for Grants manager at the Corporate Yard. • Replaced outlet cover by Economic Development Management analyst office at the Corporate Yard. • Replaced outlet cover by IT office at the Civic Center. • Replaced 6 ceiling tiles upstairs at the Corporate Yard. • Replaced 20 ceiling tiles at City Hall after damaged from the rain.

	• Removed old and replaced with new sink inside men's restroom at City Hall. • Assisted Fire Station staff into installing hanging chains for their ladders. • Replaced defective board on sliding gate operator at Hidden Harvest property, new gate controllers assigned. • On Saturday 11/15 Building maintenance staff came out to check all City buildings for leaks during and after the rain. • Turned off water for leaking water filter recently installed at the Corporate Yard downstairs kitchen, clean up puddling water from kitchen and restrooms. Wet carpet around cubicles was cleaned up using a wet/dry vacuum and installed a fan to prevent mold. • Repaired toilet that kept on flushing at Coachella Fire House Building. • Built chair for Economic Development Dept. assistant. • Cleaned dumpster areas at City Hall, Library, Senior Center and Corporate Yard. • Washed windows in front of the Corporate Yard Building. • Washed library windows on the east side of the building by rooms 1 & 2. • Replaced filter for refrigerator downstairs kitchen at the Corporate Yard. • Repaired leaking urinal at the Corporate Yard downstairs men's restroom.
Facility Use Permits	• Set up and pick up food for Council Meeting. • Set up Corporate Yard Conference room for Hazard Communication Training. • 15 Facility Rentals, opened and closed for 2 of rentals on over time during the weekend. • 3 Park Shade structure rentals • Set up Corporate Yard Conference room for Injury and Illness Prevention Program Training. • 21 Facility Rentals, opened and closed for 1 rental on over time during the weekend. • 1 rental for Car Show Event at Bagdouma Pool Parking lot.

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	• 1 rental for CVHS Car Wash Event at Bagdouma Pool Parking lot. • 5 Parks shade structure rentals. • 13 Facility Rentals, opened and closed for 3 rentals on over time during the weekend. • 5 Parks shade structure rentals. • 8 facility set ups by BM staff (3 at the Corporate Yard, 4 at the library, 2 at City Hall and 1 at the Community Center.
Special Events	• Ongoing Movies in the Park at Bagdouma Park every Friday in October starting October 3rd. • Ongoing Mosquito and bug repellant at Bagdouma soccer field #4 every Friday morning before Movies in the Park. • Veteran's Pancake Breakfast • Synergy Festival • Agricultural Vision • Run With Los Muertos 5K • Christmas Parade

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LLMD	
Community	Task Assignments
Somerset	• Inspected landscape lighting in both entrances & monument sign. All landscape lighting is working and no issues.
Mariposa Point	• Inspected all landscape lighting along Calhoun St & Avenue 50th. Place order to replace three damaged up lighting with desert electric supply. • Inspected landscape lighting along Calhoun St & Avenue 50th, two landscape lights were vandalized. • Both retention basin are closed due to the recent storm wash away dg path & pea gravel. Requested estimate to restore both basins and add bigger size cobble rock.
La Paloma Estates	• Conserve Landcare is schedule to start scalping today, turning on irrigation in the turf area to control dust from scalping. Conserve sprayed turf with reward to make grass turn brown and ready for scalping. • Received call from a resident regarding down Palo Verde blocking Eagle Ave. WCA was call out and remove tree. Conserve Landcare capped off irrigation and turn off irrigation controller. • WCA completed trimming all trees in both retention basins; scalping lawn is schedule for Monday. • Crew completed installation of Geranium Ivy 'League Light Lavender' flowers. • Inspected all turf areas being mow today for first mowing of rye grass. Will place order for fertilizer. • Reported vandalism on Avenue 49 retention basin to Code Enforcement.

	• Working on adding rain delay to 10-irrigation controller due to recent rains on more schedule for Sunday & Monday.
Tierra Del Sol	• Reached out to Conserve Landcare due to crew sprayed tree trunk of Shoestring acacia on Camino Pelican. Tree did died due to the herbicide; account manager approved removing tree and replacing it with a 24-gallon tree. • Meeting with WCA at Agua blanca basin to go over tree trimming mesquites. Conserve ongoing scalping of all retention basins. • Conserve Landcare working on completing scalping in all retention basins, WCA ongoing tree trimming in Todo Santos basin. Maintenance crew working on removing summer flowers from all entrances and prepping flower beds for fall color. • WCA ongoing tree trimming at Camino Pelicano & Puerto Escondido retention basins. • Conserve Landcare working on tilting soil on all flower planters on Jackson St, Avenue 48 & Calhoun St. Working on reviewing flower selection for fall color, fertilizer & installation date. • Inspected lighting bollards & palm tree rings along five entrances to the community. • Meeting with Conserve Landcare account manager to go over enhancement project on Avenue 48. Going over plant layout, rock selection, & upgrading irrigation. • Received report of vandalism reported on Agua Blanca retention basin turf. Will request proposal from contractor to install boulders to eliminate access for razor vehicles. • Inspected landscape lighting at the five entrances to the community.

	Schedule meeting with Conserve Landcare to discuss Avenue 48 landscape project and demo of older plant material. • Met with Conserve Landcare to go over rate of fertilizer for all lawn areas, pick up two pallets of turf royal. • Meeting with account manager to go over plant infill at Indian park & Todo Santos basin, approved estimate. • Created work orders on arbor access for WCA to remove three trees and plant (3) 24-gallons trees. • Conserve landcare is schedule to start two plant infill projects at Indian park & Todo Santos basin. • Scheduled three man-crew to clean up after recent rain, all side yards eroded, flooded retention basins. • Conserve Landcare working on adding rain delay to all irrigation controllers & ongoing clean up. • Meeting with Conserve Landcare account manager to go over cleanup of retention basin due to the last two rains. DG on slope wash down to dg path, Conserve Landcare to provide estimate to restore retention basin.

La Morada	• Meeting with WCA supervisor to review the tree trimming tree completed. Focus of tree trimming is to structure and thin out trees. • WCA ongoing tree trimming in the retention basin, thinning out & reducing end weight. Crew is schedule to finish on Thursday. • Conserve Landcare working on scalping larger retention basin, rye seed is schedule for Tuesday. Conserve Landcare irrigation tech to replace any damaged rotors & program irrigation controller. • Reported irrigation leak on Van Buren St, ¾" pvc pipe was leaking due to plant roots. • Inspected solar lighting along Avenida Verano, one solar light not turning on will reset and inspect next week. • Inspected recently new turf area mowed, will schedule fertilization for next week. Requested landscaper to adjust two irrigation controllers for turf area. • Received report of vandalism in the retention basin, off road vehicles doing donut newly seed turf area. Will request Conserve Landcare to provide estimate to add boulders.
Posada Del Valle	• Inspected completed tree trimming in the retention basin. Conserve Landcare cleaned up playground woodchips that washed down to the basketball court due to recent rains. • Work is scheduled for cleanup of woodchips & cleaning of the basketball court. Due to the recent rains basin flooded and was washing away woodchips. • Schedule Conserve Landcare to cleanup washed down woodchips due to the recent rains.

Hacienda Adobe	• Received report of stuck valve on Ave 50th, inspected irrigation valve solenoid & external bleed screw was open. Irrigation is off and running with irrigation controller. • Inspected solar lights in the retention basin on Westerfield, will reach out to vender regarding one solar light not working. • Request landscapers to trim back all plant material, weed abatement & check irrigation. • Retention basin has not been service since September due to the rains and water not percolating. • Inspected all solar lighting in the retention basin, next community-meeting schedule for November 12. Will reset one solar light due to lighting not turning on. • Reported graffiti to code enforcement on Avenue 50th & Avenida Del Parque. • Requested Rudy electric to secure electric pedestal on Avenida Adobe retention basin. Will follow up is this item has been completed.
La Colonia	• Approved Conserve Landcare to replace 1-inch inline valve & battery controller on Santo Ln. Valve was staying stuck and causing flooding of the common area the existing controller was not working the screen was blank. • Inspected conserve scalping crew, all three turf areas were scalped, pending is WCA tomorrow to trim trees in the retention basins. • Approved cleanup of decomposed granite (dg) that wash down to walking trail due to recent rains. Conserve Landcare scheduled cleanup once turf area is dry as they are going to use mini skid steer.

	• Inspected landscape lighting on both entrances and 8 of landscape lights on the columns aren't working. Requested Ruby Electric to troubleshoot issues. • Inspected lighting bollards & up lighting on the columns, Avenue 50th all lighting is off will troubleshoot issue. • Inspected flowers installation on Avenue 50 & Calhoun St - Geranium Zonal 'Dynamo Orange". • Received report of lighting bollards on Avenue 50 are not working in the evening. Will schedule early drive tomorrow morning to see if they are working. • Inspected lighting at both entrance to the community, on Avenue 50 we had a short and electrician to troubleshoot problem. Not able to access lock as it is in a location where am not able to break lock and inspect transformer. • Ongoing lighting issues on Avenue 50th entrance, electrician is schedule for Friday to troubleshoot short and restore power to lighting bollards. • Pending is replacing irrigation breaker, as we do not have power either for irrigation controller.
Aventine	• Conserve Landcare mow crew working on scalping both sections of turf, marked location for BRC Construction to install removable bollards on the ramp. • Inspected solar lighting in the retention basin on Capitola Ave & main entrance on Avenue 51. • Meeting at 7:30am with Conserve Landcare to go over landscape project on Van Buren & Fredrick St. • Enhancement crew schedule to start this Friday demo of all plant material & light grading. • Evaluating Palo Verde on Avenue 51

	• Ongoing tree trimming with WCA on Van Buren & Avenue 51, Conserve Landcare working on demo of plant material and light grading. • Conserve Landcare working on removing older plant material & light grading on Van Buren. • Reported graffiti on Avenue 51. • Meeting with WCA to go over Palo Verde removal. • Meeting with Conserve Landcare to go over plant material deliver from Sun City nursery. • WCA completed trimming all trees along Van Buren St & Avenue 51. • Scheduled walkthrough this morning with Conserve Landcare to go over plant install, 50 tons of desert gold dg was delivered on Van Buren St.
Los Jardines	• Conserve Landcare spray technician working on weed abatement spraying Reward & Roundup 400 gallons. • Meeting with Vintage Outdoors to go over proposed landscape rendering for retention basin & side yards. • Inspected ongoing tree trimming along Genoa St & Avenue 53 with WCA. • Inspected tree trimming throughout the common areas, WCA ongoing trimming of trees. • Received concept design for landscape slope along walking path from Avenue 53 to Avenue 52. Waiting on rendering for side yards inside the community. • Received concept design for side yards & retention basins for November 4th community meeting. • Placed order with PlanIT for 2x3 foam boards. • Inspected recently completed tree trimming along Avenue 53 & Genoa St. • Reported vandalism on Tyler St - many broken risers along walkway.

	Conserve Landcare replaced ½ risers and clean up the area of any debris.
Monte Vista Homes	• Reached out to builder Monte Vista Homes to remove signs installed throughout the common areas. Contractor staking signs in between plants and breaking lateral lines for irrigation.
Rancho Mariposa	• Inspected eroded retention basin on Redondo Sur. Conserve Landcare to revise proposal due to more damage for recent rains. • Inspected landscape lighting in the medians, as concrete floodlights are solar. Meeting with Monte Vista Homes to discuss pending items for the common area landscape. Pending are solar lights as four are not turning on. • Inspected solar lighting in the retention basin, Conserve Landcare working on repairing eroded area due to the recent rains. Crew cleaning dg walking path, using equipment to clean up dirt. Weed barrier will be added area that eroded, compact soil & installation of bigger cobble rock. • Conserve Landcare crew working on grading bottom of the retention basin, cleaning dg walking path & repairing eroded slope. • Inspected completed cleanup of the retention basin for the recent rains. DG walking path cleaned up of soil build up & light grading. Crew completed installation of larger cobble sectioned where it eroded.

La Paz	• Conserve Landcare two-man crew working on weed abatement in the retention basin on Calle Nino. Pending is spraying herbicide after weeds are mow down to the ground. • Received report of down wrought iron fence on Calle Nino, requested BRC Construction to provide estimate to replace fence post & panels if needed.
Buena Vista	• Received call due to down tree blocking Avenue 49 on Thursday evening due to the strong winds & rain. WCA was call out and remove Palo Verde. Conserve Landcare capped off irrigation and turn off irrigation controller. • Inspected completed service along Avenue 49 & Fredrick St, requested Conserve Landcare to check irrigation on vines.
Bella Canto	• Inspected landscape lighting on both entrances & along both retention basins.
Paseo De Las Palmas	• Approved replacing panel & module kit for irrigation controller on Avenue 50th. Conserve Landcare completed installation and irrigation timer was program.
Vista Escondida	• Approved replacing 1-1/2 inch rainbird inline valve & pressure regulator. Irrigation valve was not closing completely and allowing water to flow 24/7. • Inspected completed tree trimming by WCA along Avenue 54, retention basins & parks. Crew did an amazing job and cleaning up after receiving no complaints from residents. • BRC Construction replaced damaged sidewalk panel, overnight vandalism to the new concrete pour on Avenida Tacuba.

	• Reported broken riser on Avenue 54, requested landscaper to repair & clean up erosion.
Pyramid Ranch	• Inspected installation of picnic tables & benches in the park area. Platinum Landscape working on plant installation & removing any dead plant material.
Rancho De La Fe	• Inspected landscape project on Avenue 53, pending is replacing 3 struggling vines & one irrigation leak. Overall project took 3 weeks, included demo, painting of exterior wall, plant & tree installation & 40 tons of dg. • BRC Construction installed four solar lights at Diego Ct park area. • Conserve is schedule to seed turf area & program irrigation controller. • Inspected park area on Diego Ct, provided mulch bags to contractor to spread on areas struggling for seed to germinate. • Inspected solar lights in the park area. • Vandalism to basin park rules sign. Will be installing metal pole with basin park rules to avoid vandalism again. • Requested Conserve Landcare to inspect irrigation due too much standing water in the sidewalk. • Area is schedule for lawn to be fertilize.
Las Plumas	• Requested proposal for repairing wrought iron fence panel due to vandalism to the retention basin on Calhoun St.

Pueblo De La Paz	• Reported leaking quick coupler in the retention basin flooding area. • Conserve Landcare irrigator replace damaged marlex. Two valves were not turning on with irrigation controller common wire was damage due to gopher. • Inspected solar lighting in the retention basin and all four lights are off will reset and turn on manually.
Plaza Del Sol	• Inspected landscape at the retention basin; crew completed services and is beginning maintenance.
Rancho Cielo	• Inspected landscape lighting at Avenue 53 & Genoa St. • Meeting with Andrew to look over proposed landscape along walking path & wrought iron fence. • Reached out to code regarding property draining pool and water flowing into the retention basin, causing slope to erode. • Received concept design for side yards & retention basins for November 4th community meeting. • Placed order with PlanIT for 2x3 foam boards. • Reported irrigation leak on Michelle & Huxley Ct to Conserve Landcare. • Inspected all message boards placed on all entrances to the community and requested Streets department to add meeting at Dateland Park.
Buena Vista	• Reported graffiti to Code Enforcement Department on Fredrick St. • Inspected recently completed service on Avenue 51 & Suncrest.

Tierra Bonita	• Reach out to code enforcement due to property owner trimmed trees and did not remove trimming on Fredrick St. • Moved green waste away from sidewalk as it was blocking pedestrian walkway.
Sevilla	• Conserve Landcare completed service of the frontage landscape & both retention basins. • Requested proposal for plant infill in retention basin. • Conserve Landcare working on installing 38 bougainvillea vines & 20 firecracker plants. • WCA ongoing tree trimming on Avenue 51.
Bellissima	• Scheduled 7am meeting with Platinum Landscape & Ulrich to go over landscape frontage acceptance on Fredrick St & Avenue 53. We were able to identify plant material was not install per plan & missing plants. Platinum Landscape to work on correcting issue before we accept track. • Reached out to Building Department to inspect electric pedestal on Avenue 53 for IID to energize.
Loma Vista	• Inspected recently completed service on Avenue 51, Conserve Landcare to provide estimate to add desert gold DG.
Palm Desert Development	• Meeting with Conserve Landcare to go over hacking back plant material on Westerfiled. Request contractor to replace plants due to damage of the foliage.

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CV Housing Coalition	• Received report of property owner illegal dumping Calle Techa & Calle Verde tree trimming. • Inspected recently completed service on Calle Verde with Conserve Landcare.
Community Meeting	• Meeting held at Dateland park for Rancho Cielo & Los Jardines.

CITY OF COACHELLA
53-990 ENTERPRISE WAY
COACHELLA, CA 92236

CODE ENFORCEMENT, ABANDONED VEICHLE ABATEMENT, GRAFFITI, PARK RANGERS & ANIMAL CONTROL

QUARTERLY REPORT

Oct. 01, 2025 to Dec. 31, 2025

Prepared By:
Diana Becerra

Code Enforcement Summary Report

Report Criteria:

Status	Assigned To	Census Tract	Violation	Initiation	Open Date Range	Follow up Date Range	Close Date Range
All	All		All	All	From 10/01/2025 To 12/31/2025	From To	From To

CE Totals

	Total	Closed Cases	Open Cases
Totals	**118**	**84**	**34**

CE Cases by Violation

Violation	Total Violations	Closed Violations	Open Violations
	5	5	0
10.08.060 - Working on parked vehicles	1	1	0
10.20.010(18) Abandoned/Inoperable/Dismantled vehicle(s).	22	18	4
12.12.050 - Duty to maintain sidewalks.	1	0	1
12.16.030 - Permit required/CURB CUTS AND DRIVEWAYS	0	0	0
12.42.030 - Unlawful camping.	12	10	2
12.42.040 - Storage of personal property on public property.	8	8	0
12.50.100 Penalties. (B) Vending without a sidewalk vending permit	3	2	1
13.03.044 Wasting water prohibited.	0	0	0
13.03.208 - Access to water meter.	1	1	0
13.03.306 Expiration or Extension of Permit	0	0	0
15.04.020 (A) Concrete Flat Work, Shades & Storage Containers	4	2	2
15.44.010 Building Numbering/Required	0	0	0
15.60.010 Building Permit Required	9	4	5
15.60.050 - Substandard buildings and housing.	1	0	1
15.66.010 Seismic Hazard Mitigation	0	0	0
17.16.020 - Permitted uses.	0	0	0
17.16.030(C)(5)-Property development standards. Walls/Fences	1	1	0
17.17 - R-D RESORT DISTRICT	0	0	0
17.19 STANDARDS FOR SINGLE-FAMILY RESIDENTIAL	0	0	0
17.48.020 Display of merchandised out of doors.	0	0	0
17.54.010 (N)(2) Parking and Storage in Residential Zones.	9	7	2
17.54.010 - Parking requirements. (Improved Surface)	0	0	0
17.54.010.(N)(3)	0	0	0
17.54.020 - Permitting of certain garage conversions to residential living space ("garage conversions").	0	0	0
17.56.010(J)(2)(B) - Signs	0	0	0
17.58.010 - Home occupations	1	0	1
17.60.010 (F)(4) Accessory structures	0	0	0

17.60.010 (G) - Trailers Outside Camps	0	0	0
17.60.010 - Property development standards. (Fence)	3	1	2
17.60.010 Property Development Standards 9D) (3)(a) Yards	0	0	0
17.60.010(3)(e) Development Standards	0	0	0
17.74.010 (D)(3) Conditional Uses	0	0	0
17.84 Medical Cannabis Dispensaries.	0	0	0
17.84 Medical Cannabis Dispensaries. 17.84.030 - Prohibited activities.	0	0	0
17.84 Medical Cannabis Dispensaries. 17.84.040 - Prohibited activities declared a public nuisance.	0	0	0
17.84 Medical Cannabis Dispensaries. 17.84.050 Penalties for Violations	0	0	0
2.08.060 (A) - Political sign regulations.	0	0	0
2.08.060 (B) - Political sign regulations	0	0	0
2.08.060 (C) - Political sign regulations	0	0	0
2.08.060 (D) - Political sign regulations	0	0	0
2.08.060 (E) - Political sign regulations	0	0	0
3.10.010 (D) (16) Visibility Hazard	5	3	2
3.10.010 (D) (27) Public Burning	0	0	0
3.10.010 (D)(10) Termites, Insects, Vermin or Rodents.	0	0	0
3.10.010 (D)(12) Abandon or Vacated Building/Structure	1	1	0
3.10.010 (D)(13) Offensive Odors	0	0	0
3.10.010 (D)(15) Hazardous Substances and Waste	2	1	1
3.10.010 (D)(18)	0	0	0
3.10.010 (D)(19)	0	0	0
3.10.010 (D)(20) Swmng Pools, Ponds and Other Bodies of Wtr.	0	0	0
3.10.010 (D)(23) Public Nuisances/Safety Hazard	5	4	1
3.10.010 (D)(24) Disruptive Activities	7	2	5
3.10.010 (D)(25) Land Use Entitlements.	0	0	0
3.10.010 (D)(3) Weeds	0	0	0
3.10.010 (D)(31) Animal Manure	0	0	0
3.10.010 (D)(36) Signs	1	1	0
3.10.010 (D)(38) - Maintenance and abatement of nuisances.	3	2	1
3.10.010 (D)(4) - Trees and Shrubs	2	1	1
3.10.010 (D)(44) Public Nuisances/Rubbish, Refuse and Dirt	18	11	7
3.10.010 (D)(8) -Maintenance of Private Driveways	0	0	0
3.10.010(35) Water Disposal	2	1	1
3.10.010(D)(11)-Sewage.	0	0	0
3.10.010(D)(15)-Hazardous Substances and Waste.	3	0	3
3.10.010(D)(16)-Visibility Hazard.	4	2	2
3.10.010(D)(19)-Visual Blight	5	4	1

3.10.010(D)(20)-Swmng Pools, Ponds and Other Bodies of Water.	0	0	0
3.10.010(D)(21)-Public Toilets.	0	0	0
3.10.010(D)(22)-Privies.	0	0	0
3.10.010(D)(25)-Land Use Entitlements.	0	0	0
3.10.010(D)(27)-Public Burning.	0	0	0
3.10.010(D)(28)-Air Pollution.	0	0	0
3.10.010(D)(29) Mosquito Breeding Places.	0	0	0
3.10.010(D)(30) Discharge of Sewage	0	0	0
3.10.010(D)(31)-Animal Manure	0	0	0
3.10.010(D)(32)-Hauling of Offensive Substances	0	0	0
3.10.010(D)(33)-Clothes Lines.	0	0	0
3.10.010(D)(34) Stormwater Drainage	0	0	0
3.10.010(D)(35)-Water Disposal.	0	0	0
3.10.010(D)(36)-Signs.	0	0	0
3.10.010(D)(37)-Encroachment.	1	0	1
3.10.010(D)(38)-Municipal Code Violations.	0	0	0
3.10.010(D)(39)-California Civil Code.	0	0	0
3.10.010(D)(40)-California Red Light Abatement Act.	0	0	0
3.10.010(D)(41)-California Drug Abatement Act.	0	0	0
3.10.010(D)(42)-State Housing Law.	0	0	0
3.10.010(D)(43)-Weed Abatement.	0	0	0
3.10.010(D)(6) Parking on Yard Off Driveway	2	2	0
3.10.010(D)(7) Occupied Vehicles	0	0	0
3.16.090 - Failure to comply with notice of violation.	18	7	11
5.48.030 - Nonconforming signs	0	0	0
5.48.090 - Permits for outdoor advertising signs.	1	1	0
5.80.030 - Permit requirement (STR)	1	0	1
5.80.100 - Operational requirements and performance standards established. (Short Term Rentals)	0	0	0
5.80.120 - Violations (STR)	1	0	1
7.04.040 - Prohibited noise generally.	1	0	1
8.20.040(C)Dust Control requirements	2	0	2
8.44.010 - Collection by city or agent only.	0	0	0
8.44.070 Commercial Garbage Collection and Disposal	0	0	0
8.48.030 (B)Graffiti Prohibited	1	1	0
8.60 - REGISTRATION AND MAINTENANCE OF ABANDONED PROPERTIES	0	0	0
8.60.040 Registration of Abandoned Property	0	0	0
8.60.050 - Abandoned Property Maintenance requirements.	5	3	2
8.60.060 - Security requirements	0	0	0

8.64.050 - Vacant Property Maintenance Requirements	3	1	2
Abandoned/Inoperable/Dismantled vehicle(s)	1	0	1
Business License Required	5	3	2
Business Subject to Miscellaneous Tax Rates/Transportation, Trucking and Towing	0	0	0
CFC 10.206(a)-(b) Obstruction	3	3	0
CFC 10.206(b)-Hydrant, (c) Red curb-15' each side	0	0	0
CFC 10.207(1)-Fire Apparatus Access Roads, (a) Red curb on signs	0	0	0
CFC 10.207-Fire Apparatus Access Roads. (b) Obstruction	0	0	0
CFC 10.208(a)-Premises Identification,	0	0	0
CFC 10.301(a)-Fire Extinguishers, (a) Minimum 2A10BC	0	0	0
CFC 10.301(a)-Fire Extinguishers, (e) Commercial kitchen 40BC.	0	0	0
CFC 10.302(a)-Fire Extinguishers, (b) Servicing due	0	0	0
CFC 10.313(b)-Hood and Duct Systems, (b) Proper nozzle position, caps, coverage	0	0	0
CFC 10.313(c)-Hood and Duct Systems, (c) Automatic gas/electric shut off	0	0	0
CFC 10.313(e)	0	0	0
CFC 10.313(e)-Hood and Duct Systems, (d) Fuse able links, cables, conduits	0	0	0
CFC 10.401	0	0	0
CFC 10.401-Walls and Ceilings, (a) Holes sealed	1	0	1
CFC 10.402(a)-Exits, (e) Maintain fire rated doors, windows, dampers, and hardware	0	0	0
CFC 11.201(b)-General Housekeeping, (a) Rubbish/trash buildup	0	0	0
CFC 11.203(b)-General Housekeeping, (d) Storage not within 24" of ceiling	0	0	0
CFC 11.203(c)-General Housekeeping, (g) Storage in boiler, mech., elect. panel rooms prohibited	0	0	0
CFC 11.205(a)-General Housekeeping, (h) Candles used in approved manner	0	0	0
CFC 12.103(a)-Exits, (d) Exit obstruction	0	0	0
CFC 12.106(c)-General Housekeeping, (e) Storage under stairs prohibited	0	0	0
CFC 12.203(a)-Occupant Limit/Sign, (a) Occupant load sign(s) posted	0	0	0
CFC 12.207-General Housekeeping, Storage in attic space prohibited	0	0	0
CFC 13.103-Occupant Limit/Sign, (b) Required NO SMOKING signs	0	0	0
CFC 74.107(a)	0	0	0
CFC 79-201(e)-Flammable Liquids -(a) Approved safety cans under 10 gal.	0	0	0
CFC 79.107-Flammable Liquids, (c) Legible labeling	0	0	0
CFC 79.201(e)-Flammable Liquids, (b) Approved cabinet exceeding 10 gal.	0	0	0
CFC 85.104 (c)-Electrical, (c) Abatement of electrical hazards	1	0	1
CFC 85.104 (f)-Electrical, (f) Cover open space in circuit breaker panel	0	0	0
CFC 85.106-Electrical, (d) Exten. cords not allowed as permanent wiring	2	0	2
CFC 85.107-Electrical, (a) Zip cords/cube adapters not allowed	0	0	0

CFC 85.108-Electrical, (b) Min. 30" clear access to circuit breaker	1	0	1
CFC Stand. No. 10-1-6.9-Fire Extinguishers, (c) Mounted 3-5 feet from floor	0	0	0
CFC Standard No. 10-1-6.5-Fire Extinguishers, (d) Obstruction	0	0	0
Display of merchandise out of Door	0	0	0
Garbage Containers	4	4	0
Illegal Dumping	7	7	0
Illegal, Nonconform. Building or Structure(s)	0	0	0
Manner of Parking /Parallel Parking	0	0	0
Manner of Parking/Angle Parking	0	0	0
Manner of Parking/Commercial Vehicles Prohibited from Parking on Private Property and Public Rights-of-Ways	0	0	0
NEC 380-9 Electrical, (e) Outlet faceplates/covers in place	0	0	0
NFPA 13-4-2.5.1 Automatic Fire Sprinklers Systems, (c) 18" clearance below heads	0	0	0
Parking on yard/off driveway	9	7	2
Parking Requirements/General Provisions	0	0	0
Parking Requirements/Surface of Parking Area	0	0	0
Permit for Outdoor Advertising Signs	0	0	0
Prkg. Lot Striping/Handicap Markings	0	0	0
Prohibited Stopping, Standing or Parking/On a Crosswalk	0	0	0
Prohibited Stopping, Standing or Parking/Within an Intersection	0	0	0
Property Development Standards/Maintenance	1	1	0
Public Nuisances / Animals	1	0	1
Public Nuisances / Attractive Nuisances	2	0	2
Public Nuisances / Fire Hazard	1	1	0
Public Nuisances / Landscaping	8	3	5
Public Nuisances / Trees and Shrubs	5	3	2
Service Stations/Intent and Purpose	0	0	0
Service Stations/Landscaping	0	0	0
Service Stations/Parking	0	0	0
Set up Temporary Sales Location	3	2	1
Signs-All signs and sign programs shall be subject to review and approval	1	1	0
Special Event/Sales Permit Required	4	4	0
Special Event/Sales Signs	5	5	0
Stopping, Standing and Parking/Public or Private Driveway	0	0	0
Stopping, Standing or Parking/Sidewalk	2	1	1
Termites, Insects, Vermin or Rodents	0	0	0
Termites, Insects, Vermin or Rodents	0	0	0
Title 19, Subchapter 5-Hood and Duct Systems, (a)Serviced within 6 months	0	0	0

Trimming palm trees--Required	2	0	2
UBC 3304(c)-"This Door to Remain Unlocked During Business Hours"	0	0	0
UBC 3313(b)-(f) Emergency lighting operable	0	0	0
UBC 3314(c)-(b) Illuminated EXIT sign operable	0	0	0
UBC 3315(b)-(c) 44' clear access aisle width to exits	0	0	0
UMC 504(a)-General Housekeeping, (c) 36" clearance around water heater	0	0	0
Weed Abatement	9	5	4
Totals	**253**	**158**	**95**

Abandoned Vehicles Summary Report:

Open Date Range	*Close Date Range*
From 10/01/2025 To 12/31/2025	From To

AVA Totals

	Cases Closed	*Vehicles Abated*	*Abatement Costs*
Totals	**23**	**23**	**$0.00**

Vehicles Abated

Disposition	*Vehicles*
Agency Abated	6
Other	0
Unfounded	0
Voluntary Compliance	17
Totals	**23**

Graffiti Abatement Summary Report:

October 2025 to December 2025

Gallons used	120 gallons
Gallons purchased	94 gallons
Cover ups	190
Pressure Washing	92 sq. ft.





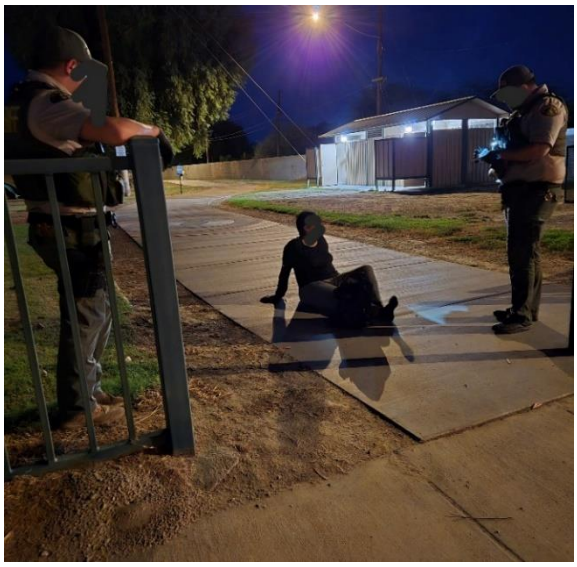




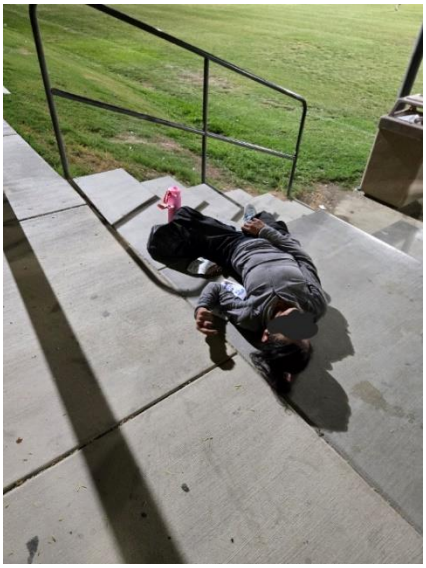
Park Ranger Summary Report

October 2025 to December 2025

Month:	Unsheltered Contacts:	Park Vandalism:	Street Sweeper Cites:	Park League Issues:
October	120	1	371	0
November	67	31	485	0
December	58	15	637	0









Riverside County Animal Control

- No report provided

Utilities Department
Memorandum

TO: Honorable Mayor and Council

FROM: Cástulo R. Estrada, Utilities Director

DATE: January 22, 2026

SUBJECT: Quarterly Activity Report (October 2025 to December 2025)

Coachella Water Authority:
The Utilities Department Water Authority Division provides water pumping, treatment, and distribution services to more than 9,100 service connections citywide that include residential, commercial, and industrial users. The City has three (3) Storage Reservoirs of more than 10 million gallons of capacity with six (6) operating wells that provides more than 8,000 acre-feet of annual water production. This division is responsible for a variety of tasks including meter reading, repairs, pumping, production, treatment, main and distribution repairs, water quality complaints, service connections/disconnections, and capital improvements along with other assigned duties.

Coachella Water Authority Production and Distribution Highlights	
Description	***Value***
Total -Water Production (Oct to Dec) (MG)	615.33
Chlorine Consumption (Gallons)	2100
Monthly Bac-T Samples Collected (Distribution System)	169
Quarterly Wells Sampled	5
Valves Repaired/Replaced	0
Underground Service Alerts	88
Standby Service Calls	83
Water Service Leaks	20
Main Leaks	1
Non Responsive Meters Cycle One	560
Non Responsive Meters Cycle Two	797
Meter Replacements	14
Hydrant Replacements	3
Delinquency Turn Offs	154
Well Depths Monitored – 12/2025	
Well No. 10 Depth (feet,) SWL	29.5’
Well No. 11 Depth (feet,) SWL	74.3’
Well No. 12 Depth (feet,) SWL	83.6’
Well No. 16 Depth (feet,) SWL	30’
Well No. 17 Depth (feet,) SWL	69.9’
Well No. 18 Depth (feet,) SWL	73’
Well No. 19 Depth (feet,) PWL	134.6’
Annual Production	
2025 Total Current Production (MG) JAN 2025 to DEC 2025	2117.79
2024 Annual (MG)	2340.7

Coachella Sanitary District:
Sanitary Division provides for all the collection, treatment, and disposal of residential, commercial, and industrial wastewater for the more than 8,200 service connections within the City and more than 564,960 linear feet of sewer collection system (107 miles). From 4-inches to 54-inches of sewer pipeline, two (2) sewage pump stations, and over 1,900 manholes.

The Avenue 54 Wastewater Treatment Plant has a flow capacity of 4.5 million gallons per day. Consists of a raw wastewater lift station and headworks facility, which includes screenings and grit removal equipment, two separate secondary treatment process trains including contact stabilization tanks and oxidation ditches and disinfection facilities. Secondary effluent from the plant, following disinfection with sodium hypochlorite and dechlorination with sodium bisulfite is discharged through an outfall into the Coachella Valley Stormwater Channel.

For the **2nd Quarter of October, November & December 2025**. A total of 280.912 MG of wastewater was received at the Wastewater Plant. With an average daily flow of 3.053 MGD. The Plant treated a total of 257.674 MG. A total of 310 samples were collected at the Plant for monitoring.

Water Reclamation Facility – 87075 Avenue 54th	
Description	*Value*
Total Influent per Month (MG)	93.637
Influent Ave. Daily Flow (MGD)	3.053
Total Effluent per Month (MG)	85.891
Effluent Ave. Daily Flow (MGD)	2.801
Plant Permitted Capacity (MGD)	4.5
Operational Upsets	0
Permit Violations	0
Hypochlorite Consumption (Gallon)	13,574
Sodium Bisulfite Consumption (Gallon)	5,000
Odor Complaints	0
Samples Collected This Quarter (Plant)	310
Stand-By Calls	19
State & EPA Reports Completed/Submitted	Yes

Collection System & Pump Stations Highlights	
Description	*Value*
Underground Service Alert	330
Collection System Cleaning (feet)	126,053
Manhole Inspection/Cleaning	208
Collection System Spills	1
Collection System Blockages	1
Collection System CCTV Inspection (feet)	841
Samples Collected (Field)	0
Pump Station Alarms	4
Wet Well Cleaning	1
Wet Well/Lift Station Inspections	55
Odor Complaints	0
State CIWQS Reports Submitted	Yes

Environmental Division:

The Environmental Division of the Utilities Department is responsible for areas relating directly to water, wastewater, and storm water protection. Focus is aimed at the National Pollutant Discharge Elimination System (NPDES), Industrial Wastewater Pretreatment Program (Source Control), and Fats, Oils, & Grease (FOG) Program. These programs provide auditing, permitting, monitoring, and enforcement of our local City Ordinance. The following report details activities for the previous quarter:

- Attended weekly and/or monthly meetings with Desert Task Force (DTF), Coachella Valley Salt & Nutrient Management Plan (CV-SNMP), Sustainable Groundwater Management Act (SGMA), Coachella Valley Regional Water Management Group (CVRWMG), and Riverside County Flood Control (RCFC)
- Reviewed and approved Industrial Wastewater Discharge Permits
- Reviewed and updated Industrial Facilities wastewater sewer service fee
- Performed 48 Industrial and Food Service Establishment Inspections
- Issued 8 enforcement violations
- Assist Development Services in reviewing plans pertaining to the Environmental Division
- Monitored Coachella Valley Storm Channel stormwater outfalls

Engineering:

Chromium-6 Project

- Representatives from other agencies visited the pilot site to observe the setup and progress of the pilot test.
- The pilot test at Well 19 was completed in September, and coordination began for pickup of the pilot system.
- CWA staff visited other agencies' well sites to tour treatment facilities. While not specific to chromium treatment, these visits provided valuable visual references for potential future Chromium VI treatment system layouts and space requirements.
- In October staff began preparing a proposal to retain a consultant to develop the environmental documentation package for the Chromium VI project.
- A meeting was scheduled in October with a consultant to assist City staff with drafting the site layout and conducting a well site visit for implementation of the Chromium VI treatment system.
- Preparation of Chromium VI resolutions required for the Drinking Water State Revolving Fund (DWSRF) application began.
- Meetings were held with the consultant to review the preliminary design report.
- Coordination continued with the State to advance the Drinking Water State Revolving Fund (DWSRF) technical package.
- Required documents were gathered to initiate the environmental documentation package for the Chromium VI project.
- A resolution for the Chromium VI funding application was scheduled for City Council consideration on December 10.
- Chromium VI public notices were prepared for distribution to residents on December 12.

Shady Lane Septic-to-Sewer and Water Project

- Onsite sewer construction activities continued through September.
- Preparations began for lift station dewatering.
- The State conducted a project site visit to discuss project-related items and tour the site to review construction progress.

- An on-site meeting was held with Riverside County to review the schedule and slurry seal activities on Shady Lane and 54th Avenue.
- A survey request was submitted for onsite water main and fire hydrant locations.
- The FBA scope of work began being amended to include the relocation of the irrigation line needed for off-site water and sewer connections to the 54th Avenue mainline.
- Van Dyke continued excavation and installed piping, tracer wire, and hydrant tees on the onsite water mainline.
- Van Dyke installed onsite water services and service boxes in November.
- Replacement work on the CVWD irrigation line was completed in December.
- The quarterly report was submitted to the State.
- An IID application for the lift station was submitted in December.

Headworks Project

- Submittal 1.3 was received from Cora and staff reviewed the submittal.
- A Request for Information (RFI) regarding software access was received in October.
- The contractor submitted Submittal 5 (Control Cable) and Submittal 6 (Sealing Fitting) for review.
- The project team met on November 10 to discuss the RFI and reached a conclusion.
- City staff met with the consultant regarding RFI No. 4 to discuss access to City software.
- Coordination continued with the consultant to establish remote login access to the City's software system.

Well 20 Project

- Southwest experienced delays in mobilizing the drilling rig onsite; an updated schedule was requested in September.
- The application for temporary onsite power was approved by IID, and staff awaited confirmation of a conduit installation start date.
- Southwest mobilized drilling equipment and rig onsite.
- CEQA documents were filed with the County.
- Power Plus installed a temporary power meter onsite.
- Power Plus prepared to install conduit to the onsite mobile office.
- Southwest provided an updated construction schedule.
- The City scheduled a meeting with Southwest to discuss project coordination and progress.
- Power Plus completed installation of conduit to the onsite mobile office.

Well 16 Project

- City staff began preparing a Request for Quotation (RFQ) for a new pump at Well 16.
- The RFQ will be distributed to three qualified vendors to provide proposals for supplying a new well pump and associated in-well piping.
- Pump options under evaluation include a vertical shaft turbine pump or a submersible pump capable of producing up to 1,500 gallons per minute.

Finance Bi-Weekly Report 12/12/2025 to 01/21/2025

- **IID JPA –** Ongoing discussions with IID regarding the formation of the Coachella Electric Financing Authority (CEFA) and the structure of the JPA. The City Council will be the Board of Directors for the JPA and will own all assets financed under the JPA until associated debts are paid in full, at which time the asset will transfer to the service provider (currently IID). The city may want to consider asset transfers made earlier than the regular debt service schedule to obtain a net asset value cash transfer to the CEFA. Council presentation was provided on November 12, 2025. There are four potential energy projects under consideration at this time totaling approximately 174 KVA. Contracts with consultants are on the agenda for January 28, 2026, for JPA formation, fee studies, bond and disclosure council, and underwriters.
- **P7 Annexation –** The annexation was approved by the County in early November 2025. We will begin collecting property tax and sales tax next year. They will also be able to participate in the short-term rental program, so some additional Transient Occupancy Taxes should be realized as well. We will be working with developers on the currently zoned residential estate properties.
- **Financial Statement Audit –** Staff has submitted the final trial balance for final audit, which is currently underway. Issuance is not expected until the end of February 2026.
- **Mid-Year Budget –** Staff is beginning the mid-year budget adjustment process and will be bringing revisions to Council in February or March for consideration of approval.
- **Enterprise Resource Planning System Implementation –** Staff implemented the migration to Tyler Munis Cashiering last month and will be converting the Financials module in April. HR and Payroll will follow in June or July along with Utility Billing. Permitting will implement last within a year.

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Andrew Simmons, P.E., Public Works Director/City Engineer

SUBJECT: Construction Contract with Rudy's Electric in the amount of $72,500.00 plus 10% contingency for the Avenue 50 Median Light Rehab from Van Buren Street to Mariposa Pointe, City Project No.ST-93

STAFF RECOMMENDATION:

Authorize a construction contract with Rudy's Electric in the amount $72,500.00 plus 10% contingency for the Avenue 50 Median Light Rehab from Van Buren Street to Mariposa Pointe, City Project No.ST-93.

BACKGROUND:

The City's Avenue 50 Widening project will widen the existing street and construct concrete curb and gutter and center landscape medians within areas where none exists between Calhoun Street and Cesar Chavez Street. The finished project will complete the planned widening of Avenue 50 to two traffic lanes in each direction, and include pedestrian, bicycle and drainage facilities and landscape medians and utility undergrounding as needed. The first phase has been completed and included the improvements on Avenue 50 from La Colonia to Calhoun Street and Van Buren Street to Pavon Palma. Phase two will include the improvements from Pavon Palma to Cesar Chavez. A small portion of this work has been completed from Calhoun Street to Van Buren Street in cooperation with D.R. Horton.

City staff recommends additional lighting improvements along the pre-existing medians on Avenue 50 from Van Buren Street to Mariposa Pointe to match the new medians that have just been constructed during Phase 1. These improvements include the base bid to add tree lighting upgrades in the medians with 1 bid alternate to also include electrical receptacle upgrades. City staff recommends authorizing the total bid with the bid alternate for these lighting upgrades.

DISCUSSION/ANALYSIS:

The City requested informal bids in accordance with City standards and in compliance with the California Public Contract Code. The project bid opening was held on November 26, 2025 with Three (3) companies submitting a bid for this project. The bid opening results are listed below:

Company Name:	City:	Bid Amount:
Rudy's Electric	Coachella, CA	$72,500.00
Tower's Electric	Thousand Palms, CA	$74,715.61
Electro Construction	Altadena,CA	$253,600.00

Staff has reviewed the bid and determined that Rudy's Electric is the lowest, responsive, responsible bidder. The total project cost, including construction of base bid and bid alternate #1 and a 10% contingency is as follows:

Project Item:	Project Cost:
Base Bid	$ 58,500.00
Bid Alternate #1	$ 14,000.00
Construction Contingency (10%)	$ 7,250.00
TOTAL PROJECT COST:	$ 79,750.00

FISCAL IMPACT:

The project has been included in the City's approved CIP FY 2025/26 budget. There is no fiscal impact to the budget. The contract amount of $72,500 and contingency in an amount of $7,250 will be funded by Fund 109 (SB1) in the amount of $79,750.00. With this action, City Council authorizes the appropriation of these funds.

ATTACHMENTS:

1. Construction Contract for Rudy's Electric
2. Bid Comparison Summary

CONTRACT FOR CONSTRUCTION

This Contract for Construction ("Contract"), is made and entered into this **28th Day of January**, **2026** by and between City of Coachella, a municipal corporation, organized under the laws of the State of California, with its principal place of business 53990 Enterprise Way, Coachella at, California 92236, sometimes hereinafter called the "City" and **Rudy's Electric ,** sometimes hereinafter called "Contractor."

WITNESSETH: That the parties hereto have mutually covenanted and agreed, and by these presents do covenant and agree with each other as follows:

ARTICLE 1. SCOPE OF WORK.

The Contractor shall perform all Work within the time stipulated in the Contract, and shall provide all labor, materials, equipment, tools, utility services, and transportation to complete all of the Work required in strict compliance with the Contract Documents as specified in Article 5, below, for the following Project:

AVENUE 50 MEDIAN LIGHTING REHAB AT VAN BUREN
CITY PROJECT NO. ST-93

Contractor is an independent contractor and not an agent of the City. The Contractor and its surety shall be liable to the City for any damages arising as a result of the Contractor's failure to comply with this obligation.

ARTICLE 2. TIME FOR COMPLETION.

Time is of the essence in the performance of the Work. The Work shall be commenced on the date stated in the City's Notice to Proceed. The Contractor shall complete all Work required by the Contract Documents within **120 Working Days** from the commencement date stated in the Notice to Proceed. By its signature hereunder, Contractor agrees the time for completion set forth above is adequate and reasonable to complete the Work.

ARTICLE 3. CONTRACT PRICE.

The City shall pay to the Contractor as full compensation for the performance of the Contract, subject to any additions or deductions as provided in the Contract Documents, and including all applicable taxes and costs, the sum of **Seventy-two Thousand Five Hundred Dollars and Zero Cents ($72,500.00)**. Payment shall be made as set forth in the General Conditions. The City will pay to Contractor compensation based upon the prices set forth in the Bid Schedule.

ARTICLE 4. LIQUIDATED DAMAGES.

Contractor acknowledges that the City will sustain actual damages for each and every Working Day completion of the Project is delayed beyond the Contract Time. Because of the nature of the Project, it would be impracticable or extremely difficult to determine the City's actual damages. Accordingly, in accordance with Government Code section 53069.85, it is agreed that the Contractor will pay the City the sum of **$ 1,500.00** for each and every **Working Day** of delay beyond the time prescribed in the Contract Documents for finishing the Work, as Liquidated

Damages and not as a penalty or forfeiture, if the Bagdouma Court Improvements are not completed by the date set forth in the Invitation to Bid. In the event this is not paid, the Contractor agrees the City may deduct that amount from any money due or that may become due the Contractor under the Contract. This Section does not exclude recovery of other damages specified in the Contract Documents. Liquidated damages may be deducted from progress payments due Contractor, Project retention or may be collected directly from Contractor, or from Contractor's surety. These provisions for liquidated damages shall not prevent the City, in case of Contractor's default, from terminating the Contractor.

ARTICLE 5. COMPONENT PARTS OF THE CONTRACT.

The "Contract Documents" include the following:

Notice Inviting Bids
Instructions to Bidders
Bid Forms
Bid Acknowledgement
Bid Schedule
Bid Guarantee
Designation of Subcontractors
Information Required of Bidders
Non-Collusion Declaration Form
Iran Contracting Act Certification
Drug-Free Workplace Certification
Asbestos-Free Material Certification
Recycled Content Certification
Public Works Contractor DIR Registration Certification
Performance Bond
Payment (Labor and Materials) Bond
Contract for Construction
General Conditions
Special Conditions
Technical Specifications
Addenda
Construction Plans and Drawings
City of Coachella Standard Specifications and Procedures (June 2007)
City of Coachella Standard Infrastructure Drawings (2007 Edition) including Surface Improvement Standards and Water Standards
Standard Specifications for Public Works Construction "Greenbook" (2018), Except Sections 1-9
Standard Plans for Public Works Construction "Greenbook" (2018)
Caltrans Standard Specifications (2018), except Division 1
Caltrans Standard Plans (2018)
Applicable Local Agency Standards and Specifications, as last revised
Reference Specifications
Approved and fully executed Change Orders
Permits
Any other documents contained in or incorporated into the Contract

The Contractor shall complete the Work in strict accordance with all of the Contract Documents.

All of the Contract Documents are intended to be complementary. Work required by one of the Contract Documents and not by others shall be done as if required by all. In the event of conflict, the various Contract Documents will be given effect in the order set forth in the General Conditions. This Contract shall supersede any prior agreement of the parties.

ARTICLE 6. PROVISIONS REQUIRED BY LAW AND CONTRACTOR COMPLIANCE.

Each and every provision of law required to be included in these Contract Documents shall be deemed to be included in these Contract Documents. The Contractor shall comply with all requirements of applicable federal, state and local laws, rules and regulations, including, but not limited to, the provisions of the California Labor Code and California Public Contract Code which are applicable to this Work.

ARTICLE 7. INDEMNIFICATION.

Contractor shall provide indemnification and defense as set forth in the General Conditions.

ARTICLE 8. PREVAILING WAGES.

Contractor shall be required to pay the prevailing rate of wages in accordance with the Labor Code which such rates may be obtained online at **http://www.dir.ca.gov** and which must be posted at the job site.

ARTICLE 9. FALSE CLAIMS.

Contractor acknowledges that if a false claim is submitted to the City, it may be considered fraud and Contractor may be subject to criminal prosecution. Contractor acknowledges that the False Claims Act, California Government Code sections 12650, et seq., provides for civil penalties where a person knowingly submits a false claim to a public entity. These provisions include within their scope false claims made with deliberate ignorance of the false information or in reckless disregard of the truth or falsity of the information. In the event the City seeks to recover penalties pursuant to the False Claims Act, it is entitled to recover its litigation costs, including attorneys' fees. Contractor hereby acknowledges that the filing of a false claim may the Contractor to an administrative debarment proceeding wherein Contractor may be prevented from further bidding on public contracts for a period of up to five (5) years.

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

IN WITNESS WHEREOF, this Contract has been duly executed by the above-named parties, on the day and year above written.

CITY OF COACHELLA

By: _____
William B. Pattison Jr.
City Manager

ATTEST:

By: _____
Delia Granados, City Clerk

APPROVED AS TO FORM:

By: _____
Best Best & Krieger LLP
City Attorney

RUDY'S ELECTRIC

IF CORPORATION, TWO SIGNATURES, PRESIDENT **OR** VICE PRESIDENT **AND** SECRETARY **OR** TREASURER **REQUIRED**

By: _____

Its: _____

Printed Name: _____

By: _____

Its: _____

Printed Name: _____

496913
Contractor's License Number and Classification

_____
DIR Registration Number

(CONTRACTOR'S SIGNATURE MUST BE NOTARIZED AND CORPORATE SEAL AFFIXED, IF APPLICABLE)

END OF CONTRACT

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____,_____ , before me, _____, Notary Public, personally

appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

☐ Individual
☐ Corporate Officer

_____
Title(s)

☐ Partner(s) ☐ Limited ☐ General
☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

_____

_____

DESCRIPTION OF ATTACHED DOCUMENT

_____
Title or Type of Document

_____
Number of Pages

_____
Date of Document

_____
Signer(s) Other Than Named Above

BOND FORMS

Performance Bond

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the City of Coachella, a municipal corporation, organized under the laws of the State of California, with its principal place of business at 53990 Enterprise Way, California 92236, (hereinafter referred to as the "City") has awarded to **Rudy's Electric,** (hereinafter referred to as the "Contractor") an agreement for **Avenue 50 Median Lighting Rehab from Van Buren to Mariposa Pointe, City Project No. ST-93**, (hereinafter referred to as the "Project").

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated **January 28, 2026**, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, the Contractor is required by said Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of said Contract Documents.

NOW, THEREFORE, we, _____, the undersigned Contractor and _____ as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the City in the sum of **Seventy-Two Thousand Five Hundred Dollars and Zero Cents ($72,500.00)**, said sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including the one (1) year guarantee of all materials and workmanship; and shall indemnify and save harmless the City, its officials, officers, employees, and authorized volunteers, as stipulated in said Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees including reasonable attorney's fees, incurred by the City in enforcing such obligation.

As a condition precedent to the satisfactory completion of the Contract Documents, unless otherwise provided for in the Contract Documents, the above obligation shall hold good for a period of one (1) year after the acceptance of the work by the City, during which time if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the City from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the City's rights or the Contractor or Surety's obligations under

the Contract, law or equity, including, but not limited to, California Code of Civil Procedure Section 337.15.

Whenever Contractor shall be, and is declared by the City to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at the City's option:

i. Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or

ii. Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible bidder, arrange for a Contract between such bidder, the Surety and the City, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the City under the Contract and any modification thereto, less any amount previously paid by the City to the Contractor and any other set offs pursuant to the Contract Documents.

iii. Permit the City to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the City under the Contract and any modification thereto, less any amount previously paid by the City to the Contractor and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that the City may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Contractor.

Surety shall not utilize Contractor in completing the Project nor shall Surety accept a bid from Contractor for completion of the Project if the City, when declaring the Contractor in default, notifies Surety of the City's objection to Contractor's further participation in the completion of the Project.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed thereunder shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project.

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 2026.

(Corporate Seal)

_____
Contractor/ Principal

By_____

Title_____

(Corporate Seal)

_____
Surety

By _____
Attorney-in-Fact

(Attach Attorney-in-Fact Certificate)

Title_____

The rate of premium on this bond is _____ per thousand. The total amount of premium charges is $_____.
(The above must be filled in by corporate attorney.)

THIS IS A REQUIRED FORM

Any claims under this bond may be addressed to:

(Name and Address of Surety) _____
_____
_____

(Name and Address of Agent or Representative for service of process in California, if different from above) _____
_____
_____

(Telephone number of Surety and Agent or Representative for service of process in California) _____

Notary Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____

On _____, 2026, before me, _____, Notary Public, personally

appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

CAPACITY CLAIMED BY SIGNER

☐ Individual
☐ Corporate Officer

_____
Title(s)

☐ Partner(s) ☐ Limited ☐ General
☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

_____

_____

DESCRIPTION OF ATTACHED DOCUMENT

_____
Title or Type of Document

_____
Number of Pages

_____
Date of Document

_____
Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for Contractor/Principal.

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STATE OF CALIFORNIA
COUNTY OF _____

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WITNESS my hand and official seal.

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Signature of Notary Public

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- ☐ Individual
- ☐ Corporate Officer

_____
Title(s)

- ☐ Partner(s) ☐ Limited ☐ General
- ☐ Attorney-In-Fact
- ☐ Trustee(s)
- ☐ Guardian/Conservator
- ☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

_____

_____

DESCRIPTION OF ATTACHED DOCUMENT

_____
Title or Type of Document

_____
Number of Pages

_____
Date of Document

_____
Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for the Attorney-in-Fact. The Power-of Attorney to local representatives of the bonding company must also be attached.

END OF PERFORMANCE BOND

Payment Bond (Labor and Materials)

KNOW ALL MEN BY THESE PRESENTS That

WHEREAS, the City of Coachella, a municipal corporation organized and operating under the laws of the State of California (hereinafter designated as the "City"), by action taken or a resolution passed on January 28, 2026, has awarded to **Rudy's Electric** hereinafter designated as the "Principal," a contract for the work described as follows: **Avenue 50 Median Lighting Rehab from Van Buren Street to Mariposa Pointe, City Project No. ST-93** (the "Project"); and

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated **January 28, 2026**, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, said Principal is required to furnish a bond in connection with said contract; providing that if said Principal or any of its Subcontractors shall fail to pay for any materials, provisions, provender, equipment, or other supplies used in, upon, for or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Code or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of said Principal and its Subcontractors with respect to such work or labor the Surety on this bond will pay for the same to the extent hereinafter set forth.

NOW THEREFORE, we, the Principal and _____ as Surety, are held and firmly bound unto the City in the penal sum of **Seventy-Two Thousand Five Hundred Dollars and Zero Cents ($72,500.00)** lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, his or its subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in Civil Code Section 9100, fail to pay for any materials, provisions or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to Revenue and Taxation Code Section 18663, with respect to such work and labor the Surety or Sureties will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by the City in such suit, including reasonable attorneys' fees, court costs, expert witness fees and investigation expenses.

This bond shall inure to the benefit of any of the persons named in Civil Code Section 9100 so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described, or pertaining or relating

to the furnishing of labor, materials, or equipment therefore, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement herein above described, nor by any rescission or attempted rescission or attempted rescission of the contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the owner or the City and original contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in Civil Code Section 9100, and has not been paid the full amount of his claim.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract to be performed thereunder, shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of Contract, including but not limited to, the provisions of Sections 2819 and 2845 of the California Civil Code.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 2026.

(Corporate Seal)

_____
Contractor/ Principal

By_____

Title_____

(Corporate Seal)

_____
Surety

By _____
Attorney-in-Fact

(Attach Attorney-in-Fact Certificate)

Title_____

Notary Acknowledgment

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STATE OF CALIFORNIA
COUNTY OF _____

On _____, 2024, before me, _____, Notary Public, personally

appeared _____, who proved to me on the basis of satisfactory

evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
Signature of Notary Public

OPTIONAL

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CAPACITY CLAIMED BY SIGNER

☐ Individual
☐ Corporate Officer

_____
Title(s)

☐ Partner(s) ☐ Limited ☐ General
☐ Attorney-In-Fact
☐ Trustee(s)
☐ Guardian/Conservator
☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

_____

_____

DESCRIPTION OF ATTACHED DOCUMENT

_____
Title or Type of Document

_____
Number of Pages

_____
Date of Document

_____
Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for Contractor/Principal.

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COUNTY OF _____

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Title(s)

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- ☐ Trustee(s)
- ☐ Guardian/Conservator
- ☐ Other:

Signer is representing:
Name Of Person(s) Or Entity(ies)

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DESCRIPTION OF ATTACHED DOCUMENT

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Title or Type of Document

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Number of Pages

_____
Date of Document

_____
Signer(s) Other Than Named Above

NOTE: This acknowledgment is to be completed for the Attorney-in-Fact. The Power-of-Attorney to local representatives of the bonding company must also be attached.

END OF PAYMENT BOND

CITY OF COACHELLA
BID OPENING LOG

PROJECT NAME: AVE 50 MEDIAN LIGHTING REHAB AT VAN BUREN **PROJECT NO.** N/A

BID OPENING DATE: NOVEMBER 26, 2025 (INFORMAL BID)

BID NO.	BIDDER	RECEIVED BY	COMMENTS	TOTAL BID AMOUNT
1	RUDY'S ELECTRIC	L.S.	N/A	$ 72,500.00
2	TOWERS ELECTRIC	L.S.	N/A	$ 74,715.61
3	ELECTRO CONST.	L.S.	N/A	$ 253,600.00
4				$
5				$
6				$
7				$
8				$
9				$
10				$
11				$
12				$
13				$
14				$
15				$

NUMBER OF BIDS REQUESTED/RECEIVED: 3 APPARENT LOW BIDDER RUDY'S ELECTRIC.

SIGNED BY: LEONARD F. ST-SAUVEUR TITLE: CONSTRUCTION MANAGER DATE 12/1/2025

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Andrew Simmons, P.E. – Public Works Director/City Engineer

SUBJECT: Amendment Number Four to the Reimbursement Agreement with the Coachella Valley Association of Governments and appropriate $19,837 from General Fund for Avenue 48 Arts and Music Line Project, City Project ST-140.

STAFF RECOMMENDATION:

Approve and execute Amendment Number Four to the Reimbursement Agreement with the Coachella Valley Association of Governments Design and appropriate $19,837 from General Fund for the Avenue 48 Arts and Music Line Project, City Project ST-140.

EXECUTIVE SUMMARY:

The Coachella Valley Association of Governments (CVAG) is the lead agency for the proposed Avenue 48 Arts and Music Line (Arts and Music Line Project) improvements and has contracted with Webb and Associates to design the project.

The proposed Arts and Music Line Project will be a community connector to the CV Link located primarily along Avenue 48. On October 20th, 2022, the California Transportation Commission (CTC) staff announced that CVAG was recommended for a 36.483 million dollar grant for the Arts and Music line.

CVAG entered into a cost share agreement with the City of Coachella in April of 2022, for a total not to exceed sum of $54,638. On January 25, 2023 City Council approved Amendment #1 for a total not to exceed amount of $75,838. On January 24, 2024 City Council approved Amendment #2 for a total not to exceed amount $105, 719. On June 6, 2024 City Council approved Amendment #3 for a total not to exceed amount $150,410. Due to additional final engineering costs that will be incurred to produce final bid ready plans, and to include pre-construction and construction management CVAG is requesting to amend the cost share agreement to cover additional work. Per the attached Amendment Number Four, the new not to exceed cost share amount to the City of Coachella would be $170,247.

BACKGROUND:

The Arts and Music Line is a pedestrian and bicycle community connector to the CV Link and located primarily along Avenue 48. The eastern end will extend along Dillon Road to the CV Link. The western end will extend to Washington Street.

The project's design will incorporate both light and sound elements. The project also includes partnerships with two school districts and Golden Voice, as the route provides an opportunity to feature students' art and music.

The proposed local share of the design cost has been calculated by linear mileage of the project. Additional factors, such as sidewalk use and construction of trail along one or both sides of the road were included in the calculation.

FISCAL IMPACT:

The total project design cost is now projected be $8,512,366. CVAG's regional share is $6,384.275 and the 25% local share is $2,128,091.

The local share is distributed between the Cities of Coachella, Indio, and La Quinta primarily by linear mileage and additional factors, such as sidewalk use and construction of trail along one or both sides of the road.

The City of Coachella's share would increase from $ $150,410 to $170,247. If approved, the City's share would increase by $19,837 and be appropriated from the General Fund.

ATTACHMENTS:

1. CVAG Arts and Music Line Amendment 4

Contract No. CVAG-22-002-04
Project: ATP – Arts and Music Line

AMENDMENT NUMBER FOUR
TO THE
REIMBURSEMENT AGREEMENT BY AND BETWEEN
CVAG AND THE CITY OF COACHELLA
FOR THE
ATP – ARTS AND MUSIC LINE

This **AMENDMENT NUMBER FOUR** is made and entered into this **30th day of June 2025**, by and between the **Coachella Valley Association of Governments**, a California joint powers agency (CVAG), the **City of Coachella** (Agency) and is made with reference to the following background facts and circumstances. All other terms and conditions shall remain the same as stated in the original agreement dated September 30, 2019 for the ATP – Arts and Music Line Project.

1. **This Amendment Number Four extends the term to December 31, 2029.**

2. **This Amendment Number Four authorizes the additional scope of services in accordance with the attached Albert A. Webb Associates letter dated April 17, 2025 for the not-to-exceed amount of $991,841. The total amount payable shall not exceed $7,095,253.**

3. **This Amendment Number Four increases CVAG's Regional Share to $6,384,275, and the Local Share to $2,128,091.**

4. **This Amendment Number Four authorizes CVAG to amend the cost-sharing agreements between CVAG and the Cities of La Quinta, Indio and Coachella for design costs related to the ATP - Arts and Music Line, by adding $991,841 to the total costs for a revised total of $8,512,366 which represents an additional $743,881 totaling $6,384,275 for the 75 percent CVAG share and an additional $247,960 totaling $2,128,091 for the 25 percent local share.**

	CVAG Approval Date	Amendment Amount	Regional Share (75%)	Local Share (25%)
Original Contract	September 30, 2019	$2,731,897	$2,048,923	$682,974
Amendment Number One	December 5, 2022	$1,060,000	$795,000	$265,000
Amendment Number Two	December 4, 2023	$1,494,063	$1,120,547	$373,516
Amendment Number Three	April 29, 2024	$2,234,565	$1,675,924	$558,641
Amendment Number Four	June 30, 2025	$991,841	$743,881	$247,960
Total Contract not-to-exceed		**$8,512,366**	**$6,384,275**	**$2,128,091**

Based on the revised additional $247,960 to the local share, the revised 25 percent local share, totals $2,128,091 per this amendment, which will be split between the cities of La Quinta, Coachella and Indio as follows:

La Quinta	Indio	Coachella	Total Local Share (25%)
$532,023	$1,425,821	$170,247	$2,128,091
(25%)	(67%)	(8%)	(100%)

Consistent with CVAG Policy 21-02, this amendment shall be executed with the use of electronic or digital signatures in order to be in effect.

The parties hereto have caused this **Amendment Number Four** to be executed by their duly authorized representatives on the above-reference date.

ATTEST

By: _____

Ryan Guiboa, City Attorney

CITY OF COACHELLA

By: _____

William Pattison, Interim City Manager

ATTEST

By: _____

Allen McMillen, Procurement and Contracts

COACHELLA ASSOCIATION OF GOVERNMENTS

By: _____

Tom Kirk, CVAG Executive Director

Contract No. CVAG-22-002-04
Project: ATP – Arts and Music Line

Attachment A-1

Albert A. Webb Associates – Arts & Music Line Amendment No. 5

Additional Scope of Services and Compensation

Please refer to the following Albert A. Webb Associates letter dated April 17, 2025.

ALBERT A. WEBB ASSOCIATES

Corporate Headquarters
3788 McCray Street
Riverside, CA 92506
951.686.1070

Murrieta Office
41870 Kalmia Street #160
Murrieta, CA 92562
T: 951.686.1070

April 17, 2025

Mr. Randy Bowman
Assistant Director - Transportation
Coachella Valley Association of Governments
74-199 El Paseo, Suite 100
Palm Desert, CA 92260

RE: CVAG's Arts & Music Line Contract Amendment #5 (CVAG-19-099) - Dillon Rd Bike Path Alignment **Alternatives**

Dear Randy:

Albert A. WEBB Associates (WEBB) is submitting this request for a contract amendment #5 to cover additional services related to the Dillon Road bike path north side alignment. This amendment is in response to CVAG's request to relocate the Class I bike path from the south to the north side of Dillon Road, avoiding impacts to planned development on the south side. The north side alignment offers benefits such as eliminating the Cabazon Road crossing and separating the bike path from power lines. It also provides a more consistent alignment and better connectivity to commercial developments on the north side.

Enclosed are our Scope of Work (Section 1) and Compensation for Services (Section 2) for your review.

Sincerely,

Albert A. Webb Associates

Dilesh Sheth

Dilesh Sheth, PE, TE
Senior Vice President

EXHIBIT A - SCOPE OF SERVICES

Task 1 – Additional Project Management/ Administration

1.1 Additional Project Management

We will plan, organize, direct, and monitor project activities and resources in accordance with the contract scope, schedule, and budget. Tasks include general project management with CVAG and tribes and preparing memos, letters, and emails. Additional project management is required to change the alignment from south to north along Dillon Rd.

1.2 Additional Meetings and Schedules

Additional meetings and coordination will be required to address this task. We will schedule and attend these meetings, ensuring that agendas and meeting minutes are prepared for each. The project schedule will also be updated accordingly.

Deliverables: Meeting Agendas and Minutes, Project Schedules

Task 2 – Field Survey & Base Map

2.1 Field Topographic Survey

a. Re-establish survey datum and control for the project based on the previous survey work conducted for the Arts & Music Line project.

b. Conduct field topographic survey of project limits to obtain existing ground surface elevations along Dillon Road at a cross sections interval of 50-feet, from Cabazon Road to the Coachella Valley Stormwater Channel, to include edge of pavement, billboard locations (column and overhang), drainage ditches (flowline and top), fences (top and bottom), utilities (and their appurtenances), structures, and other miscellaneous visible features.

c. Provide a minimum 1" = 40' scale digital topographic survey of the project areas with one-foot contours.

d. Process and draft field survey data and prepare electronic CAD files for the existing ground features (FT) file, update the Civil 3D existing ground surface (TO) file, and update the existing plan (XP) file for the design teams use.

Deliverables: FT CAD (Field Topo) file with Field Topo data (survey data points collected & linework). Updated TO CAD (Topo) file with Civil 3D surface for design, Updated XP CAD (Existing Plan) file with existing planimetric linework.

2.2 Title Report (Allowance)

An allowance has been included in the budget to obtain and furnish one Title Report from a title company for APNs 603-090-012 & -013. The Title report will be used to verify legal ownership, legal description of the property, and other easements/encumbrances on the property that may impact the project alignment and/or easement rights. (Scope and Budget do not include subsequent updates to the title report)

Deliverables: One Title Report for APN APNs 603-090-012 & -013.

2.3 Update Base File Mapping

a. Review the title report obtained for any easements and/or right-of-way dedications not previously mapped.

b. Map existing easements and/or right-of-way dedications shown in the title report for APNs 603-090-012 & -013 which may affect or impact the project alignment and update the PB (Project Base) CAD file.

Deliverables: Updated PB CAD (Topo) file with easements and/or right-of-way dedications shown in the title report for APNs 603-090-012 & -013.

2.4 Legal Descriptions and Plat

a. Prepare two legal descriptions and plats per Riverside County standards and requirements for the proposed Right-of-Way dedication and Temporary Construction Easements.

b. Provide coordination, attend meetings, participate in phone calls, respond to emails with Riverside County staff and project design team members though the preparation of the legal description and plat.

c. Coordinate with Riverside County staff and client to have signature pages prepared based on owner information noted in preliminary title report obtained.

d. Coordinate with client to obtain owner's signatures, and record them at the County of Riverside Recorder's Office.

Deliverable: PDF (and wet signed original if required) of the legal description(s) and plat(s).

Task 3 – Environmental Services

Based on our review of the previously approved documentation for the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), we have determined the CEQA Notice of Exemption (NOE), filed February 5, 2021 remains valid, subject to verification of the results of the biological survey of the new alignment, and that the following NEPA tasks will be required:

3.1 NEPA Technical Studies

a. Biological Studies

An updated Natural Environment Study (Minimal Impacts) (hereinafter NESMI) and Jurisdictional Delineation Report will be prepared by WSP to include the new Dillon Road alignment, which includes evaluation of the roadside drainage area. A field survey will be conducted for the new portion of the alignment and a windshield survey will be conducted for the previously approved AML alignment. Revisions to one round of Caltrans comments is included.

b. Cultural Studies

A Supplemental Historic Property Survey Report (HPSR) and Archaeological Resources Survey (ASR) will be prepared by Applied Earthworks Inc. (Æ) to include the new alignment. The HPSR will include:

- Agency and Tribal Coordination: Æ will coordinate with Caltrans regarding the updated Project Area of Potential Effect (APE) that considers all direct and indirect impacts to significant cultural resources. The proposed realignment of the APE extends into both the Cabazon Band of Cahuilla Indians and Twenty-Nine Palms Band of Mission Indians Reservation lands. Therefore, prior to the field survey, Æ will notify the tribes of the proposed APE realignment and request permission to conduct a survey on tribal lands.
- Field Survey: One of Æ's qualified archaeologists will conduct an intensive pedestrian survey of the modified APE. Æ's survey transect spacing will range from 10 to 15 meters (30 to 50 feet) insofar as possible, and the ground surface of all landforms with likely intact and significant cultural resources, if any, also will be examined. Additionally, Æ's archaeologist will investigate any unusual contours, soil changes, distinctive vegetation patterns, features (e.g., road cuts, ditches, and stream cuts), and other potential cultural site markers. For the cultural resource survey, Æ is not responsible for landowner permissions and access to the Project. Safe access must be ensured by CVAG. For the purposes of this price estimate, we assume that no subsurface testing will be completed and no standing structures or other cultural resources requiring documentation, updates, or evaluation are present in the modified APE.
- Supplemental Reports: Following completion of the field investigation, Æ will prepare an updated APE Map, a Supplemental ASR and a Supplemental HPSR, to the standards outlined in Caltrans Standard Environmental Reference, Volume 2, Cultural Resources. Based on communication with Caltrans, Æ assumes a Supplemental (Historic Resources Evaluation Report (HRER) will not be required for the Project. Æ assumes that two rounds of comments will need to be addressed following the Caltrans review. Æ's draft report will be submitted electronically in MS Word format for ease of review; our final report will be submitted electronically as a PDF file. After Caltrans has approved the report, Æ will submit the final reports to the South Coastal Information Center.
- Assumptions: An updated records search will not be required because the previous APE falls within the previous records search buffer. An updated Section 106 consultation process is also not needed; only informal consultation with the Tribes is recommended.

3.2 NEPA Categorical Exclusion

A NEPA Revalidation form will be prepared and processed with Caltrans for the results of the technical studies and changes to the design. It is assumed a new Categorical Exclusion (CE) is not required, but the Environmental Commitments Record (ECR) may require updates. One round of minimal revisions from Caltrans comments in included.

Deliverables: Draft and Final NESMI, Jurisdictional Delineation, HPSR package, and NEPA Revalidation form (with necessary attachments).

Task 4 – Revised Street Improvement Plans

4.1 Bike Path Improvement Plans

We will revise the bike path alignment from the south to the north side of Dillon Road. The new alignment will start at the northeast corner of Dillon Road and Cabazon Road intersection, continue north between the pavement edge and drainage channel, cross the channel from south to north, and then proceed east between the existing swale and billboards, connecting to CV Link at the Coachella Valley Stormwater Channel.

The plan view will show existing utilities, right-of-way, easements, and roadway features.

a. **Update Demolition Plans:** Clearly label existing surface improvements to be removed with construction notes. Provide limits of demolition by stationing or offset from the street centerline. Include existing right-of-way and utilities and note warnings for contractors about utilities within demolition areas.

b. **Update Improvement Plans:** Show existing surface improvements and features in a half-tone or dashed format to distinguish them from new improvements. New improvements, including the bike path, retaining wall, curbs, and drainage facilities, along with all adjustments, relocations, reconstructions, or modifications, should be highlighted with appropriate construction notes, detailed references, or standard plan references.

Deliverables: Revised 65%, 90%, 100% and Final Street Improvement Plan Sheets for this segment

Task 5 – Revised Traffic Signal & Signing/ Marking

CRA will implement updates to the traffic signal and signing/marking sheets to accommodate the Arts and Music Line bike path along Dillon Road within the Twenty-Nine Palms tribal lands. The proposed changes are necessary to reflect the realignment of the bike path from the south side to the north side of Dillon Road. CRA will update the traffic signal and signing/stripping plans for Dillon Road between Station 21+00 and Station 56+50 accordingly.

Assumptions

- It is assumed that the design effort for the traffic signal plans will require additional utility review or possible potholing coordination for the placement of new poles along the north side of Dillon Rd/Cabazon Ave intersection.

5.1 Construction Plans

CRA will update previously developed 100% traffic signal and signing/stripping plans with changes that accommodate the improvements showing the new bike path along the north side of Dillon Road. One possible potholing coordination might be needed for the NE corner of Dillon Rd/ Cabazon Rd intersection.

Deliverables: Revised 100% and Final Signing/Striping Plan Sheets at Station 21+00 to 56+50, Revised 100% and Final Traffic Plan Sheet at Avenue 48/Dillon Rd & Cabazon (1 Sheet)

Task 6 – Lighting Design and Electrical Engineering Services

6.1 Lighting Consultation Revisions

a. Provide new lighting scheme along Dillon Rd. from Cabazon Rd. to CV Link Path. Lighting layout shall be revised and re-positioned to a suitable location within the project boundary. The Artistic 'Light Field' shall be revised along with the in-grade lini-led marker lights 'Star Path' and solar marker lights. Lighting designs shall be a collaborative effort between Visual Concepts Lighting, Albert A Webb Associates and Circular Dimensions.

b. Provide new lighting renders for acceptance of new 'Light Field' location and spacing.

c. Additional team meetings for lighting designs and coordination with Artist and City Agencies.

6.2 Electrical Construction Document Revisions

a. Update existing Electrical Construction Documents to include the new lighting designs along Dillon Rd. from Cabazon Rd. to CV Link Path. Provide electrical engineering services for revision and re-location of the electrical system and lighting controls, modify panel schedules as required, details and fixture schedules as well as drafting services and coordination.

b. Additional coordination with team for revisions of electrical meter pedestal and lighting control cabinet locations. Two (2) new meter pedestal and control cabinet locations anticipated.

Deliverables: Revised 65%, 95%, 100% and Final Lighting and Electrical Plan Sheets

Task 7 – Artist Services

The artist will collaborate with the electrical engineer to provide the necessary coordination and design for the lighting features along the north side path alignment. This includes revisions to the artistic "Light Field" concept, as well as the in-grade linear LED marker lights ("Star Path") and solar marker lights. The design will be coordinated with CVAG before being finalized with the electrical engineer.

Task 8 – Structural Plans

CNS Engineers (CNS) will prepare Plans, Specifications and Estimate (Final Design PS&E) per Caltrans Standards for a retaining wall at the northeast corner of Dillion Road and Cabazon Road/48th Street intersection beside a drainage swale to accommodate the Arts and Music Line Bike Path along the north side of Dillon Road. The trail will be extended from Cabazon Road/48th Street to Coachella

Valley Stormwater Channel. The retaining wall is estimated to be 120 feet long. The proposed retaining wall is placed on the southerly side of a drainage swale to retain the bike path. The retaining wall foundation will be protected from scour/erosion by utilizing a proper scour countermeasure that will be designed by WEBB.

The structural design and plan preparation for the retaining wall will be based on Caltrans-amended AASHTO LRFD bridge design specifications, various Caltrans structural design and detail manuals. It is envisioned that a modified Caltrans Type 5 Retaining Wall will be used, and the Caltrans Standard Plans and details will be referenced to the maximum extent possible without structural calculations.

The following assumptions are made:

- There will be no complex project-specific aesthetic treatments on the face of the retaining wall and parapet wall other than a standard fractured rib texture (if desired) to control graffiti.
- The retaining wall can be supported by a conventional spread footing, and there is no seismic liquefaction that requires nonstandard deep foundation or ground improvements.

Submittals of 65% Design Plans and Cost Estimates, 95% PS&E, and Final Camera-Ready PS&E are proposed. We will provide response to agencies' review comments for the submittals. CNS will use Microsoft Word to prepare and edit Caltrans 2024 Standard Special Provisions (SSP) for structural work at 95% and Final PS&E. We will prepare a list of Caltrans standard pay items for the wall construction. Design quantity calculations will be performed using standard Caltrans forms and marginal cost estimate summary sheets. Item unit prices shall be adjusted using Contract Cost Data published by Caltrans.

It is expected that the plans will be prepared in AutoCAD and PDF. Specification documents, including technical specifications, shall be provided in electronic Microsoft Word format as well as in PDF. The Engineer's estimate shall be provided in Microsoft Excel format as well as in PDF.

Deliverables: 65% Design Plans and Cost Estimates, 95% PS&E, and Final Camera-Ready PS&E, Quantities and Construction Cost Estimates

Task 9 – Specification & Revised Cost Estimate

We will prepare a revised quantity breakdown and cost estimate for the proposed revisions along Dillon Rd, which will be provided at the 65%, 90%, and 100% plan check stages. Additionally, final specifications will be provided at the 90% and 100% plan check stages.

Deliverables: Revised Project Cost Estimate at 65%, 90%, and 100% stages, project specifications

Task 10 – Additional ROW Services

Additional ROW services are required due to changes resulting from the bike path redesign, which impacts the tribal parcels. These changes involve new right-of-way requirements and the need for updated appraisals, including the valuation of billboards, in compliance with 49 CFR and the Caltrans Right-of-Way Manual. Additionally, the project has encountered extended delays due to extensive negotiations with property owners regarding the language of necessary right-of-way

documents and the extra coordination required to ensure the timely processing and signing of these documents by CVAG.

This redesign necessitated a reevaluation of the property's value, requiring new appraisals to accurately reflect the updated right-of-way acquisition. The redesign also involves the need for an FF&E appraiser to address the impacted billboards. The FF&E appraiser will utilize the Caltrans poster panel payment schedules for the billboard valuation. As part of this process, the additional coordination efforts required to secure the appraisals have taken longer than initially anticipated, further extending the timeline for this phase of the project.

Throughout the negotiation phase, there has been a significant amount of back-and-forth between Monument, the property owners and CVAG to finalize the language of the right-of-way contracts and easement documents. These negotiations were more complex than originally expected, leading to additional time spent revising, clarifying, and approving the final documentation. This process required close collaboration and frequent communication with the property owners, as well as legal review to ensure that all parties were satisfied with the terms and that the documents complied with all necessary legal requirements.

Task 11 – Ave 49 Additional Street Improvements Services

11.1 Ave 49 (Violet St – Braley Ct) Roadway Widening and sidewalk improvements

The project proposes a bike path on the north side of Avenue 49 from Hjorth Street to Braley Court. The bike path will cross at Braley Court with the installation of HAWK signals. Avenue 49 is improved with sidewalks between Hjorth Street and Violet Street, but only partially improved with no sidewalks from Violet Street to Braley Court. The project should widen the roadway and add sidewalks on the south side between Violet Street and Braley Court to ensure pedestrian connectivity. Demolition and improvement plans will be updated accordingly.

Deliverables: Revised 100% and Final Street Improvement Plan Sheets for this segment.

Task 12 – Street Lighting Design – Ave 48 (Monroe St – Arabia St)

Provide lighting design and electrical engineering for the installation of public street lights within the median along Ave 48 between Monroe St., and Arabia St. Designs shall illuminate both Ave. 48 and Solano Ave. Revise Arts and Music Line plans and include all electrical circuitry, plan notes, installation details, schedules, and photometric studies adhering to City of Indio standards for an LS-3 metered system.

a. Coordination for as-built drawings.

b. Coordinate with civil and landscape architects for conflict resolution.

c. Coordinate IID service points for installation of LS-3 electrical meter pedestal with Utility Consultant.

EXHIBIT B - COMPENSATION FOR ADDITIONAL SCOPE OF SERVICES

Services described in the Scope of Work (Exhibit "A") will be provided on a time and material basis, with a maximum budget of $380,636.00 for Segment 1 and a maximum budget of $611,205.00 for Segment 2 for a total of $991,841.00.

	Compensation Breakdown	Segment 1 Amount	Segment 2 Amount	Total
Task 1	Additional Project Management/ Administration	$15,098.00	$16,740.00	$31,838.00
Task 2	Field Survey, Base Map, Legal, and Plats	$ 23,535.00	$92,346.00	$115,881.00
Task 3	Environmental Services	$ 45,477.00	$45,717.00	$91,194.00
Task 4	Utility Research and Coordination		$41,640.00	$41,640.00
Task 5	Update Street Improvement Plans	$ 56,518.00	$118,114.00	$174,632.00
Task 6	Revised Traffic Signal and Signing & Striping Plans	$ 26,526.00	$27,498.00	$54,024.00
Task 7	Lighting Design and Electrical Engineering Services	$ 33,313.00		$33,313.00
Task 8	Artist Services	$ 12,766.00	$0.00	$12,766.00
Task 9	Structural Plans	$ 36,963.00	$0.00	$36,963.00
Task 10	Specification and Revised Cost Estimate	$ 10,284.00	$10,572.00	$20,856.00
Task 11	Additional ROW Services	$ 92,571.00	$247,193.00	$339,764.00
Task 12	Ave 49 Additional Street Improvements Services	$ 12,582.00	$11,385.00	$23,967.00
Task 13	Street Lighting Design – Ave 48 (Monroe St – Arabia St)	$ 15,003.00	$0.00	$15,003.00
	Total Amendment #5	**$380,636.00**	**$611,205.00**	**$991,841.00**

STAFF REPORT
January 28, 2026

TO: Honorable Mayor and City Council Members

FROM: Lincoln Bogard, Finance Director
Bill Pattison, City Manager

SUBJECT: Resolution No. 2026-07 Authorizing the Finance Director to Establish an Account with Time Value Investments, Inc/Cetera Wealth Management

STAFF RECOMMENDATION:

Staff recommends that the City Council approve Resolution 2026-07, authorizing the City Manager, or designee, to authorize the Finance Director to establish an account with Time Value Investments, Inc (TVI, a branch of Cetera Wealth Management) as a broker-dealer, approve the Resolution to designate authorized signers in TVI/Cetera's Non-Corporate Resolution, and authorize designated City officials to execute all documents necessary to complete the account setup.

BACKGROUND:

Staff is requesting City Council approval to establish an account with TVI/Cetera, a broker-dealer. This account will support the City's investment activities by providing access to investment options that are in compliance with the California Government Code and the City's Investment Policy. Establishing this account will provide an additional custodial and transaction platform to efficiently execute approved investment transactions while maintaining appropriate controls and separation of duties.

The City of Coachella invests public funds in accordance with California Government Code Sections 53600 et seq. and the City's adopted Investment Policy, with the objectives of safety, liquidity, and yield. As part of its investment management practices, the City utilizes third-party safe-keeping custodians and broker-dealers to execute approved investment transactions.

Time Value Investments, Inc (TVI)/Cetera is a registered broker-dealer and member of FINRA that provides brokerage services for government accounts. Establishing a government entity brokerage account with TVI/Cetera will allow the City to efficiently purchase and hold eligible securities while maintaining third-party custody and strong internal controls.

The proposed account will be structured as a non-advisory account, with all investment decisions remaining under the authority of the City and its appointed investment advisor. TVI/Cetera will not have discretionary authority over City funds.

DISCUSSION/ANALYSIS:

Account Structure and Use

The account will primarily be used for the purchase of securities permitted under the City's Investment Policy and the California Government Code Sections 53600 et seq.

Authorization and Governance

In order to open and maintain the account, TVI/Cetera requires a governing resolution and authorized signers. The accompanying Non-Corporate Resolution will designate the City officials authorized to:

- Open and maintain the investment account
- Execute account documents
- Provide instructions for transactions consistent with City policy

These authorizations are consistent with standard municipal investment governance practices and ensure compliance with TVI/Cetera's regulatory requirements.

Risk Management and Controls

The City will retain full ownership and control of all funds held in the account. TVI/Cetera will act as a broker-dealer executing transactions as directed, with Cetera Wealth Management serving as the brokerage platform. Funds will remain subject to:

- Third-party custody
- Monthly statements and reporting
- Oversight by the Finance Department
- Review by the City's independent auditors

This structure preserves appropriate segregation of duties and minimizes operational and financial risk.

ALTERNATIVES:

1. Approve the action.
2. Do not approve the action.

FISCAL IMPACT:

There is no direct fiscal impact associated with establishing the TVI/Cetera account. No advisory fees will be charged by TVI/Cetera, as the account will be non-discretionary and brokerage-only.

If the City Council does not approve this action, the City would not establish the proposed brokerage account and would have fewer options available to efficiently execute investment transactions. This could limit flexibility in implementing the City's approved investment strategy.

Attachments:
Resolution 2026-07

Cetera Entity Account Information Form
Government Entity Account Compliance Questionnaire
Cetera Non-Corporate Resolution

RESOLUTION NO. 2026-07

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF COACHELLA, CALIFORNIA, AUTHORIZING THE FINANCE DIRECTOR TO ESTABLISH AN ACCOUNT WITH TIME VALUE INVESTMENTS, INC/CETERA WEALTH MANAGEMENT

WHEREAS, the Approval of Agreement Between the City of Coachella and Cetera authorizes the Finance Director to Establish an Account with Time Value Investments, Inc/Cetera Wealth Management; and

WHEREAS, this account will support the City's investment activities by providing access to investment options that are in compliance with the California Government Code and the City's Investment Policy; and

WHEREAS, establishing this account will provide an additional custodial and transaction platform to efficiently execute approved investment transactions while maintaining appropriate controls and separation of duties; and

WHEREAS, the City of Coachella invests public funds in accordance with California Government Code Sections 53600 et seq. and the City's adopted Investment Policy, with the objectives of safety, liquidity, and yield and as part of its investment management practices, the City utilizes third-party safe-keeping custodians and broker-dealers to execute approved investment transactions; and

WHEREAS, Time Value Investments, Inc (TVI)/Cetera is a registered broker-dealer and member of FINRA that provides brokerage services for government accounts and establishing a government entity brokerage account with TVI/Cetera will allow the City to efficiently purchase and hold eligible securities while maintaining third-party custody and strong internal controls; and

WHEREAS, the proposed account will be structured as a non-advisory account, with all investment decisions remaining under the authority of the City and its appointed investment advisor; TVI/Cetera will not have discretionary authority over City funds; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Coachella as follows:

Section 2. Adopt Resolution No. 2026-07 Authorizing the Finance Director to Establish an Account with Time Value Investments, Inc/Cetera Wealth Management with no direct fiscal impact to the City.

Section 3. Authorize the City Manager or Finance Director to establish account with Cetera.

PASSED, APPROVED and **ADOPTED** this 28th day of January 2026.

_____
Steven A. Hernandez
Mayor

ATTEST:

_____
Angela M. Zepeda
City Clerk

APPROVED AS TO FORM:

BEST, BEST & KRIEGER

_____
City Attorney

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF COACHELLA)

I HEREBY CERTIFY that the foregoing Resolution No. 2026-07 was duly adopted by the City Council of the City of Coachella at a regular meeting thereof, held on the 28th day of January 2026, by the following vote of Council:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
Delia Granados
Deputy City Clerk

City of Coachella
Legal Name of Organization

Government Agency / Entity
Type of Organization

Account Number (if assigned)

Be it resolved that each of the following has been duly elected or appointed and is now legally holding the title set opposite his/her name:

Name of Authorized Person	Title
Lincoln Bogard	Finance Director

I, Lincoln Bogard, Finance Director
Name and Title of Officer or Partner Signing this Non-Corporate Resolution

of City of Coachella
Name of Organization

hereby certify that said organization is duly and legally organized and existing and that the quorum of the

City Council of said organization at a meeting duly held on
Name of Governing Body of Organization

the _____ day of _____, 20_____, which is in full force and effect on this date and

does not conflict with the Bylaws of said organization.
Name of Governing Rules

I further certify that I have the authority to execute this Non-Corporate Resolution on behalf of said organization, and that the

City Council of the organization that took the action called
Name of Governing Body of Organization

for by the resolutions annexed hereto has the power to take such action.

Lincoln Bogard, Finance Director
Print Name and Title

Signature

Date

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18-0087 CAN 222 05/18

Certified Copy of Certain Resolutions Adopted by the Governing Body of Said Organization Whereby the Establishment and Maintenance of Accounts Have Been Authorized

RESOLVED —

FIRST: That the named authorized persons of this organization or Lincoln Bogard, or _____ be and they hereby are, and each of them is, authorized and empowered, for and on behalf of this organization (herein called the "Organization"), to establish and maintain one or more accounts with Cetera Wealth Services LLC (herein called the "Brokers") for the purpose of purchasing, investing in, or otherwise acquiring, selling, possessing, transferring, exchanging, pledging, or otherwise disposing of, or turning to account of, or realizing upon, and generally dealing in and with;

a. **THIS PARAGRAPH PERMITS CASH TRANSACTIONS IN SECURITIES:** any and all forms of securities including, but not by way of limitation, shares, stocks, options, stock options, stock index options, foreign currency options and debt instrument options, bonds, debentures, notes, scrip, participation certificates, rights to subscribe, warrants, certificates of deposit, mortgages, chooses in action, evidence of indebtedness, commercial paper, certificates of indebtedness and certificates of interest of any and every kind and nature whatsoever, secured or unsecured, whether represented by trust, participating and/or other certificates or otherwise;

b. **THIS PARAGRAPH PERMITS CASH AND MARGIN TRANSACTIONS IN SECURITIES:** any and all forms of securities including, but not by way of limitation, shares, stocks, options, stock options, stock index options, foreign currency options and debt instrument options, bonds, debentures, notes, scrip, participation certificates, rights to subscribe, warrants, certificates of deposit, mortgages, chooses in action, evidences of indebtedness, commercial paper certificates of indebtedness and certificates of interest of any and every kind and nature whatsoever, secured or unsecured, whether represented by trust, participating and/or other certificates or otherwise, and margin transactions, including short sales;

c. **THIS PARAGRAPH PERMITS THE ESTABLISHMENT AND MAINTENANCE OF AN ASSET MANAGEMENT ACCOUNT:** the creation of a debit card and check writing, from which account funds are directly spent, the responsibility for which is entirely that of the Organization, such that check writing and debit card privileges will be limited to the following persons designated by the Organization:

_____ _____

_____ _____

_____ _____

d. **THIS PARAGRAPH PERMITS THE LENDING AUTHORIZATION.** Borrow money or make any contract the effect of which is to borrow money, and secure such obligations by mortgages or other liens upon Organization property; borrow, guarantee and/or pledge any Organization assets as collateral, as the case may be, with respect to a loan; guarantee a borrowing of money or to make any contract the effect of which is to guarantee a borrowing, and secure such obligations by mortgages or other liens upon any Organization property.

The fullest authority at all times with respect to any such commitment or with respect to any transaction deemed by any of the said authorized persons and/or agents to be proper in connection therewith is hereby conferred, including authority (without limiting the generality of the foregoing) to give written or oral instructions to the Brokers with respect to said transactions; to bind and obligate the Organization to and for the carrying out of any contract, arrangement, or transaction, which shall be entered into by any such authorized persons and/or drafts drawn upon the funds of the Organization such sums as may be necessary in connection with any of the said accounts to deposit funds with the Brokers; to deliver securities and/or contracts to the Brokers; to order the transfer or delivery thereof to any other person whatsoever, and/or to order the transfer record of any securities, or contracts, or titles, to any name selected by any of the said authorized persons or agents; to affix the Organization's seal to any documents or agreements, or otherwise; to endorse any securities and/or contracts in order to pass title thereto; to direct the sale or exercise of any rights with respect to any securities; to sign for the Organization all releases, powers of attorney and/or other documents in connection with any such account, and to agree to any terms or conditions to control any such account; to direct the Brokers to surrender any securities to the proper agent or party for the purpose of effecting any exchange or conversion, or for the purpose of deposit with any protective or similar committee, or otherwise; to accept delivery of any securities, to borrow money and securities, if applicable, and to secure repayment thereof with the property of the Organization; to appoint any other person or persons to do any and all things, which any of the said authorized persons and/or agents is hereby empowered to do, and generally to do and take all action necessary in connection with the account, or considered desirable by such authorized persons and/or agents with respect thereto.

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SECOND: That the Brokers may deal with any and all of the persons directly or indirectly by the foregoing resolution empowered, as though they were dealing with the Organization directly, except as provided in paragraph FIRST sub (c).

THIRD: That the person signing this Non-Corporate Resolution on behalf of the Organization is authorized, empowered and directed to certify to the Brokers:

a. a true copy of these resolutions;

b. specimen signatures of each and every person by these resolutions empowered;

c. a certificate (which, if required by brokers, shall be supported by an opinion of the general counsel of the Organization, or other counsel satisfactory to the Brokers) that the Organization is duly organized and existing, that its governing rules empower it to transact the business by these resolutions defined, and that no limitation has been imposed upon such powers by the governing rules of the Organization or otherwise.

FOURTH: That the Brokers may rely upon the certified copy of the resolutions, specimen signatures, and certificate, as continuing fully effective unless and until the Brokers shall receive due written notice of change or rescission, and the dispatch or receipt of any other form of notice shall not constitute a waiver of this provision, nor shall the fact that any person hereby empowered ceases to be an authorized person of the Organization or becomes an authorized person under some title, in any way affect the powers hereby conferred, but the failure to supply any specimen signature shall not invalidate any transaction where the party authorizing the same has been actually empowered thereto by or in conformity with these resolutions.

FIFTH: That in the event of any change in the office of powers of persons hereby empowered, an authorized person shall certify such changes to the Brokers in writing in the manner herein above provided, which notification, when received, shall be adequate both to terminate the powers of the persons therefore authorized, and to empower the persons thereby substituted.

SIXTH: That the authorized persons of the Organization be, and hereby is, authorized and empowered to countersign items as aforesaid, except as provided in paragraph FIRST sub (c).

SEVENTH: That the foregoing resolutions and the certificates actually furnished to the Brokers by the authorized person of pursuant thereto, be and they hereby are made irrevocable until written notice of the revocation thereof shall have been received by the Brokers.

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City of Coachella

Government Entity/Agency Account Compliance Questions

To be answered by Financial Professional

1. Will this be a brokerage account or Advisory account? Brokerage
2. Does the Financial Professional make any recommendations, suggestions or sales presentations to the entity? Yes

   If yes, is it regarding the issuance of;

   Municipal securities No

   Municipal Derivatives No

   Guaranteed Investment Contracts No

   Investment strategies with bond proceeds or muni escrow investments No

3. If none of the products listed above are being recommended or suggested, what is?

   We usually present fixed income securities (e.g., bonds & CDs) for the client to select from. Most of the time, these are U.S. Treasury & U.S. Government Agency bonds. Sometimes, these are corporate or municipal bonds. These types of accounts also like to invest in federally insured CDs (FDIC/NCUA). Interest payments generally sweep into a government money market fund. Public funds investors are typically “buy and hold” investors.

To be answered by client

1. Does this municipal entity use bond proceeds or municipal escrow funds (or any other municipal instrument) to purchase any kind of securities? Yes or No
   a. If yes, please explain…
2. Is the funding of this account from bond proceeds or municipal escrow funds (or any other municipal transaction)? Yes or No
   a. If yes, please explain…
3. Is the money in the account going to be used to repay debt issued previously by the municipality? Yes or no
   a. If yes, please explain…

_____ Date: _____

Lincoln Bogard, Finance Director, City of Coachella

Cetera® WEALTH SERVICES Member FINRA/SIPC

FORM CRS: CUSTOMER RELATIONSHIP SUMMARY JULY 2025

Cetera Wealth Services, LLC (Cetera Wealth Services, formerly known as Cetera Advisor Networks LLC) is a broker-dealer registered with the Securities and Exchange Commission (SEC). Cetera Wealth Services is an indirect wholly-owned subsidiary of Cetera Financial Group, Inc., which also owns other broker-dealers and Registered Investment Advisors (RIAs) (all of these affiliated entities are referred to collectively as "Cetera"). Cetera Wealth Services only provides securities brokerage services, but our affiliates, including Cetera Investment Advisers LLC (Cetera Investment Advisers) offer investment advisory services, as described in more detail below. In this document, "we," "us," or "our" refers to all of our affiliated companies as a group and, unless we state otherwise, includes our individual representatives.

We offer both securities brokerage and investment advisory services, as described in more detail below. Brokerage and advisory services differ, and it is important for the retail investor to understand the differences. Some services may be provided by our affiliated companies other than Cetera Wealth Services, particularly investment advisory services, which are provided by Cetera Investment Advisers. The broker-dealers owned by Cetera may not all offer the same programs, services, or investment products. ***Please see "Important Information Regarding Our Relationship With You" (Supplemental Disclosure) at https://cetera.com/cetera-wealth-services/disclosures for additional details.*** Cetera Wealth Services is a member of the Financial Industry Regulatory Authority (FINRA) and the Securities Investor Protection Corporation (SIPC). Free and simple tools are available to research firms and financial professionals at Investor.gov/CRS, which also provides educational materials about broker-dealers, investment advisers, and investing.

We offer investment services to our customers through individuals that we refer to as "Financial Professionals," most of whom are licensed to provide both securities brokerage and investment advisory services. They provide securities brokerage as registered representatives of Cetera Wealth Services and investment advisory services as Investment Adviser Representatives (IARs) of Cetera Investment Advisers. Some of them are licensed to offer only brokerage or only advisory services, and some are licensed to offer only specific investment products. Some of our Financial Professionals offer advisory services through other RIAs ("Outside RIAs" or "ORIAs") in addition to providing investment services through us. Many of our Financial Professionals also offer other non-investment services, such as sales of insurance and/or tax preparation through entities that are not related to us. ***If you have questions about the services that we or any of our Financial Professionals can provide, please ask your Financial Professional or see our Supplemental Disclosure.***

What investment services and advice can you provide me?

Depending on your needs and investment objectives, we can provide you with brokerage services, investment advisory services, or both at the same time. This document will summarize the types of services that we provide and how you pay us for those services.

Brokerage Services	Investment Advisory Services
• In a brokerage account, you purchase and sell investments and pay us sales charges (commissions) for each transaction. • You may select investments for your account, and we may recommend investments to you, but decisions about your investment strategy and the purchase or sale of investments will be yours. There is no minimum dollar amount required to open or maintain a brokerage account. If you want to decide which investments to buy or sell and pay a fee or charge for each transaction executed, a brokerage account may be the right choice for you. • We offer brokerage services with a variety of investments, including stocks, bonds and other fixed-income investments, mutual funds, exchange-traded funds (ETFs), annuities and alternative investments. • We offer a large number of investment products, but we do not offer all products available in any given investment category, such as mutual funds, ETFs, or annuities. Other firms may offer investment products that we do not. • We do not offer proprietary investment products. • It is important for you to understand we do not provide ongoing monitoring of investments in brokerage accounts. • ***For more detailed information about brokerage services and investment products we offer, please refer to our Supplemental Disclosure.***	• If you want a Financial Professional to manage your investment portfolio, an investment advisory account may be the right choice. • We offer several investment advisory programs and services through our Financial Professionals who are IARs. These services include financial planning, consulting, asset management programs (including "wrap" asset management programs), and selection and monitoring of third-party investment managers. • Most of our advisory programs have minimum investment amounts. ***Please see our Supplemental Disclosure and our Form ADV Part 2A for additional information.*** • We provide ongoing investment advice and monitoring of the investments in your advisory account. • You may choose an account that allows us to buy and sell investments without asking you in advance (a "discretionary account"), or we may give you advice and you decide which investments to buy and sell (a "non-discretionary account"). • We will meet with you, either in person or by another agreed-upon method, no less than annually to review your portfolio. • Although we offer a wide variety of advisory products and services, our investment advice will cover a limited selection of investments, and other firms may offer more or different choices. ***For more information regarding our advisory services, please refer to our Form ADV Part 2A and our Supplemental Disclosure.***

As you consider what type of services may be right for you, ask your Financial Professional the following questions:

- *Given my financial situation, should I choose an investment advisory service? Should I choose a brokerage service? Should I choose both types of services? Why or why not?*
- *How will you choose investments to recommend to me?*
- *What is your relevant experience, including licenses, education and other qualifications? What do these qualifications mean?*

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What fees will I pay?
If you establish an account with us, you will pay us fees or other charges depending upon what type of account you establish, the types of investments you buy or sell, and how many transactions we execute for you. This is a summary of our fees and other charges for brokerage and investment advisory accounts.

Brokerage Accounts	Investment Advisory Accounts
• If you open a brokerage account, you will pay a transaction-based fee, referred to as a "commission" or "sales charge," each time you buy or sell an investment. You will be charged more when there are more trades in your account, and both we and your Financial Professional have an incentive to encourage you to trade more often. • With stocks or ETFs, the sales charge is added to or subtracted from the transaction amount and is determined by the quantity of the securities bought or sold, the dollar value of the transaction, or a combination of both. With other investments, such as bonds, the sales charge is usually part of the price you pay for the investment, referred to as a "mark-up" or "mark-down." With mutual funds, the fee (typically called a sales charge or "load") is a percentage of your investment and reduces the value of your investment. • Some investments (such as mutual funds and annuities) impose internal operating fees in addition to the fees that we charge. These fees increase the overall cost and will reduce the value of your investment over time. • With variable annuities and other variable insurance products, you will pay a sales charge that is a percentage of the amount invested. You will also incur additional fees if you select optional features or benefits, and you will pay fees referred to as "surrender" or contingent deferred sales charges if you sell within a stated time period. ***For more information about charges associated with investments in mutual funds, annuities, or alternative investments, please see our Supplemental Disclosure.*** • From a cost perspective, you may prefer a transaction-based account if you do not intend to trade often or if you plan to hold investments for long periods of time (a "buy and hold" strategy). • Our commissions on investment products vary. For certain investments, such as stocks, bonds, and ETFs, the commission you pay may be negotiable. The amount you pay in connection with any investment product will vary depending on the type of investment, how much you buy or sell and what kind of account you have. • In addition to sales charges, you will also pay other charges, such as account maintenance fees, and other fees for specific services. These charges vary by investment product and the type of account that you maintain. ***Please see our Supplemental Disclosure for additional information.*** • Your Financial Professional receives different compensation in connection with purchases and sales of different investments. We pay Financial Professionals a portion of the commissions, sales charges, and other revenue that they produce in connection with transactions in your accounts. In general, the more total revenue a Financial Professional produces in a given year, the greater the percentage of the revenue they receive. ***Please see our Supplemental Disclosure for additional information.***	• If you choose an advisory account, you will pay an on-going fee based on the value of the assets in your account. For financial planning or consulting services, fees are charged on an hourly or otherwise agreed-upon basis. Our fees are negotiable and vary depending on the advisory program selected and are billed on a monthly or quarterly basis, either in advance or in arrears. • In general, the greater the value of the assets in your account the more you will pay in fees, although the fee you pay as a percentage of the assets managed may decline as the value of the assets increases. The more assets there are in your advisory account, the more you will pay in fees, and we may therefore have an incentive to encourage you to increase the assets in your account. • For some advisory accounts, called "wrap fee" programs, the asset-based fee will include most transaction costs and custody services and is therefore higher than a typical asset-based advisory fee. A wrap-fee program could cost more than paying separately for advice and transactions. • For accounts that are not part of a wrap-fee program, you will pay an asset-based fee and a separate transaction fee when you buy or sell an investment. If you choose a program that does not have a wrap fee and you are not charged transaction fees, we have an incentive to trade less frequently in your account. • You will also pay retirement account, annual maintenance, and custodial fees within an advisory account, as applicable. Additional fees may include account service fees, such as asset movement, account transfer, checking, and fees for other optional services chosen by you on per-event basis. • Some investments (such as mutual funds and annuities) impose internal operating fees in addition to the fees that we charge. These fees increase the overall cost and will reduce the value of your investment over time. • Our investment advice will cover a limited selection of investments. Other firms may provide advice on a wider range of investments, some of which might have lower costs. • We pay Financial Professionals a portion of the advisory fees and other revenue that they produce in connection with management of your account. In general, the more total revenue a Financial Professional produces in a given year, the greater the percentage of the revenue they receive, and they have an incentive to encourage you to deposit additional or otherwise increases the assets in your account. This creates a conflict between your interest and ours. ***Please see our Supplemental Disclosure for additional information.*** • The fees applicable to each type of advisory program are set forth in the advisory agreement for that program and are summarized in our Form ADV Part 2A. ***Please refer to it for additional information.***

You will pay fees and costs whether you make or lose money on your investments. Fees and costs will reduce any amount of money you make on your investments over time. Please make sure you understand what fees and costs you are paying.

As you consider the cost of our services, ask your Financial Professional the following:
Help me understand how these fees and costs might affect my investments. If I give you $10,000 to invest, how much will go to fees and costs, and how much will be invested for me?

What are your legal obligations to me when providing recommendations as my broker-dealer or when acting as my investment adviser? How else does your firm make money and what conflicts of interest do you have?

When we provide you with a recommendation as your broker-dealer or act as your investment adviser, we have to act in your best interest and not place our interest ahead of yours. At the same time, the way we make money creates some conflicts with your interests. You should understand and ask us about these conflicts because they can affect the recommendations and investment advice we provide you. Here are some examples to help you understand what this means.

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Brokerage Accounts	Investment Advisory Accounts
• We are compensated directly by you and either directly or indirectly by third parties, including the sponsors of investments that you purchase. • You are charged a commission or sales charge on every transaction. Since we receive compensation on every transaction, we have an incentive to encourage you to trade more often. • We have arrangements with product sponsors under which we receive payments based on sales of their products, customer assets managed by the sponsor, or a combination. These payments are referred to as "revenue-sharing" arrangements. The fact that we receive compensation from a product sponsor or receive a greater amount of compensation from one product sponsor than another creates an incentive for us to recommend certain investments to you or to restrict the investment products that we offer. ***(Please see our Supplemental Disclosure for additional information.)*** • We and our Financial Professionals receive payments from sponsors of investment products, such as mutual funds, annuities, and alternative investments, that we use to promote our services, provide information to customers and prospective customers, and pay for expenses that we incur in seeking or retaining customers. These payments are in addition to revenue-sharing and other similar payments that we receive from products sponsors and other third parties. ***For more information about these payments, please see our Supplemental Disclosure.*** • Financial Professionals may also receive a portion of ongoing fees charged by mutual funds ("12b-1" fees) or annuities (trail commissions). Those fees also present a conflict of interest for us and our Financial Professionals. • We utilize the services of Pershing, LLC (Pershing) and National Financial Services, LLC (NFS) as "clearing" brokers to execute purchases and sales of investments, process payments and other transactions, and hold securities as custodian for our customers. We receive various benefits in connection with our clearing firm relationships for brokerage business, and we retain a portion of certain fees charged to your accounts that exceed the amount we are charged by Pershing or NFS. • When Pershing or NFS is the executing broker-dealer for a transaction, we receive a portion of the fees or charges applicable to the transaction. By directing brokerage transactions to Pershing or NFS, we may not be able to achieve the most favorable execution (best price) for customer transactions, which would cost you more money. This creates a conflict of interest. ***For a detailed explanation of charges and markups on clearing broker fees, please refer to our Supplemental Disclosure.*** • We offer a program for uninvested cash held in your brokerage account (the "Cash Sweep program"). Uninvested cash is swept to either an FDIC-insured bank account or to a money-market mutual fund. We are compensated by the banks that participate in the Cash Sweep program and by Pershing and with NFS with respect to investments in money-market mutual funds. This creates an incentive for us to recommend that you utilize the Cash Sweep program instead of leaving uninvested cash balances in your brokerage account or investing in other securities. ***For more information about the Cash Sweep program, please see our Supplemental Disclosure.*** • When you purchase certain investments from us, such as fixed income securities, we engage in principal trading in which we buy or sell certain fixed income investments, such as bonds, directly to or from customers. Our revenue and profit depend on the prices we charge or pay you in connection with principal trades. This creates a conflict between our interest and yours. • ***For more information about our brokerage fees, please see our Supplemental Disclosure.***	• Our compensation varies among different advisory products and services, and we have a financial incentive to recommend one program or service over another if it increases our fees or other revenue that we receive. • Many of our Financial Professionals offer both investment advisory and brokerage services. They sell securities through us and receive commissions or other compensation. Financial Professionals may earn more or different types of compensation on brokerage transactions and therefore have an incentive to recommend that you purchase securities in a brokerage account instead of in an advisory account. • We clear securities transactions through Pershing, LLC (Pershing) and National Financial Services, LLC (NFS). For some of our advisory programs, you will establish a brokerage account with Charles Schwab & Co. (Schwab), which will act as the custodian and execute transactions on your behalf. When Pershing or NFS is the executing broker-dealer for a transaction, we receive a portion of the fees or charges applicable to that transaction. By directing brokerage transactions to Pershing or NFS, we may not be able to achieve the most favorable execution (best price) of client transactions, and this practice may cost you more. This presents a conflict of interest. • We receive servicing fees from certain mutual fund companies that participate in "No-Transaction-Fee" programs. These programs present a conflict of interest as we are not charged a fee for transactions and receive additional revenue in the form of shareholder servicing fees in connection with purchases. ***Please see our Supplemental Disclosure.*** • The greater the value of the assets in your account, the more you will pay in fees, and we have an incentive to encourage you to deposit additional assets or otherwise increase the amount of assets in your account. • We receive compensation (revenue-sharing) from certain third-party advisors and product sponsors. A conflict of interest exists when we receive such compensation because there is an incentive to recommend these third-party advisors or investments offered by certain product sponsors over other investment opportunities in order to generate additional revenue. • In addition to their relationship with us, your Financial Professional may also provide investment advisory services through an ORIA that is not affiliated with us. We provide support or other services, such as trade execution and clearing, performance reporting, and operational support, to some ORIAs, but they are responsible for their own compliance policies and procedures and adherence to applicable laws. The fees that your Financial Professional receives for advisory services through an ORIA may be more than the fees he or she would receive for similar services offered through us. This may create an incentive for your Financial Professional to recommend that you establish an advisory account with his or her ORIA, which would create a conflict with your interests. • ***For more specific information regarding conflicts of interest, please see our Form ADV Part 2A and Supplemental Disclosure.***

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Our Financial Professionals receive a portion of the compensation that you pay us and also receive a portion of the revenue that we receive f parties. The type and amount of compensation varies by product type (mutual funds, annuities, etc.), by the size of the investment, and by the services provided. Compensation for Financial Professionals includes:

(i) Upfront or deferred commissions, sales charges or placement fees;
(ii) Ongoing compensation for products such as mutual funds (12b-1 fees) and annuities and alternative investments (trail payments);
(iii) Asset-based fees for advisory services;
(iv) Hourly or flat fees for financial planning; and
(v) Mark-ups or mark-downs (concessions) for bonds or other fixed income securities, such as structured products.

As you consider the type of relationship you may wish to establish with us, ask your Financial Professional the following:
How might your conflicts of interest affect me, and how will you address them?

How do your Financial Professionals make money?
You will pay us for providing you with brokerage services, investment advisory services, or both. Your Financial Professional receives a portion of the fees or charges you pay. These are examples of how your Financial Professional is compensated:

Brokerage Services	Investment Advisory Services
• In a brokerage account, you purchase and sell investments and pay us sales charges (commissions) for each transaction. Your Financial Professional receives a portion of the sales charge on each transaction. In some instances, Financial Professionals receive a greater portion of the sales charge or other revenue for each transaction as the total revenue they produce increases. • Each type of investment product has a different sales charge. The amount of compensation your Financial Professional receives will be greater or smaller depending on the investments that you purchase or hold. • If you purchase certain investment products, such as mutual funds or variable annuities or insurance products, your Financial Professional will also receive a portion of the ongoing fees that we receive from sponsors of those investments ("12b-1" fees for mutual funds and "trail commissions" for annuities and certain other investments) for as long as you own the investment. • Your Financial Professional may also receive other payments or benefits from sponsors of investment products, including reimbursement for marketing expenses, attendance at events, and certain types of gifts and entertainment. • Your Financial Professional may become eligible to attend meetings, conferences, and other events that we sponsor and pay for. Eligibility is based upon the total amount of revenue that the Financial Professional produces on an annual or multiyear basis. • All of the payments that your Financial Professional receives create incentives for them to recommend that you purchase and hold certain investments and creates a conflict between your interest and ours. • ***For more detailed information about our brokerage services and the investment products we offer, please refer to our Supplemental Disclosure.***	• In an advisory account, you pay us a fee based upon either the value of the assets in your account or an annual or hourly fee. Your Financial Professional receives a portion of the fees that you pay us. The portion of the fee that your Financial Professional receives varies according to the advisory program. ***For more information, please refer to our Form ADV Part 2A, your Financial Professional's Form ADV Part 2B, and our Supplemental Disclosure.*** • In some instances, Financial Professionals receive a greater portion of the fees as the total amount of revenue they produce for us each year increases. • The greater the value of the assets in your account, the more you will pay in fees, and we and your Financial Professional have an incentive to encourage you to deposit additional assets or otherwise increase the amount of assets in your account. • Your Financial Professional may also receive other payments or benefits from sponsors of investment products, including reimbursement for marketing expenses, attendance at events, and certain types of gifts and entertainment. • Your Financial Professional may become eligible to attend meetings, conferences, and other events that we sponsor and pay for. Eligibility is based upon the amount of revenue the Financial Professional produces. • The payments your Financial Professional receives create incentives for them to recommend that you choose one advisory program over another and creates a conflict between your interest and ours. • You will pay us fees for providing advisory services whether or not we execute transactions in your account. This creates an incentive for your Financial Professional to recommend that you establish an advisory account instead of a brokerage account. • ***For more information regarding our advisory services, please refer to our Form ADV Part 2A and our Supplemental Disclosure.***

Do you or your Financial Professionals have legal or disciplinary history?
Yes. ***Visit Investor.gov/CRS for a free and simple search tool to research us and our Financial Professionals.***

Questions to ask your Financial Professional:
As a financial professional, do you have any disciplinary history? For what type of conduct?

Additional Information
For additional information about our Financial Professionals and services, you may also view Broker Check (BrokerCheck.Finra.org), the Form ADV Part 2B for your Financial Professional, our website: https://cetera.com/cetera-wealth-services/disclosures, and your account agreement. For additional information on advisory services, see our Form ADV Part 2A brochure on IARD, on Investor.gov, or on our website https://cetera.com/cetera-wealth-services/disclosures and any brochure supplement that your Financial Professional provides to you. If you would like an additional copy of this relationship summary or you have questions or concerns about transactions or the handling of your account, please ask your Financial Professional or contact us at ds@ceteranetworks.com or at 800.879.8100.

Questions to ask your Financial Professional:
Who is my primary contact person? Is he or she a representative of a broker-dealer or registered investment adviser? Who can I talk to if I have concerns about how this person is treating me?

Securities offered through Cetera Wealth Services, LLC (doing insurance business in CA as CFGAN Insurance Agency LLC), member FINRA/SIPC. Advisory Services offered through Cetera Investment Advisers LLC, a registered investment ad

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ENTITY ACCOUNT INFORMATION F

AA05

☒ New Account ☐ Update* ☐ Advisory *(additional documents required)*

☐ Direct Business ☐ Pershing Pershing Account #: _____ SmartWorks® Ref. ID #: _____

*Any incomplete sections will remain the same as what is currently on file.

ACCOUNT REGISTRATION — Check only one.

*Additional documents required.

This form applies to entities issued a Tax Identification Number (TIN).

Account Type: ☐ Corporation/LLC* (see Federal Tax Classification on page 4) ☐ Partnership* ☐ Estate* ☐ 403(b)*
☐ Noncorporate* ☐ Nonprofit* ☐ Qualified Plan* ☐ Trust* ☐ 401(k)*
☒ Other: DVP

ACCOUNT INFORMATION

City of Coachella
Name of Corporation, Trust, Estate or Other Entity — FBO (if applicable; generally for 401ks – including owner-only 401k plans)

TIN | (760) 398-6750 Primary Phone # (Required) | (442) 822-5573 Cell Phone # (Required if different than primary)

53990 Enterprise Way — Street Address — No P.O. Box
Coachella — City
CA — State
92236 — Zip
USA — Country

Mailing Address — P.O. Box Allowed *(Only if different than Street Address)*
City
State
Zip
USA — Country

ENTITY IDENTIFICATION INFORMATION

Certain account registrations may require additional documents.

Name or description of document seen by financial professional verifying the identity of the entity:

Non-Corporate Resolution

Cetera Wealth Services LLC — Issuer of Document
Issue Date of Document *(if any)*
Business/License Number *(if any)*

Entity — Type of Business
Entity — Type of Industry

Financial professional shall maintain a copy of the document on file.

AUTHORIZED PERSON/TRUSTEE/EXECUTOR INFORMATION

Authorized Person/Trustee/Executor

Lincoln — First
Middle
Bogard — Last Name

(760) 398-6750 — Phone Number
Date of Birth
Social Security Number

Citizenship: ☒ U.S. Citizen ☐ Resident Alien** ☐ Non-Resident Alien**
** If authorized person/trustee/executor is a resident or non-resident alien, specify country: _____
Obtain W-8 Supplemental Customer Identification form if non-resident. Please note: Additional documentation may be required.

53990 Enterprise Way — Home Street Address — No P.O. Box

Coachella — City
CA — State
92236 — Zip
USA — Country

lbogard@coachella.org
Email Address *(Email is required to establish online access.)* (By providing your address, you authorize Cetera Advisor Networks to contact you by email.)

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Additional Authorized Person/Trustee/Executor

First | Middle | Last Name

Phone Number | Date of Birth | Social Security Number

Citizenship: ☒ U.S. Citizen ☐ Resident Alien** ☐ Non-Resident Alien**

** If authorized person/trustee/executor is a resident or non-resident alien, specify country: _____

Obtain W-8 Supplemental Customer Identification form if non-resident. Please note: Additional documentation may be required.

53990 Enterprise Way
Home Street Address — No P.O. Box

Coachella (City) | CA (State) | 92236 (Zip) | USA (Country)

Email Address (By providing your address, you authorize Cetera Advisor Networks to contact you by email)

AFFILIATION INFORMATION

☐ Yes ☒ No Is any authorized person/trustee/executor *(or a member of their immediate family)* a director, 10% shareholder or policy-making officer of a publicly traded company?

If yes, specify company name: _____ Trading Symbol: _____

☐ Yes ☒ No Is any authorized person/trustee/executor *(or a member of their immediate family)* a politically exposed person?

If yes, specify name of country: _____

☐ Yes ☒ No Is any authorized person/trustee/executor *(or a member of their immediate family)* a registered representative of a broker-dealer?

If yes, specify firm name: _____

☐ Yes ☒ No Is any authorized person/trustee/executor *(or a member of their immediate family)* employed by, or otherwise affiliated with, FINRA or any broker-dealer?

If yes, specify firm name: _____

PERSHING INFORMATION — All securities are held in street name.

Pershing Sweep Option (eligible accounts):

☐ FlexInsured Account® (for brokerage (excluding brokerage 403(b) accounts) and non-qualified advisory accounts)

☐ Insured Deposit Sweep Account (advisory IRAs)

☐ Federated Hermes Treasury Obligations Fund (for brokerage and advisory 403(b) accounts and advisory ERISA accounts)

By signing this form below, you are providing your written affirmation consent to have any cash balances in your account automatically transferred to the following default sweep option: (i) for brokerage (excluding brokerage 403(b) accounts) and non-qualified advisory accounts, the default sweep option is the FlexInsured Account, a bank deposit program; (ii) for advisory IRAs, the default sweep option is the Insured Deposit Sweep Account, a bank deposit program; and (iii) for brokerage and advisory 403(b) accounts and advisory ERISA accounts, including 401(k), the default sweep option is the Federated Hermes Treasury Obligations Fund, a money market fund. The sweep option applied to your account is subject to account type eligibility. If the sweep option selected above is ineligible for your account type, or an option is not selected, the default sweep option will automatically be used. For detailed information regarding the terms and conditions of the products, see the applicable prospectus or program disclosure document. General terms and conditions for the products in the sweep program are also described in the document entitled Cetera Advisor Networks Sweep Program, which is available online at https://www.ceteraadvisornetworks.com (search "sweep"). We may change the products available for your selection.

Proceeds: ☐ Hold ☐ Send Proceeds **Dividends/Interest:** ☒ Credit to Account ☐ Pay to Client

Is account DVP/RVP: ☐ No ☒ Yes (If yes, forward written instructions from institution to Brokerage Operations)

ELECTRONIC DELIVERY OPTIONS

When the Account Information Form is submitted outside of AdviceWorks and eDelivery is enabled for existing accounts via AdviceWorks Client Portal, previous settings may not apply to the new account. It is recommended that you log into AdviceWorks Client Portal to update your eDelivery preferences on any new account(s). If you have not previously enabled eDelivery via AdviceWorks Client Portal, visit https://client.adviceworks.net/auth/login to register, enroll in eDelivery, and set your eDelivery preferences.

NETXINVESTOR ACCESS — Optional

I also elect to create or add to an existing ID within NetXInvestor, where I can access remote check deposits and real-time data (such as trade confirmations) for which Pershing is the custodian (transactions executed direct-way with product sponsors are not captured in NetXInvestor). If you are opting into NetXInvestor, log into NetXInvestor to update your e-delivery. If yes, please complete the below (please select one):

☐ Establish a new user ID: _____*

☐ Add to an existing ID: _____

**Note: Maximum of 15 characters, letters, and numbers only; not case sensitive. Cannot contain any of the user's SSN. If you do not select a user ID, we will create one for your using your email address. You may login with your existing user ID and link this new account to your user ID.*

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Additional accounts to link to the user ID

Please list all the accounts that should be linked to the user ID. You can only link accounts that are under the same SSN/TIN as the new account is being opened. Existing accounts that are already on the user ID are not needed below; please only fill in accounts you wish to add to the ID.

_____
Primary Account Number

_____ _____
Account Number Account Number

_____ _____
Account Number Account Number

ACCOUNT PROFILE

Do any of the authorized persons have investment experience? ☐ Yes ☐ No

Please specify number of years (even if the number is zero) next to each investment product below:

Stocks: _____ yrs. Bonds: _____ yrs. Mutual Funds/ETFs: _____ yrs. Options: _____ yrs. DPPs: _____ yrs.

REITs: _____ yrs. Annuities: _____ yrs. Other (identify): _____ _____ yrs.

Account Objective
(Select one)
☒ Capital Preservation
☐ Income
☐ Total Return
☐ Growth
☐ Aggressive Growth

Risk Tolerance
(Select one)
☒ Conservative
☐ Moderately Conservative
☐ Moderate
☐ Moderately Aggressive
☐ Significant Risk

Account Time Horizon
(Select one)
☒ 4 years or less
☐ 5 – 8 years
☐ More than 8 years

Annual Income
☐ $0 – 29,999
☐ 30,000 – 49,999
☐ 50,000 – 74,999
☐ 75,000 – 99,999
☐ 100,000 – 149,999
☐ 150,000 – 249,999
☐ 250,000 – 399,999
☒ 400,000 – Over

Adjusted Net Worth
☐ $0 – 74,999
☐ 75,000 – 99,999
☐ 100,000 – 149,999
☐ 150,000 – 249,999
☐ 250,000 – 499,999
☐ 500,000 – 999,999
☐ 1,000,000 – 2,999,999
☒ 3,000,000 – Over

Liquid Net Worth
(Cannot exceed adjusted net worth)
☐ $0 – 74,999
☐ 75,000 – 99,999
☐ 100,000 – 149,999
☐ 150,000 – 249,999
☐ 250,000 – 499,999
☐ 500,000 – 999,999
☐ 1,000,000 – 2,999,999
☒ 3,000,000 – Over

Account Liquidity Needs
(over next 3 years)
☐ None
☐ $1 – 4,999
☐ 5,000 – 9,999
☐ 10,000 – 24,999
☐ 25,000 – 49,999
☐ 50,000 – 74,999
☐ 75,000 – 99,999
☒ 100,000 – Over

Federal Tax Bracket: ☒ 0 – 15% ☐ 16 – 28% ☐ 29 – 36% ☐ >36%

Other Investments not Held Through Cetera Advisor Networks (list amounts held next to investment type below):

☐ None ☒ Client Declined to Disclose

Equities	$_____	Unit Investment Trusts	$_____	Annuities – Variable	$_____
Options	$_____	Exchange Traded Funds	$_____	Annuities – Fixed	$_____
Fixed Income	$_____	Real Estate	$_____	Precious Metals	$_____
Mutual Funds	$_____	Insurance	$_____	Commodities & Futures	$_____
Other (please list type): _____			$_____		

Additional Client Information:

Account Time Horizon ideally is 0-5

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Municipal Accounts

Does a municipality or any agent of a municipality own or control this account? ☒ Yes ☐ No

If yes, is it presently contemplated that:

1. proceeds of a municipal bond offering or other securities will be held in the account? ☐ Yes ☒ No
2. funds in the account will be used as a reserve or other fund to repay debt issued previously by the municipality? ☐ Yes ☒ No

If the answers to any of the questions for this section change, I will promptly inform my financial professional.

A municipality account may include (but not limited to) those established for a state, town, city, school, fire department or police department.

TRUSTED CONTACT PERSON INFORMATION

By choosing to provide information about a trusted contact person, you authorize Cetera Advisor Networks to contact the person listed below and disclose information about your account to that person in the following circumstances: to confirm the specifics of your current situation, including your contact information, health status, or the identity of any legal guardian, executor, trustee, or holder of a power of attorney; or to address possible abuse or exploitation; or as otherwise permitted by FINRA Rule 2165 (Financial Exploitation of Specified Adults). This form will NOT authorize your trusted contact person to act on your behalf regarding your account. Your trusted contact person must be 18 years of age or older.

First Name of Contact* _____ Last Name of Contact* _____ Relationship to Account Owner _____

Phone Number* _____ **OR** ☐ I do not want to provide a trusted contact person at this time.

*Required information if designating a trusted contact person.

SELECTION OF RELATIONSHIP TYPE

Based on the information provided within this document and our discussions, I elect to establish either a commission-based or a fee-based account. Depending upon the relationship type selected, additional documentation may be required. There may be times where you initially establish a commission-based account and then convert to a fee-based account or a fee-based account and convert to a commission-based account. In these situations, there will be additional documentation to support your relationship type.

This best describes your overall relationship type at the time of this account opening:

☒	Buy and Hold Charge Per Transaction (Purchases and Sales) My Authorization Prior to Each Transaction Client-Directed Trading – No Monitoring	**OR** ☐	Active Trading Asset-Based or Fixed Fee Investment Adviser Rep Discretion (Client Authorization Per Trade Not Required) Ongoing Advice and Monitoring by Investment Adviser Representative

W-9 TAXPAYER CERTIFICATION

By signing below, I certify under penalty of perjury that: (1) the Taxpayer Identification Number provided above is correct; (2) the IRS has never notified me that I am subject to backup withholding as a result of failure to report interest or dividends, or if I have been notified, the IRS has notified me that I am no longer subject to backup withholding; and (3) I am a U.S. person (including a U.S. resident).

OR

☐ I am subject to backup withholding. (If applicable, check this box.)
☒ Exempt payee. (If applicable, also provide Exempt Payee Code: ____3____.) (Refer to section 24 below for codes.)
☐ Exemption from FATCA Exemption Code: _____. (Refer to section 25 below and, if applicable, ask us for a complete set of IRS instructions)

Federal Tax Classification

If account is being opened for a Corporation or Limited Liability Company, check the appropriate box for federal tax classification. If nothing is indicated, the account will be classified as a S Corporation until a Form W-9 is received indicating that the account should be classified otherwise.

☐ S Corporation ☐ C Corporation ☐ Partnership

ACKNOWLEDGEMENTS

Disclosure for Bank Locations

Neither Cetera Advisor Networks LLC nor Cetera Investment Advisers LLC is affiliated with the financial institution where investment services are offered. Investments are (1) not insured by the Federal Deposit Insurance Corporation (FDIC), any government agency or any other deposit insurance program; (2) not deposits with, obligations of, or guaranteed by the financial institution where you obtained Cetera Advisor Networks' services or any of its affiliates; and (3) subject to investment risk, including possible loss of the principal amount invested. (Certain brokered certificates of deposit may be FDIC insured.) (4) To obtain credit, the financial institution may not (a) require me to purchase any insurance or annuity from the financial institution or any of its affiliates or (b) require me to agree not to purchase, or prohibit me from purchasing, any insurance or annuity from any unaffiliated party.

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By signing below, I acknowledge and agree that: (1) I have received, read, understand and agree with all of the information contained w document; (2) the Internal Revenue Service does not require that I consent to any provision other than the certifications required to avoid backup withholding; (3) I have received, read and understand "Form CRS: Customer Relationship Summary for Cetera Advisor Networks LLC"; (4) I have read and understand the section labeled "The Big Picture," which describes the differences between commission-based brokerage and fee-based advisory services; (5) I have received, read, understand the document titled "Regulation Best Interest Supplemental Disclosure for Cetera Advisor Networks LLC"; (6) I have received the brochure titled "Important Information About Your Cetera Advisor Networks Relationship" and Cetera Advisor Networks' Consumer Privacy Notice; (7) I understand the account method for Pershing accounts will default to High Cost Long Term unless I instruct otherwise; and (8) I understand that this agreement contains a predispute arbitration clause that is fully set forth in paragraph 23 on page 8 of this form.

CLIENT SIGNATURE(S)

Printed Name of Authorized Person/Trustee/Executor	Signature of Authorized Person/Trustee/Executor	Date
Lincoln Bogard		
Printed Name of Add'l Authorized Person/Trustee/Executor	Signature of Add'l Authorized Person/Trustee/Executor	Date

FINANCIAL PROFESSIONAL & DESIGNATED SUPERVISOR SIGNATURES

Printed Name of Financial Professional	RR Number	Signature of Financial Professional	Date
Chris Bateman	AA05		
Printed Name of Designated Supervisor	OSJ Branch Number	Signature of Designated Supervisor	Date

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DEFINITIONS

ACCOUNT OBJECTIVE

Capital Preservation: An objective seeking to produce a return that is at least equal to inflation while avoiding extreme volatility and the risk of significant loss. Investments are not likely to increase significantly in value.

Income: An objective seeking to generate interest and dividends for current income. While not as risk averse as "capital preservation," there is no expectation of long-term capital appreciation in the value of the portfolio.

Total Return: An objective seeking portfolio returns through the combination of current income vehicles as well as investments with a capital appreciation goal. The value of the portfolio may vary and the value of certain investments within the portfolio may be more volatile than others.

Growth: An objective seeking appreciation in the value of the portfolio. Both the value of individual investments within the portfolio and the value of the overall portfolio are likely to fluctuate from time to time. While certain investments within the portfolio may generate current income, income is not the primary investment objective.

Aggressive Growth: An objective seeking maximum returns in the portfolio by selecting investments with the greatest perceived opportunities for growth and price appreciation. The value of individual investments within the portfolio, as well as the portfolio as a whole, will likely experience significant fluctuation in value.

RISK TOLERANCE (presented from lowest to highest risk)

Conservative: Describes an investor who seeks to preserve the portfolio's value by investing in lower risk investments and is willing to forgo greater upside potential to protect the portfolio value.

Moderately Conservative: Describes an investor who seeks to preserve a large portion of the portfolio's total value and minimize volatility, but is willing to take on modest risk to outpace inflation.

Moderate: Describes an investor who seeks modest growth and is willing to accept more risk and investment fluctuation.

Moderately Aggressive: Describes an investor who seeks to outperform broad market indices when the market is up and, conversely, accepts lower returns than those same market indices when the market is down.

Significant Risk: Describes an investor who aggressively seeks maximum return and accepts being exposed to the risk of significant volatility and decreases in the value of the portfolio.

OTHER DEFINITIONS

Government ID: Driver's license, passport, state issued ID card, or military ID.

Politically Exposed Person: A person who has been entrusted with a prominent public function somewhere other than the United States. Sometimes known as a Senior Foreign Political Figure as defined by the U.S. Patriot Act.

Net Worth: Assets minus liabilities.

Adjusted Net Worth: Net Worth minus primary residence.

Liquid Net Worth: Adjusted Net Worth minus assets not readily convertible to cash.

Account Liquidity Needs: The amount of money from this account that is needed in cash or readily convertible to cash over the next three (3) years.

Account Time Horizon: The expected number of months, years or decades a customer plans to invest to achieve a particular financial goal.

Other Relevant Financial Information: Any financial-related information provided by the client that is not otherwise recorded in previous sections of this document.

ACCOUNT AGREEMENT

In consideration of opening one or more accounts on my behalf, and with respect to any type of transaction that I may have with Cetera Advisor Networks LLC (Cetera Advisor Networks), I agree as follows:

1. **Meaning of Words in this Agreement.** The words, "I" and "me" refer to each of the account owners. The words "you" and "your" refer to Cetera Advisor Networks.
2. **Authority and Ownership.** I have the required legal capacity, am authorized to enter into this agreement, and have obtained and will provide you with all necessary authorizations from third parties to open accounts and effect transactions in securities under this agreement. I will be the owner of all securities purchased, held and sold by me through you. Checks should be made payable only to the sponsor or Pershing LLC, a subsidiary of The Bank of New York Mellon Corporation (Pershing).
3. **Joint Accounts.** If this is a joint account, I understand that you will follow the instructions of any one of us without obtaining the consent of any other. All of us will be fully liable for any amounts due to you under this agreement. Upon the death of any one of us, you will treat the property in the account as belonging to the other(s), unless I notify you differently and provide such legal documentation as you require.
4. **Appointment of Cetera Advisor Networks as Agent.** I appoint you as my agent for the purpose of carrying out my directions with respect to the purchase or sale of securities. To carry out your duties, you are authorized to open or close brokerage accounts, place and withdraw orders, provide information to third parties and take such other steps as are reasonable to carry out my directions.
5. **Financial Professional Compensation.** Your financial professional receives different compensation in connection with purchases and sales of different investments. We pay financial professional a portion of the commissions, sales charges, and other revenue that they produce in connection with transaction that you execute. In general, the more total revenue a financial professional produces in a given year, the greater the percentage of the revenue they receive. Please see our Supplemental Disclosure for additional information.
6. **Ongoing Relationship.** By opening an account with Cetera Advisor Networks, I acknowledge that I am establishing an ongoing relationship with Cetera Advisor Networks. This relationship entitles me to receive a variety of services, including but not limited to, investment services, education, information and reports. I understand and agree that by requesting that Cetera Advisor Networks provide me with such services, that I may receive email communications that confirm my trades, provide me with account statements, describe investment opportunities, make inquiries and offer me other important information, and opportunities and ideas related to my account or financial affairs. I agree that communication is a required element of the provision of these services and expressly authorize Cetera Advisor Networks to contact me electronically or otherwise to deliver these services in connection with our investment relationship.
7. **Force Majeure.** You shall not be liable for loss or delay caused directly or indirectly by war, natural disasters, government restrictions, exchange or market rulings, or other conditions beyond your control.
8. **Identification Verification.** To help the government fight the funding of terrorism and money laundering activities, Federal law requires all financial institutions to obtain, verify, and record information that identifies each person who opens an account. What this means to me: When I open an account, you will ask for my name, address, date of birth and other information that will allow you to identify me. You may also ask to see my driver's license or other identifying documents.
9. **No Advice.** I understand that you provide no tax, legal, or accounting advice. I understand that you provide no investment advisory services except such services that are independently contracted for under an Advisory Services Agreement. All transactions will be done only on my order or the order of my authorized delegate as described in paragraphs 2 and 3.

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10. Stocks, Bonds and Options.

(A) **Relationship with Clearing Agent.** I understand that you will apply to a Clearing Agent for my stock, bond, or option account. I understand and agree that Clearing Agent may refuse to accept or carry my account or to process any transaction that I may wish to effect. You may share with, remit to, or otherwise pay Clearing Agent for its services from commissions and/or fees charged.

(B) **Margin Loans and Options.** I understand and agree that margin loans, if any, provided to me through you will be made by Clearing Agent and not Cetera Advisor Networks and that I will comply with all requirements which Clearing Agent may impose with respect to such loans. I will not request that any transaction in options be effected for my account unless each request is in compliance with Clearing Agent's options compliance program.

(C) **Annual Fees and Other Service Charges.** I understand that annual fees and other service charges for inactive accounts, IRA, or pension accounts will be applied by Clearing Agent.

11. Restricted Securities. I will not buy or sell any securities of a corporation of which I am an affiliate, or sell any restricted securities except in compliance with applicable laws and regulations.

12. Handling of Funds. I acknowledge that this firm has a policy of reviewing and approving (i) customer applications for new accounts, and (ii) customer transactions of certain product types before my application and payment are forwarded to the firm's carrying broker-dealer or the product issuer, as applicable. Such reviews may take up to seven business days after the principal reviewer receives my complete and correct application for this transaction. During this supervisory review, the firm will safeguard my payment, but my funds will not be deposited or invested.

13. Indebtedness to Cetera Advisor Networks. Upon the purchase or sale of any security, if you are unable to settle the transaction by reason of my failure to make payment or deliver securities in good form, I authorize you to take steps necessary to complete or cancel the transaction to minimize loss, and I agree to reimburse you for any and all costs, losses, or liabilities incurred by you, including attorneys' fees. In the event I become indebted to you in the operation of this account, I agree that I will repay such indebtedness upon demand. I agree that if, after demand, I fail to pay the indebtedness, you may close my account and/or liquidate any assets in my account, or otherwise held by you, in an amount sufficient to pay my indebtedness.

14. Sweep Options. I authorize you to settle any obligations I owe to you by transferring funds from my sweep option balances. I acknowledge that any transaction proceeds owed to me and any uninvested funds in any account will automatically be invested in the sweep option I have chosen. I acknowledge receipt of a prospectus or FDIC sweep disclosure statement for the sweep option I have chosen.

15. Access to Information. You may provide non-affiliated third parties with information if: (i) it is required by law or by rules or regulations relating to you or financial institutions you have contracted with to provide financial services (such as regulations that require you to provide banks, thrifts, credit unions and/or their related service corporations with customer information the institution needs to monitor compliance issues); (ii) it is necessary for you to communicate such information to process a financial transaction for me or provide a product or service that I have requested; or (iii) otherwise permitted by law or Cetera Advisor Networks' Consumer Privacy Notice.

16. Amendments and Termination. You may amend this agreement at any time in any respect, effective upon notice to me. You may, at your discretion, terminate this service at any time, effective upon notice to me. I will continue to be responsible for any obligations incurred by me prior to termination.

17. Governing Law. This agreement and any disputes, controversies or claims arising out of or related to this agreement shall be governed by the applicable laws of the state of California and applicable federal law.

18. Review and Indemnification. I have reviewed the terms and conditions of this agreement including all information contained within this document. I hereby verify that all the information provided is true and correct and may be relied upon by you for the purposes of evaluating my suitability and sophistication in relation to making securities recommendations. Further, I hereby indemnify you for any loss, claims or damages, including legal fees, which you may incur as a result of any securities recommendations or any securities related violations resulting from your reliance upon the information I have provided. I also acknowledge my responsibility to read the prospectus of any mutual fund/direct participation program, and/or public offering sold by prospectus, which contains complete information regarding investment objectives, risks and other material facts, including sales charges.

19. FINRA Public Disclosure. To receive information concerning the licensing status and/or disciplinary record of a broker-dealer or agent, contact FINRA at the following toll-free number 800.289.9999, or the website address at www.finra.org.

20. SIPC Public Disclosure. Cetera Advisor Networks is a member of the Securities Investor Protection Corporation (SIPC). I can obtain information about SIPC, including a brochure, by contacting SIPC at 202.371.8300 or on their website at www.sipc.org.

21. Other Information. For more information concerning investments and other important disclosures about your business, I can visit your website at www.ceteraadvisornetworks.com.

22. Relationship with Non-Affiliated Registered Investment Adviser. If I have an advisory agreement with a registered investment advisor in relation to the account(s) being established by this agreement that is not affiliated with Cetera Advisor Networks, I understand that I am establishing a brokerage account(s) with Cetera Advisor Networks for the purpose of executing transactions, holding funds and securities, and to perform other investment-related functions through Pershing LLC. As a result, the "Relationship Type" selected above may be contrary to the terms of my investment advisory agreement with the registered investment adviser, which may include active management and ongoing advice and monitoring.

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23. Arbitration Clause. THIS AGREEMENT CONTAINS A PREDISPUTE ARBITRATION CLAUSE. BY SIGNING AN ARBITRATION AGREEMENT, THE PARTIES AGREE AS FOLLOWS:

(A) ALL PARTIES TO THIS AGREEMENT ARE GIVING UP THE RIGHT TO SUE EACH OTHER IN COURT, INCLUDING THE RIGHT TO A TRIAL BY JURY, EXCEPT AS PROVIDED BY THE RULES OF THE ARBITRATION FORUM IN WHICH A CLAIM IS FILED.

(B) ARBITRATION AWARDS ARE GENERALLY FINAL AND BINDING; A PARTY'S ABILITY TO HAVE A COURT REVERSE OR MODIFY AN ARBITRATION AWARD IS VERY LIMITED.

(C) THE ABILITY OF THE PARTIES TO OBTAIN DOCUMENTS, WITNESS STATEMENTS AND OTHER DISCOVERY IS GENERALLY MORE LIMITED IN ARBITRATION THAN IN COURT PROCEEDINGS.

(D) THE ARBITRATORS DO NOT HAVE TO EXPLAIN THE REASON(S) FOR THEIR AWARD UNLESS, IN AN ELIGIBLE CASE, A JOINT REQUEST FOR AN EXPLAINED DECISION HAS BEEN SUBMITTED TO ALL PARTIES TO THE PANEL AT LEAST 20 DAYS PRIOR TO THE FIRST SCHEDULED HEARING DATE.

(E) THE PANEL OF ARBITRATORS WILL TYPICALLY INCLUDE A MINORITY OF ARBITRATORS WHO WERE OR ARE AFFILIATED WITH THE SECURITIES INDUSTRY.

(F) THE RULES OF SOME ARBITRATION FORUMS MAY IMPOSE TIME LIMITS FOR BRINGING A CLAIM IN ARBITRATION. IN SOME CASES, A CLAIM THAT IS INELIGIBLE FOR ARBITRATION MAY BE BROUGHT INTO COURT.

(G) THE RULES OF THE ARBITRATION FORUM IN WHICH THE CLAIM IS FILED, AND ANY AMENDMENTS THERETO, SHALL BE INCORPORATED INTO THIS AGREEMENT.

I AGREE THAT ANY DISPUTE BETWEEN YOU AND ME ARISING OUT OF THIS AGREEMENT SHALL BE SUBMITTED TO ARBITRATION CONDUCTED UNDER THE THEN APPLICABLE PROVISIONS OF THE CODE OF ARBITRATION PROCEDURE OF FINRA. ARBITRATION MUST BE COMMENCED WITHIN THE APPLICABLE STATUTE OF LIMITATIONS. THE ARBITRATION AWARD SHALL BE FINAL AND JUDGMENT MAY BE ENTERED ON THE AWARD IN ANY COURT, STATE OR FEDERAL, HAVING JURISDICTION.

No person shall bring a putative or certified class action to arbitration, nor seek to enforce any pre-dispute arbitration agreement against any person who has initiated in court a putative class action; or who is a member of a putative class who has not opted out of the class with respect to any claims encompassed by the putative class action until: (i) the class certification is denied; or (ii) the class is decertified; or (iii) the customer is excluded from the class by the court. Such forbearance to enforce an agreement to arbitrate shall not constitute a waiver of any rights under this agreement except to the extent stated herein.

24. Exempt Payee Code. Generally, individuals (including sole proprietors) are not exempt from backup withholding. Corporations are exempt from backup withholding for certain payments, such as interest and dividends. Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transaction.

Note. If you are exempt from backup withholding, you should still complete this form to avoid possible erroneous backup withholding.

The following codes identify payees that are exempt from backup withholding:
1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
2—The United States or any of its agencies or instrumentalities
3—A state, the District of Columbia, a possession of the United States, or any of their political subdivisions or instrumentalities
4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
5—A corporation
6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a possession of the United States
7—A futures commission merchant registered with the Commodity Futures Trading Commission
8—A real estate investment trust
9—An entity registered at all times during the tax year under the Investment Company Act of 1940
10—A common trust fund operated by a bank under section 584(a)
11—A financial institution
12—A middleman known in the investment community as a nominee or custodian
13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	**THEN the payment is exempt for . . .**
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over $600 required to be reported and direct sales over $5,001	Generally, exempt payees 1 through 5
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

25. FATCA Exemption Code. This code applies to accounts maintained outside of the United States by certain foreign financial institutions, and the field may be left blank for accounts maintained in the United States.

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Exhibit A

ERISA Terms and Conditions

For brokerage or direct accounts (i.e., non-advisory) that are subject to the Employee Retirement Income Security Act of 1974 (ERISA), please see this Exhibit A. For advisory accounts, please also see the corresponding advisory client agreement.

This Exhibit provides a description of the services that Cetera Advisor Networks (Firm) provides under this Agreement with respect to your retirement plan (RP) and the compensation that we receive in connection with these services and the compensation received by us in connection with these services, as required by Employee Retirement Income Security Act of 1974, as amended (ERISA).

The Firm

The Firm provides certain services on behalf of your RP as described below in "Description of Services." These services are provided by your financial professional as a registered representative of the Firm.

Description of Services

We provide brokerage-related services and other related assistance (Brokerage-Related Services) that are intended to assist you with your responsibilities as the sponsor and fiduciary of your RP. These services entail providing certain related brokerage services, such as effecting mutual fund, group variable annuity, and/or separate account product transactions in connection with investments in the RP's investment options.

Our services may also include, as applicable, assisting you with the maintenance of an investment policy statement for the RP, education with respect to available investments for the RP's menu of investment options, assisting you with the monitoring of the selected investment options, and providing education for your employees. We may also provide related ancillary assistance concerning the RP's ongoing administration and operation. All Brokerage-Related Services are non-discretionary in nature, and we do not have discretionary investment management authority or control over the RP's assets or any participant's investments under the RP.

Direct Compensation Payable to the Firm from the RP

The Firm does not receive any compensation directly from your RP.

The Firm charges fees and other related expenses for maintaining the RP's brokerage account (Brokerage-Related Fees). The Firm uses a portion of these payments to compensate Pershing LLC for performing custody and related securities clearing services for the RP's brokerage account as described below in "Compensation Paid Among Related Parties." The Firm's Brokerage-Related Fees are provided in the "Pershing Brokerage-Related Charges and Fees" table at the Firm's Internet website at the following website address: https://myceterasmartworks.com/Public/Portal/Content.aspx?ContentId=1018492.

The Firm charges commissions for effecting securities transactions (Commissions) through the RP's brokerage account. The Firm uses a portion of these payments to compensate Pershing for performing trade execution and related securities clearing services for the RP's brokerage account as described below in "Compensation Paid Among Related Parties."

The Firm's current schedules are provided in the "Representative Commission Schedule" and "Pershing Brokerage-Related Charges and Fees" schedule, both of which are available at the website address stated above.

Indirect Compensation Payable to the Firm from Sources Other Than the RP or the RP Sponsor

Indirect compensation includes commissions, trails, and any revenue sharing payments made to the Firm by the issuer of the mutual fund or group annuity, and/or separate accounts as applicable, that are paid directly from the assets of the issuer, and are not deducted from the RP's assets invested in the mutual fund, group annuity, and/or separate accounts or from the RP's account.

If your RP is funded via a group variable annuity contract:

As a registered broker-dealer, the Firm receives payments from the issuer of the RP's variable annuity contract (Variable Annuity) or one of its affiliates (Issuer) as indirect compensation for the Brokerage-Related Services provided on behalf of the RP, including certain related brokerage services, such as effecting securities or variable annuity product transactions in connection with investments in the RP's investment options. Such indirect compensation includes commissions payable from the Issuer.

Commissions may be deposit-based (i.e., based on new purchase amounts under the Variable Annuity) or asset-based (i.e., based on the total investment under the Variable Annuity), and they may be charged on an ongoing basis or for only a fixed period. These commission payments are made from the Issuer's assets, and they do not reduce the amount invested by the RP or the RP's investment earnings. (Investments under the Variable Annuity are subject to charges that are not payable to the Firm, such as withdrawal charges and other fees payable to the Issuer as described in the Variable Annuity contract prospectus.) The amount of any commissions payable from the Issuer of the Variable Annuity to the Firm is described in the plan agreement. These payments are not shared with any entities affiliated with Firm or with any other entities.

The Firm receives certain revenue sharing payments from third-party firms, including plan recordkeeping platforms as well as investment managers of mutual funds and the issuers of annuities. These firms participate in activities that are designed to help facilitate the distribution of their products and services, such as marketing activities and educational programs, including attendance at conferences and presentations to the Firm's financial professional. These revenue sharing payments are paid by American Funds Retirement RPs, Ameritas, Empower Retirement, John Hancock Retirement RPs, J.P. Morgan, Lincoln Financial Group Retirement RPs, Nationwide Retirement RPs, Principal Financial Group, Securian Financial Retirement RPs, Transamerica Retirement RPs, and Voya Financial Retirement RPs in the form of a fixed dollar amount between $75,000 and $150,000 per year, that does not depend on the amount of the RP's investment in any product or utilization of any third-party firm's administrative services. Such third-party firms may also pay the Firm's expenses, or provide non-cash items and services, to facilitate training and educational meetings for the Firm's financial professionals, which similarly do not depend on the amount of the RP's investment in any product or utilization of any third-party firm's administrative services.

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If your RP is a plan that uses investment funds:

As a registered broker-dealer, the Firm may receive payments from any investment funds (Funds) held by the RP as indirect compensation for the Brokerage-Related Services provided on behalf of the RP, including certain related brokerage services, such as effecting securities transactions in connection with investments in the RP's investment options. Funds may include mutual funds and other similar investment products.

When the RP invests in a Fund that is a mutual fund, such compensation may include 12b-1 fees paid by the Funds for providing distribution-related services as well as administrative and informational services, as applicable, to the RP. The 12b-1 fees paid by an applicable mutual fund are described in its prospectus. Depending on the particular share class, the purchase of Fund shares by the RP may be subject to a front-end sales charge, resulting in additional compensation for the Firm as described in the Fund's prospectus. (Investments in the Fund may be subject to other charges that are not payable to the Firm, such as a contingent deferred sales charge payable to a Fund affiliate as described in the Fund's prospectus.) For more information, please refer to the relevant mutual fund prospectuses previously provided to you and which are generally available at the relevant Fund's website.

When the RP invests in any Fund (which may or may not be a mutual fund), the Firm may receive separate compensation payable from the issuer or manager of the Fund or one of its affiliates (Manager). Such compensation, also referred to as revenue sharing, is paid from the Manager's assets and does not reduce the amount invested by the RP or the RP's investment earnings. The amount of any revenue sharing payments from the Manager of any of the RP's Funds is described below in the "Revenue Sharing Payment Table."

Revenue Sharing Payment Table		
One-time Payment Based on Sales Amount (bps* range)	**Name of Fund Family**	
5 – 25 bps	Fidelity Advisors Invesco Pacific Life PIMCO	Putnam Transamerica Mutual Funds

Ongoing Annual Payment Based on Assets (bps*)	**Name of Fund Family**	
2 – 9 bps	American Funds Blackrock Fidelity Advisors First Trust Franklin Templeton John Hancock	Lord Abbett Pacific Life PIMCO Putnam Wisdom Tree** Global X**
10 – 15 bps	Amundi Pioneer Columbia Management DWS Asset Management Eaton Vance Federated Goldman Sachs Invesco	JP Morgan New York Life Mainstay PGIM Virtus Investment Partners Voya Investment Management

*Revenue Sharing is calculated using basis points. One basis point equals .01%. For example, 10 bps on $100,000 of assets equals $100.
** Wisdom Tree and Global Ex have a blended rate which combines a flat asset-based fee and a percentage of the funds' net expense ratio (i.e., 15% for Global X and 25% for Wisdom Tree).

The estimated rate of revenue sharing payments received from each applicable fund family is generally indicated in the table above. These payments may not be made or may be paid at a lower rate than as noted above, in the case of certain share classes, asset classes or specific fund types, such as money market funds. Additional information is available upon request as may be required by an authorized fiduciary of the RP for regulatory reporting purposes.

The Firm may also receive certain revenue sharing payments from third-party firms, including plan recordkeeping platforms as well as investment managers of mutual funds and the issuers of annuities. These firms participate in activities that are designed to help facilitate the distribution of their products and services, such as marketing activities and educational programs, including attendance at conferences and presentations to the Firm's financial professionals. These revenue sharing payments are paid by American Funds, Ameritas, Empower, John Hancock, J.P. Morgan, Lincoln Financial Group, Nationwide, Principal Financial Group, Securian Financial, Transamerica, and Voya Financial in the form of a fixed dollar amount between $75,000 and $150,000 per year, in the form of a fixed dollar amount that does not depend on the amount of the investment in any product or utilization of any third-party firm's administrative services. Such third-party firms may also pay the Firm's expenses, or provide non-cash items and services, to facilitate training and educational meetings for the Firm's financial professionals, which similarly do not depend on the amount of the investment in any product or utilization of any third-party firm's administrative services.

Certain plan program providers offer a mutual fund platform whereby the Firm receives levelized commission-based compensation (as agreed upon between the Firm and the plan) across all of the plan's investments. If your plan's provider provides for such levelized payments, typically a third-party affiliate of the recordkeeper or custodian acts as the broker-dealer of record as opposed to the Firm (because the Firm is not the broker-dealer of record, it does not receive the 12b-1 fees or revenue sharing payments referenced in this Notice). The Firm, in turn, acts as an agent of either the recordkeeper or the broker-dealer of record (collectively the "Third-Party Provider"). The Third-Party Provider pays the Firm its respective indirect compensation from the Third-Party Provider's general revenues.

Important Information
The information included in this Notice is not intended to replace or modify any existing or prospective agreement relating to the RP.

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IMPORTANT INFORMATION REGARDING YOUR RELATIONSHIP WITH US

JULY 2025

Dear Valued Client:

Thank you for your business. We appreciate our relationship with you and want to help you understand the services we and/or our affiliates provide, how we are compensated, and the product and service alternatives that are available to you as part of your relationship with us. We would also like to provide you with information regarding conflicts of interest that exist between you, our firm, and our affiliated Financial Professionals when we provide advice and services to you. When we use the terms "Us," "Our," or "We" in this document, they refer to Cetera Wealth Services, LLC, our affiliated companies as a group, and includes our individual Financial Professionals. If that is not the case or the context otherwise requires, we will say so.

At or prior to the time when you receive this document, we will have also provided you with a document entitled "Form CRS." The Form CRS includes important information about Cetera Wealth Services and the services we provide, and is intended to be read and understood in conjunction with the information set forth below. All of this information is also available on our website at https://cetera.com/cetera-wealth-services/disclosures. If you have questions about your account or how we can further assist you, please contact your Financial Professional or ds@ceteranetworks.com.

1. INTRODUCTION

We provide securities brokerage, investment advice for a fee, and insurance services to you through one or more of our affiliated companies. We offer these services through individuals whom we refer to as "Financial Professionals." Your Financial Professional is licensed with us to provide services through one or more of our affiliates. (Please see the list of our affiliated companies below.) Some of our affiliated companies offer products or services that others do not. Our broker-dealers are all members of the Financial Industry Regulatory Authority (FINRA) and the Securities Investor Protection Corp. (SIPC).

Our affiliated broker-dealers are: Cetera Wealth Services, LLC; Cetera Advisors LLC; Cetera Investment Services LLC; Cetera Financial Specialists LLC; and Avantax Investment Services, Inc.

Our affiliated insurance agencies are: Cetera Advisors, LLC; Cetera Investment Services, LLC; Cetera Financial Specialists, LLC; First Allied Securities, Inc.; Cetera Insurance Agency, LLC; Cetera Advisor Networks Insurance Services, LLC; and Cetera Advisors Insurance Services, LLC.

We have delivered a document entitled "Form CRS" to you, either with this disclosure or separately. The Form CRS describes the services that we offer to customers through Financial Professionals who are affiliated with us. Each Financial Professional offers a combination of services, including securities brokerage or investment advisory services, and in most cases both. Depending on the nature of the services we deliver to you, those services will be provided through one or more of our affiliated companies that are listed above. For example, if you maintain a brokerage account, it will be with Cetera Wealth Services and our clearing brokers, Pershing LLC (Pershing) and National Financial Services LLC (NFS). If you maintain an investment advisory account, it will be with one of our RIA affiliates listed above. If you establish an advisory account with us or one of our RIA affiliates, we will furnish you with a Form ADV for that firm, which will describe the services it provides, the compensation we receive, and the relationship between your Financial Professional and the RIA. For more information about our investment advisory services, please see the Form ADV for Cetera Wealth Services at https://cetera.com/cetera-wealth-services/disclosures.

The majority of our Financial Professionals who provide investment-related services to customers are independent contractors and are not our employees. They are subject to our supervision and oversight with respect to their securities business, but many of them are also engaged in other business activities that we do not supervise, including sales of products or services that are not securities, through companies that are not related to us. We do not share in the revenue that they produce from those activities, and we do not review or endorse the products or services that they offer through them. Our Financial Professionals, who are independent contractors, offer securities brokerage and investment advisory services and receive compensation from us as described in more detail below. They pay their own operating expenses, including the cost of hiring support staff and office space.

Most of our Financial Professionals are licensed to provide both securities brokerage and investment advisory services. Some of them are licensed to offer only brokerage or only investment advisory services and some are licensed to sell only specific investment products.

If there are limitations on the products or services that your Financial Professional offers through us, he or she will give you additional information about those limitations and how they may affect you.

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Some of our Financial Professionals work in the offices of financial institutions such as banks or credit unions (Financial Institutions). In those cases, part of the compensation that you pay us for providing securities brokerage, investment advisory, or other services is paid to the Financial Institution at which your Financial Professional is located, based on a compensation formula agreed to between us, the Financial Professional, and the Financial Institution. The Financial Institution in turn either pays a portion of this compensation to your Financial Professional, or we pay a portion of the compensation attributable to the product or service provided directly to your Financial Professional. We have different financial and operational arrangements with each Financial Institution. Some offer different investment products and services than others, and each Financial Institution receives different types and amounts of compensation from us in connection with your accounts and the activity that takes place within them. In many cases, the amount that you pay us for investment products and services when we have an arrangement with a Financial Institution will be higher than you would pay if you established an investment or investment advisory account directly with us or another broker-dealer, investment adviser, or Financial Institution. If your Financial Professional operates in or is affiliated with a Financial Institution and you would like additional information about the relationship between your Financial Professional, the Financial Institution, and us, please ask your Financial Professional.

2. SERVICES THAT WE PROVIDE

We offer securities brokerage services, investment advisory services for a fee, and sales of certain non-securities investment products such as life insurance and fixed annuities.

2.1 Securities Brokerage Services

Securities brokerage involves purchases and sales of securities such as stocks, bonds and fixed income investments, mutual funds, and alternative investments such as private investment funds, non-traded real estate investment trusts (non-traded REITs), and non- traded business development companies (non-traded BDCs). We will recommend purchases or sales of securities to you for your approval, but all decisions regarding transactions in your account are made by you. If you choose to execute a transaction, we will be paid a fee or sales charge in connection with the transaction, often referred to as a commission. We also receive other types of ongoing compensation for so long as you own certain investment products. For example, we receive ongoing payments referred to as "12b-1" fees with respect to mutual funds, and "trail commissions" with respect to variable annuities and certain insurance products. For a more complete description of our compensation in connection with transactions in various types of investments, please see section 3, below.

Some customers wish to give their Financial Professional authority to execute transactions without consulting the customer. This is referred to as "exercising discretion" or having "discretionary authority". We do not offer this service in connection with brokerage relationships. If you would like to give your Financial Professional authority to exercise discretion and execute transactions on your behalf without your approval for each transaction, you must enter into an investment advisory relationship with us or an ORIA that your Financial Professional is affiliated with.

When we execute transactions for you in a brokerage account, we follow the instructions that you give us. We will offer recommendations about securities that you may wish to purchase or sell. You may also select securities on your own and execute those transactions through us. You will pay us sales charges or commissions for all transactions that you execute through us, whether we recommend them or you choose them yourself. We do not offer ongoing monitoring or advice with respect to transactions or investments in your brokerage account. If you would like us to monitor your investment holdings or provide ongoing advice with respect to them, you must establish an investment advisory relationship with us. If you purchase or hold mutual fund shares, we receive 12b-1 fees or other ongoing compensation in connection with them. 12b-1 fees are paid to us by sponsors of mutual funds, and are intended to finance distribution activities and result in the sale of additional shares of the mutual fund. 12b-1 fees and other compensation paid to us by mutual fund sponsors are not compensation to us for providing ongoing advice or monitoring in connection with any investment that you own.

2.2 Brokerage Accounts and Direct Holdings of Investments

In order to purchase stocks, Exchange-Traded Funds (ETFs), Exchange-Traded Products (ETPs) and most fixed income investments such as bonds and structured products or notes, you must establish a securities brokerage account with us. Certain investments, including mutual funds, annuities, and alternative investments, may also be held on your behalf by the product sponsor or one of their affiliates. These investments are referred to as "direct" or "directly held" on your behalf, and are not in a brokerage account.

You will incur certain charges in connection with maintaining a brokerage account, depending on the assets in the account and the services that you utilize. (Please see section 3, below). For example, we and Pershing or NFS charge annual maintenance fees, and have charges for preparation and delivery of transaction confirmations and account statements, wire transfers, and copies of documents. Investment sponsors do not generally charge account-related fees for custody of investments such as mutual funds, variable annuities or alternative investments that are directly held. Depending on the securities you own and the services you use, the cost of having your investments held directly at a product sponsor will likely be lower than holding the same assets in a brokerage account. There are advantages for customers in holding investments in brokerage accounts, including insurance coverage from the Securities Investor

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Protection Corp., (SIPC), ease of executing transactions, and receiving reports aggregating all of the transaction activity and holdings of multiple investments from a single source. Please consult with your Financial Professional about the costs, advantages, and disadvantages of holding securities in a brokerage account in comparison to direct holdings.

2.3 Investment Advisory Services

We also offer investment advisory services in which we give you advice and/or manage your portfolio of securities in exchange for a fee that is based upon the value of the assets under management, a fixed or hourly fee, or a combination of both. Investment advisory services may include financial planning, for which we charge a fixed or hourly fee. We offer several different types of investment advisory programs. In some of them, your Financial Professional will give you advice and execute transactions based on his or her own methodology. In other cases, your Financial Professional may recommend that you utilize the services of another investment manager (a "third-party asset manager" or "TPAM") to select or manage some or all your investments. If you choose to utilize the services of a TPAM, you will pay for their services in addition to ours. All of our advisory programs have minimum investment amount requirements. In our sole discretion, we may waive the minimum investment requirement.

2.4 Insurance Products and Services

We also offer insurance products such as life insurance and fixed annuities. Some insurance products such as variable annuities and variable life insurance are also considered to be securities and are sold through Cetera Wealth Services. Fixed insurance, including whole life, term life, and fixed-indexed and equity-indexed annuities that are not securities are sold through Cetera Wealth Services or one of our affiliated insurance agencies. When you purchase fixed insurance products through us, we receive sales charges or commission payments from the insurance carrier that issued the policy. In most cases, we also receive ongoing payments from the insurance company for as long as the policy stays in force. Some of our Financial Professionals also offer insurance products through other agencies or companies that are not affiliated with us. We do not review or supervise the insurance products they offer through other companies or share in the revenue that they produce from those transactions. In some cases, the cost and/or compensation payable to your Financial Professional will be greater if you purchase a fixed insurance product through a company other than us.

If you would like additional information regarding fixed insurance products, please consult with your Financial Professional.

3. SCOPE AND TERMS OF OUR RELATIONSHIP WITH YOU

We are registered with the Securities and Exchange Commission (SEC) as both a broker-dealer and an RIA. Our brokerage and investment advisory services and fees differ, and it is important for you to understand these differences. Free and simple tools are available for you to research firms and Financial Professionals at Investor.gov/CRS, which also provides educational materials about broker-dealers, investment advisers, and investing.

Depending on your needs and your investment objectives, we may assist you with brokerage services, investment advisory services, or both. There are important differences between brokerage and advisory services, including their costs, the services we provide, and the rules that govern them. You should carefully consider these differences when deciding which type, or combination of types of services and accounts are right for you. Information regarding the differences between our brokerage and advisory services is also available in our Form CRS, which is available at https://cetera.com/cetera-wealth-services/disclosures.

3.1 Our Capacity

All recommendations made by your Financial Professional regarding your brokerage account or directly-held investments will be made in our capacity as a broker-dealer, and all recommendations made in connection with our advisory programs will be made in our capacity as an investment adviser. If a Financial Professional is limited to making recommendations in either a broker-dealer capacity or investment advisory capacity only, they will provide you with a written summary before making a recommendation to you. For example, even though we offer both brokerage and advisory services, some of our Financial Professionals are only able to offer brokerage services with respect to certain types of investments such as mutual funds and variable insurance products, or only investment advisory services. In that situation, your Financial Professional would only be able to act in the capacity for which they are licensed or otherwise qualified.

3.1.1 Broker-Dealer Capacity

In our capacity as a broker-dealer, we can recommend and effect securities transactions for you, including buying and selling securities (including investment funds and other products) that can be held in your brokerage account or directly with an investment sponsor. We offer many different options of account types for your brokerage account, including accounts held at Pershing and/or NFS, our clearing

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firms, direct accounts, education accounts (often referred to as "Section 529 Plans"), Individual Retirement Accounts (IRAs), and certain specialty accounts such as margin and option accounts. In some cases, the custodian of your IRA account will not be the same entity as the trustee.

In addition, we offer the option to hold uninvested cash in your brokerage account in either money market mutual funds or bank accounts insured by the Federal Deposit Insurance Corporation (FDIC). These options are both referred to as "Cash Sweep Vehicles," and are described in more detail in section 11, below. We do not have any minimum dollar or value requirements to establish a brokerage account, but some of the investments you can purchase through us have minimum investment requirements. More information about minimum investment requirements applicable to specific investments is available in the offering document or prospectus.

We provide a number of services related to investments in securities, including taking customer orders, executing securities transactions, and providing general information regarding your investments. Our Financial Professionals also provide recommendations concerning whether to buy, sell, or hold securities. Our Financial Professionals do not make investment decisions for you or manage your brokerage account on a discretionary basis. Because our Financial Professionals do not have discretionary investment authority in brokerage accounts, this means that we cannot buy or sell investments in your brokerage account without first obtaining your consent. Our Financial Professionals may recommend investments to you, but you are responsible for making the decision about whether to purchase or sell investments, and we will only purchase or sell investments when specifically directed by you. Our Financial Professionals do not monitor your account after a securities transaction is affected for you, including those investments they recommend to you.

When we act in our capacity as a broker-dealer, we are subject to the Securities Act of 1933 and the Securities Exchange Act of 1934, as amended, the rules of self-regulatory organizations such as the Financial Industry Regulatory Authority, Inc. (FINRA), and applicable state laws.

With respect to purchases and sales of equity securities such as common and preferred stocks, we execute transactions for you as your agent. We do not hold an inventory of equity securities for purchase by or from our customers. Pershing and NFS act as "market-makers" for certain equity securities such as common stocks, and if you place an order to purchase or sell one of them, Pershing or NFS may purchase or sell it to you as a "principal," which means that they are buying or selling it to you from their own inventory. If Pershing or NFS acts as a principal with respect to a transaction in your brokerage account, they will notify you.

With respect to most transactions in fixed-income investments such as bonds and notes, we execute transactions for you as a principal. This means that instead of acting exclusively as your agent in executing a transaction on an exchange or through a dealer and receiving a sales charge or commission, we purchase or sell the investment directly to you or from you. If we purchase an investment for you as a principal, we purchase it from a third party and then sell it to you, for which you will pay us a fee called a "markup", which is added to the price that you pay us to purchase the investment. If you sell a fixed income investment, you will pay us a fee called a "markdown", which is subtracted from the proceeds of the sale. Markups and markdowns are compensation to us for executing principal transactions. There may be other charges and fees associated with a transaction in addition to the markup or markdown. In most cases, we act as a "riskless" principal. As a riskless principal, we buy or sell investments directly to or from you, but we do not generally maintain an inventory of securities for sale or in anticipation of selling them to customers. If you give us an order to purchase or sell a security, we purchase or sell it from a third party and apply a markup or markdown.

3.1.2 Investment Adviser Capacity

As an investment adviser, we provide investment advice to you for a fee, including advice with respect to particular investments, as well as "wrap-fee" and other investment advisory programs. We also place orders for you as an investment adviser through a brokerage account with us or through a brokerage account at another broker-dealer. When we act in our capacity as an investment adviser, we will generally do so pursuant to a written agreement with you that sets forth the terms of the investment advisory relationship and our obligations to you.

At the outset of our investment advisory relationship with you, you will receive a disclosure document that describes our investment advisory services and includes important information about, among other things, our fees, personnel, other business activities, and conflicts between our interests and yours. More information about our investment advisory services, fees and costs, and conflicts of interest is available in our Form ADV, Part 2A brochure, which is available at https://cetera.com/cetera-wealth-services/disclosures.

3.1.3 Brokerage Services

Our Financial Professionals can recommend and we can effect securities transactions for you, including the buying and selling of securities in brokerage accounts, directly held accounts, education accounts, IRA accounts, or margin and option accounts. Our brokerage services include recommendations concerning whether to buy, sell, or hold securities. Our services also include recommendations of investment strategies involving securities, which includes recommendations of account types, investment strategies, and rollovers or

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transfers of assets, such as rolling over workplace retirement plan assets into an IRA account. In addition, our brokerage services include certain margin account services, where you are extended credit (a loan) for the purpose of buying securities.

3.2 Our Investment Philosophy

The majority of our customers are middle-income to high-income individuals who are primarily seeking to invest to increase their financial resources, meet retirement, education, and other similar funding goals, and to invest for legacy purposes. We offer a wide range of investment products and investment strategies that we believe best match the profile of our customer base. We offer securities brokerage and investment advisory service to institutional investors, but they represent a small portion of our overall client base.

We have an obligation to act in your best interest when making recommendations with respect to investments and investment strategies involving securities. We require our Financial Professionals to have a reasonable basis, taking into account the potential risks, rewards, and costs associated with an investment recommendation, to believe that the recommendation made to a customer is in their best interest and does not place the interest of the broker-dealer or the Financial Professional ahead of the interest of the customer at the time the recommendation is made. In determining whether a recommendation is in the customer's best interest, we consider the customer's individual investment profile, which includes but is not limited to their age, other investments, financial situation and needs, tax status, investment objectives, investment experience, investment time horizon, liquidity needs, risk tolerance, and other information that they disclose to us.

3.3 Material Limitations

Given the wide range of our brokerage services, we do not have many material limitations on the type and scope of our services. For instance, we do not limit our investment offerings to specific asset classes or to a select group of issuers, nor do we offer any investments issued, sponsored, or managed by us or our affiliates. Notwithstanding the wide range of our brokerage services, there are certain material limitations on our services and the services of our Financial Professionals, including the following:

Financial Professional Limitations: Not all of our Financial Professionals can offer the full range of investments and services that we offer. For instance, some of our Financial Professionals are licensed to offer brokerage services only, whereas others are licensed to offer only investment advisory services. In addition, some of our Financial Professionals are licensed to offer only certain types of investments, such as mutual funds, and are unable to offer the full range of investments that we make available. If your Financial Professional is subject to any such limitations, they will inform you prior to the time when they make an initial investment recommendation to you. This is a material limitation on the securities or investment strategies that your Financial Professional may recommend to you, and you should discuss the impact that it may have on your relationship with you Financial Professional. In addition, you may research both us and your Financial Professional's experience and licenses on FINRA's BrokerCheck website at https://brokercheck.finra.org/.

- *Investment Limitations:* While we offer a wide range of investments, there are certain types of investments we do not offer. For example, we do not offer all mutual funds from every mutual fund company issuer or every type of ETF. We also do not offer every type of insurance product or education savings plan. This means that our Financial Professionals are limited to recommending only those investments that we have chosen to offer. This is a material limitation on the securities or investment strategies that our Financial Professionals may recommend to you.

- *Account Monitoring:* Our Financial Professionals do not monitor your brokerage or direct account after effecting a securities transaction for you, including those investments that our Financial Professionals recommend, unless you specifically request that we do so and we agree in writing to provide such monitoring. We only offer ongoing monitoring of your investments in an investment advisory arrangement.

- *Discretionary Investment Authority:* Our Financial Professionals do not make investment decisions for you or manage your brokerage account on a discretionary basis. Because our Financial Professionals do not have discretionary investment authority, this means that we cannot buy or sell investments in your account without first obtaining your consent. Our Financial Professionals may recommend investments to you, but you are responsible for making the decision whether to purchase or sell investments, and we will only do so when specifically directed by you.

- *Commissions and Fees:* We are a full-service brokerage firm, and not a "discount" firm. Many discount brokerage firms offer lower fees than we do for providing similar services. Fees and charges for our services are described below, and we have a standard schedule for commissions payable in connection with transactions in securities traded on exchanges and fixed income securities traded over-the counter. Most of our fees and charges are not negotiable, although in some instances Financial Professionals may offer discounts off of published rates for transactions in securities traded on exchanges and fixed income securities traded over-the counter.

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3.4 Fees and Costs

This section provides information about the material fees and costs associated with your account, transactions, and holdings. Because our fees vary depending on the specific transaction or service provided, the information below first describes the fees and costs associated with your account, and then the fees and costs associated with transactions and investment holdings that our Financial Professionals may recommend.

Fees and Costs Associated with An Account

You must first open an account with us to use our brokerage services. We offer an array of account types with different features and benefits that are intended to address different needs and objectives of our retail customers. When opening an account with us, you may choose between many different options or account types for your brokerage account, including accounts held with Pershing or NFS, directly held accounts, education savings accounts, retirement accounts, and certain specialty accounts such as margin and option accounts.

Depending on the type of account you open, you will pay certain fees and costs associated with both your account and your investment holdings. Unlike the transaction-based fees described below, fees associated with your account and holdings are typically paid annually whether or not any transactions have occurred, although some account-based fees are associated with specific transactions or activity. In some cases, the fees and costs associated with your account and holdings are billed for services by third parties such as Pershing, NFS, or other custodial firms, and in some cases we "mark up", or increase those fees before they are charged to you. These markups are additional revenue to us whether we provide the service or it is provided by a third party.

Highlighted below are the material fees and costs associated with your account:

- *Account Maintenance Fees:* We and/or Pershing or NFS generally charge you an annual account maintenance fee for maintaining your brokerage account with us. This fee compensates us for certain services that we provide to your brokerage account and reimburses us for certain operational expenses that we incur in maintaining your account.

- *Account Transfer Fees:* If you transfer your brokerage account to another broker-dealer, we generally charge you a one-time account transfer fee to reimburse us for the costs associated with the transfer. The account transfer fee includes fees associated with the Automated Customer Account Transfer System, commonly referred to as the "ACAT" fee. This fee is paid when you initiate the transfer of your account to another broker-dealer.

- *Account Termination Fees:* We generally charge you a one-time account termination fee to reimburse us for the costs associated with terminating your account with us. This fee is paid when you terminate your account relationship with us.

- *Margin Fees:* We charge fees for our margin services, where Pershing or NFS extends credit (a loan) to you for the purpose of buying securities. Margin fees, which are typically the interest associated with the margin loan, compensate Pershing or NFS and us for the cost and risk of lending money to you. Margin fees are shared between us and Pershing or NFS. Current rates applicable to margin accounts can be reviewed at https://cetera.com/cetera-wealth-services/disclosures.

- *Wire Transfer Fees:* We generally charge you a one-time fee to wire cash from your account to another account held outside of our firm. The wire transfer fee is typically $25.00, but may be more for certain international wire transfers.

More Information

The following is a summary of selected fees that you will pay in connection with maintaining a brokerage account. It does not include all applicable fees. More information about the fees and costs associated with your account is available in our schedule of fees and costs for brokerage accounts, which can be viewed at https://cetera.com/cetera-wealth-services/disclosures.

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3.4.1 Summary of Account-Related Fees - Pershing Accounts

Type of Fee	Fee Amount/Range & Frequency
Service Charge (confirm processing & handling)	$4.95 per transaction
Trade Correction ($20 cancel/$20 rebill)	$40 per event
Redemptions – Bond	$5 per transaction
Redemptions – T-Bills	$5 per transaction
Redemptions – Unit Investment Trusts, Others	$20 per transaction
Redemptions – Physical Cert. (including T-Bills)	$20 per certificate
Unrelated Business Taxable Income (UBTI) Filing	$200 per tax return
Paper Subscription Fee	$3 per month
Alternative Investment Annual Maintenance Fee – Registered, per holding	$35 per year
Alternative Investment Annual Maintenance Fee – Unregistered, per holding	$125 per year
Inactive Account Annual Fee	$35 per year
Safekeeping – Foreign Securities	$1.67 security/month

Type of Fee	Fee Amount/Range & Frequency
Margin Extension	$2 per event
Wire Requests	$25 per event
Loan Processing	$50 per event
Insufficient Funds	$20 per event
Returned Checks	$20 per event
Stop Payment on Check	$20 per event
ACH Return	$20 per event
Overnight Check Delivery	$12 per event
Overnight Check Delivery – Foreign	$25 per event
Full Outgoing Account Transfers	$160 per transfer
Foreign Security Transfer	$75 per security per transfer
Accommodation Transfer	$20 per transfer
Euroclear Transfers	$50 per transfer
Direct Registration System (DRS) Transfer	$10 per transfer
Legal Transfer of Physical Security	$75 per physical cert.
Inactive Mutual Fund-Only Account Annual Fee	$12.50 per year
Safekeeping – Domestic Securities	$2 security/month

Retirement Account Annual Maintenance	
Individual Retirement Account (IRA) – Traditional, Roth, SEP, Educational	$45 per year
Mutual Fund-Only IRA	$10 per year
Qualified Retirement Plan – 401(k), Individual(k), Simple IRAs, 403(b), Profit Sharing, Money Purchase, SARSEP, Prototype SEP, Target Benefit	$50 per year
Flex 401(k), Profit Sharing, Money Purchase Plan	$125 per year
Retirement Account Termination Fee	$120 per year

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Summary of Account-Related Fees - NFS Accounts

Annual Account Fees	
Standard Brokerage Account Annual Fee	$50 annually
UGMA/UTMA Account Annual Fee	$25 annually
Individual Retirement Account (IRA) Annual Fees	$50 annually
Health Savings Account	$35 annually
Premier Select Individual 401k	$35 annually

Operational and Service Fees	
Miscellaneous Fund Exchanges	$2.95 per transaction
Mutual Fund Share Class Conversions	$0 per transaction
Mutual Fund Surcharge (if applicable)	$20 per purchase
Dividend Reinvestments	$0 per transaction
Service Charge (confirm and processing)	$5 per transaction
Trade Correction - $20 cancel/$20 rebill	$40
Security Pre-Refunding	$5 per event
Municipal Bond Defeasance	$0 per event
Redemption - T-Bills, Bonds	$5 per transaction
Redemption - Unit Investment Trusts, Others	$20 per transaction
Redemption - Physical Certificate (Including T-Bills)	$20 per certificate
Section 31 SEC/FINRA Security Transaction Fee - Activity Fee	At cost
Foreign Exchange - executed through NFS	$15 in addition to settlement and execution
Foreign Exchange - executed away from NFS	$40 in addition to settlement and execution
ADR Conversions	$65.00
Physical Certificate Issuance	$500 per certificate
Physical Re-org Fee	$150 per event
Direct Registration Service (DRS) Transfer and Ship	$15 per action
Legal Transfer	$150 per transfer
Legal Return	$75 per return
Non-IRA Outgoing Wire Transfer - Domestic	$25 per wire
IRA Outgoing Wire Transfer - Domestic	$15 per wire
Bounced/Returned Check Deposited to Standard Brokerage Account	$25 per check
Bounced/Returned Check Deposited to Select Access/Premier Access	$15 per check
Stop Payment Check Issued from Standard Brokerage Account	$25 per stop
Stop Payment Check Issued from Select Access/Premier Access	$15 per stop
Non-Retirement Outgoing Account Transfer Fee (ACAT or Non-ACAT)	$160 per transfer
HSA Termination Fee	$125 per account
IRA Termination Fee	$125 per account
Self- Employed 401k (Premier Select Retirement Pan) Termination	$125 per account
Trade/Margin Extension Fee	$15 per event
Mailgram Fee	$5 per event
Paper Account Fee	$3 per month
Safekeeping Fee	$15 per certificate per month
Foreign Safekeeping	$15 per position per month
Outgoing Express Mail	$25
990T Service Fee	$300 per event
Foreign Securities Transfer	Pass through fees
Precious Metals Transfer and Delivery	Pass through fees

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Unauthorized Short Sales	$200 per action
Restricted Stock Transactions (full service)	$150 per action
Precious Metals Storage Fee	50 bps
Physical Stock Certificate Processing (including image, process and forward to the DTC)	$9.45 per certificate

Alternative Investment Fees	
Alternative Buy (initial and subsequent) or Sale	$50 per purchase or sale
Alternative Annual Custody and Valuation - Registered Investments	$35 per holding
Alternative Annual Custody and Valuation - Non-Registered Investments	$125 per holding
Alternative Investment Transfer/Re-registration Fee	$50 per holding
Alternative Investment General Partnership/Transfer Agent Re-registrations	Pass through

3.4.2 Fees and Costs Associated with Transactions and Holdings

We are generally paid a fee each time you execute a transaction or make a new investment. This payment is typically called a "commission," but it may also be called a "sales charge" or a "markup" or "markdown". In a very limited set of circumstances you may be eligible to purchase or sell mutual fund shares without paying a sales charge or commission. (Please see the discussion of Exchange Privileges in section 4.1, below.) More information about commission payments, including the commission schedules we use, is available at https://cetera.com/cetera-wealth-services/disclosures.

In addition, investment funds such as mutual funds and UITs, or products such as education savings plans and variable insurance products, bear ongoing fees and expenses that are embedded into the cost of the investment holding. You pay these ongoing fees and expenses indirectly because they are factored into the cost of the investment. More information about ongoing fees and expenses associated with investment funds and variable insurance products is available in the fund or product prospectus. Fees and costs vary among investments, and the following is intended to be a summary of fee and cost information regarding the types of transactions and investment holdings generally purchased or traded by our retail customers. Where applicable, we have included certain hypothetical transactions as examples and sample fee tables for illustrative purposes. Please note that fees and costs associated with your specific transaction may differ from these hypothetical examples or samples. You can obtain more information about the specific costs and fees associated with any investment that you are considering by reviewing the prospectus or other offering materials or by asking your Financial Professional.

3.5 Choice of an Account Type

As discussed above, we offer both securities brokerage and investment advisory services. They have a number of substantive differences, including the nature of the services provided, how we are compensated, and the legal standards that are applicable to our relationship with you. Most of our Financial professionals offer both types of services. The choice of a brokerage or investment advisory account depends on several factors, including the amount and complexity of the investments that you own, the frequency with which you intend to purchase and sell investments, whether or not you wish to have your financial professional monitor your investment holdings on a regular basis, and whether you wish to give discretionary authority of your Financial Professionals. Many of our customers maintain both brokerage and investment advisory accounts with us, which can offer advantages depending on your individual circumstances.

There are a number of factors that you should consider before deciding on which type of account(s) are best for you. For a summary of these factors, please review "The Big Picture: Commission Base vs. Fee Based Accounts" at https://cetera.com/cetera-wealth-services/disclosures.

4. INVESTMENT PRODUCTS THAT WE OFFER

We offer a wide range of investment products from many sponsors. The following is intended to be a brief summary of the characteristics of certain investments that we offer and should not be used as a substitute for the prospectus or other offering document for any investment that you are considering. We encourage you to discuss all of the factors of any investment you are considering with your Financial Professional, and to carefully review the terms and characteristics before making an investment.

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4.1 Mutual Funds

Characteristics of Mutual Funds

We offer a large number of mutual funds sponsored by many different mutual fund companies. Mutual funds are registered investment companies that issue redeemable securities. Shares are offered by the sponsor on a continuous basis, and there is no secondary trading market for mutual fund shares. Mutual funds are required to sell and redeem their shares to and from the public at the fund's net asset value (NAV) per share plus any applicable sales charge or load. The fund's NAV is calculated by dividing the total value of all the fund's assets, minus any liabilities such as ongoing fees and expenses (described below), by the number of shares outstanding.

All investors should read the mutual fund prospectus carefully before investing. Each mutual fund prospectus contains important information that will help you make an informed decision about an investment in the fund. In deciding whether to invest, you should consider several different factors, including the mutual fund's past performance, relative risk, investment objective(s), investment strategies and risks, the investment adviser responsible for the management of the mutual fund's assets, and the fees and expenses associated with an investment in a particular mutual fund. While past performance of a mutual fund is not indicative of future results, a mutual fund's long-term performance record and portfolio manager's experience and qualifications may be important factors in deciding whether to invest in a mutual fund.

Fees and Costs of Mutual Funds

You will usually pay a sales charge or load when you buy shares in a mutual fund, although most mutual funds offer programs under which you may be able to pay a reduced sales charge or no sales charge in connection with purchase of specific funds. (Please see the discussion of Breakpoints and other sales charge reduction programs below.) We receive a portion of the sales charge for our efforts and the efforts of our Financial Professionals in selling shares of the mutual fund. Most mutual funds utilize multiple share classes, with differing fees and expenses attributable to each. Though there are many different types of share classes, the most common share classes available to individual investors are Classes A, C, and R. Because each share class has different fees and costs, fund investment performance results will differ as those fees and expenses reduce investment return or performance across different share classes. You should also note that the amount of time you expect to hold your investment in a mutual fund may play an important role in determining which share class is most appropriate for you, and you should discuss this consideration with your Financial Professional.

In addition to sales charges, we receive other payments from mutual fund sponsors. These are referred to as "revenue-sharing" payments, and are described in section 9, below.

Fees and Costs – Share Class Distinctions

While there are no standard definitions for share classes and each mutual fund defines the share classes it offers in its prospectus, these are some basic descriptions of the most common share classes available to you:

- Class A – This share class usually carries a front-end sales charge, which is typically assessed as a percentage of your investment. This means that a sales charge is deducted from your investment each time you purchase shares in the mutual fund. Class A shares also typically have ongoing fees and expenses such as 12b-1 fees, which are intended to finance distribution activities and result in the sale of additional shares of the mutual fund. Despite these ongoing fees and expenses, Class A shares typically have lower annual operating expenses compared to the other share classes of the same mutual fund that may be available to you. This means that ongoing costs will typically be lower than ongoing costs associated with other share classes of the same mutual fund. Other share classes often have lower upfront or deferred sales charges, and you should consider how sales charges and ongoing expenses applicable to different share classes will impact your investment over time. Many mutual funds offer breakpoint discounts for large investments in Class A shares, which means that the front-end sales charge decreases as the dollar amount of the investment increases. (Please see the discussion of breakpoints and other sales charge discounts below.) The breakpoints applicable to each fund are described in the fund's prospectus.

  For example, if you purchase $10,000 of Class A shares of a mutual fund that assesses a 4.0%% front-end sales charge on your investment, you will pay a $400 front-end sales charge and the remaining $9,600 of your investment will be used to purchase shares of the mutual fund.

- Class C – This share class is characterized by a level asset-based sales charge that you pay annually as a percentage of your holdings in the mutual fund. It does not have a front-end sales charge like Class A shares, but does have a contingent deferred sales charge (also known as a "CDSC") that will be assessed under certain circumstances. This means that you pay a sales charge when you sell your mutual fund shares. The amount of the CDSC is typically assessed as a percentage of your investment at the time of the

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liquidation. It declines over time and often eventually is eliminated if you hold your shares for a specified time. Class C shares usually eliminate the CDSC after one year, but you should consult the prospectus for any fund that you are considering to determine the CDSC and other charges. In comparison to Class A shares, Class C shares typically have higher annual operating expenses, so you should consider the period of time that you intend to hold fund shares before choosing a share class. In general, if you intend to hold the fund shares for less than 4 years, the total expenses that you will pay (combining sales charges and operating expenses) in connection with Class C shares will be lower than Class A shares.

For example, if you purchase $10,000 of Class C shares of a mutual fund with a 1% asset-based sales charge, you will not pay a front-end sales charge or a CDSC, so the entire $10,000 investment will be used to purchase shares of the mutual fund. However, each year, your investment will be charged the 1% asset-based charge, so your initial $10,000 investment will be reduced to $9,900 after the first year as a result of the asset-based sales charge, assuming no price appreciation or depreciation of the shares in that one-year period. If you choose to sell Class C shares in less than 13 months from the date of the purchase, you will generally pay 1% of the value of your fund shareholdings as a CDSC at the time of liquidation. On a $10,000 investment, you would pay a CDSC of $100 if you sell your shares within 13 months and five years from the date of purchase assuming no price appreciation or depreciation of the shares in that period.

- Class R – This share class is available to retirement investors purchasing shares in a mutual fund through employer-sponsored retirement plans such as Section 401(k), 403(b), and similar plans. Class R shares do not have a front-end sales charge or CDSC like Class A or Class C shares, but Class R shares do have ongoing fees and expenses such as 12b-1 fees intended to finance the distribution activities related to sales of the fund shares. These fees and expenses are deducted from your assets on an ongoing basis.

  For example, if you purchase $10,000 of Class R shares of a mutual fund through your employer-sponsored retirement plan, you will not pay a front-end sales charge or a CDSC, so the entire $10,000 investment will be used to purchase shares of the fund at the time of purchase. However, certain ongoing fees and expenses, such as 12b-1 fees, will be deducted from your investment. If the ongoing fees and expenses are 0.25% per year, your $10,000 investment will be reduced to $9,975 after the first year as a result of the ongoing fees and expenses assuming no price appreciation or depreciation of the shares in that one-year period.

Fees and Costs – Sales Charge Reductions and Breakpoints

It may make sense for you to own mutual funds from different mutual fund companies, but it also may increase the total sales charges that you pay to purchase those mutual funds. Mutual fund companies often offer discounts or reduced sales charges based on the total amount you invest with the mutual fund company. For example, if you purchase $50,000 of Class A shares in a fund or group of funds sponsored by a mutual fund company, you may pay an upfront sales charge of 4.5% of your investment. If you purchase $250,000 of the same fund or group of funds, you may pay a sales charge of 3.0% of the amount invested. The investment levels needed to receive the benefit of these discounts are known as "breakpoints." Each fund has its own schedule of breakpoints, and mutual fund sponsors typically allow you to combine all your holdings of mutual funds that they sponsor and with those of immediate family members to reach breakpoints.

There are other ways that you can get the advantage of breakpoints, including:

- *Rights of Accumulation:* This feature allows you to combine your mutual fund purchase with your existing investment in the mutual fund company to reach a breakpoint.

- *Letters of Intent:* You can take advantage of breakpoints by agreeing to purchase a certain dollar amount in a mutual fund over a specified period of time. In most instances, this requires signing a Letter of Intent (LOI).

- *Exchange Privileges:* In addition to breakpoints, most mutual fund sponsors offer programs that allow investors to sell or liquidate their fund holdings and use the proceeds to purchase shares of another fund managed by the same sponsor without paying an additional sales charge. These programs are often referred to as "exchange privileges", and may give you the ability to make multiple purchases and sales of fund shares from the same fund sponsor without paying additional sales charges. Please consult the prospectus to see the terms of any exchange program offered by the fund sponsor, including whether they apply to your unique circumstances, and discuss your options with your Financial Professional.

The prospectus of every mutual fund describes its breakpoint policies, including how you can reach breakpoints. You can request a copy of a mutual fund's prospectus from your Financial Professional.

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Fees and Costs – Ongoing Fees and Expenses

In addition to the 12b-1 fees mentioned above, mutual funds typically also deduct other ongoing fees and expenses from fund assets, including management and servicing fees. These ongoing fees and expenses are typically used to pay for the mutual fund's operating expenses (ongoing fees are sometimes referred to as the mutual fund's "expense ratio"), such as paying the mutual fund's investment manager, accounting and auditing, legal, and recordkeeping expenses. In addition, as noted above, the ongoing fees and expenses include 12b-1 fees, which are intended to finance distribution activities and result in the sale of additional shares of the mutual fund, and include marketing and advertising expenses.

These ongoing fees and expenses are typically charged daily by the fund as a percentage of your assets. You pay these fees and expenses indirectly because they are deducted from your assets on an ongoing basis. The following chart summarizes certain categories of expenses that you will usually pay in connection with purchases and ownership of mutual fund shares, and compares several mutual funds we currently offer. It is intended to illustrate the fact that different funds have different fees and expenses, and is not intended to be a complete summary of all expenses that you will pay in connection with mutual fund ownership. For more information, please review the prospectus for any funds you are considering purchasing.

Mutual Fund Share Class	Front-End Sales Charge	Back-End Sales Charge (CDSC)	Asset-Based Sales Charge	Expense Ratio
Fund A (Large Capitalization Equity Fund)				
Class A Shares	5.75%*	N/A	0.25%	0.56%
Class C Shares	N/A	1% if less than 1 year	1%	1.31%
Class R Shares	N/A	N/A	1%	1.35%
Fund B (State Municipal Bond Fund)				
Class A Shares	3.75%**	N/A	0.25%	0.90%
Class C Shares	N/A	1% if less than 1 year	0.65%	1.30%
Class R Shares	N/A	N/A	N/A	0.62%
Fund C (International Bond Fund)				
Class A Shares	5.5%***	N/A	0.25%	1.24%
Class C Shares	N/A	1% if less than 1 year	1%	1.99% (96 months) 1.24% (>96 months)
Class R Shares	N/A	N/A	0.50%	1.49%
Fund D (Global Real Estate Fund)				
Class A Shares	5.75%***	N/A	0.25%	1.17%
Class C Shares	N/A	1% if less than 1 year	1%	1.92% (120 months) 1.17% (>120 months)
Class R Shares	N/A	N/A	1%	1.92%
Fund E (Global Technology Fund)				
Class A Shares	5.75%***	N/A	0.25%	1.08%
Class C Shares	N/A	1% if less than 1 year	1%	1.83% (96 months) 1.08% (>96 months)
Class R Shares	N/A	N/A	0.50%	1.33%

* On purchases from $0 – $25,000. Sales charges as a percentage of purchase amount decline as purchase amount increases.
** On purchases from $0 – $100,000. Sales charges as a percentage of purchase amount decline as purchase amount increases.
*** On purchases from $0 – $50,000. Sales charges as a percentage of purchase amount decline as purchase amount increases.

More Information

Marketing representatives of mutual fund sponsors, often referred to as "wholesalers," work with our Financial Professionals to promote sales of their products. Sponsor companies and their wholesalers may pay for or provide training and education programs for our Financial Professionals, and may also provide small gifts or business entertainment, cover expenses for attending business meetings that they sponsor, and may provide financial assistance to Financial Professionals for their marketing events and activities. You do not pay

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these marketing expenses directly. However, the marketing expenses are built into the cost of the mutual fund, so you indirectly pay for the cost of the marketing expenses sponsored by the sponsor and their wholesalers.

More information on a mutual fund's sales charges, ongoing fees and expenses, and overall expense ratio is available in the mutual fund's prospectus. You can request a copy of a mutual fund's prospectus from your Financial Professional.

4.2 Variable Annuities and Variable Life Insurance

4.2.1 Variable Annuities

We offer variable annuities and variable life insurance policies, which are referred to as "variable products". Variable Products are issued by insurance companies and represent a contract or policy between you and the insurance company. In most cases they require Financial Professionals who recommend them to customers to be licensed or registered with state insurance licensing agencies. Some of our Financial Professionals are not licensed or registered to offer variable products, and if so, they are not able to recommend or sell them to you. The features, benefits, fees and costs of variable products are different and vary by product. The summary below offers general information about most variable products. Information about the particular features, benefits, fees and costs for a specific variable product can be found in the prospectus. You will receive a copy of the prospectus for any variable product that your Financial Professional recommends to you.

Variable annuities can help with saving for retirement. Funds invested in these annuities can grow tax-deferred. This means that you generally will not pay state or federal income taxes on the income and investment gains on the funds in your annuity until you make a withdrawal, receive income payments, or a death benefit is paid. When you withdraw your funds, however, you will usually pay state and federal income taxes on the gains at ordinary income tax rates rather than lower capital gains rates on any investment gains in the funds within the annuity contract. When you start taking income payments, you can usually select payment options that will guarantee you payments for a specified period, which may extend as long as you live if you select that option. Some annuities offer additional features and guarantees, available as options or "riders." The riders and other features applicable to each Variable Product are different, and are established by insurance company. Not all variable products have the same riders or other features, and their cost will vary among different products and issuers.

4.2.2 Variable Life Insurance

Variable life insurance provides life insurance protection (a death benefit) and also allows you to build up a cash value that can grow on a tax-deferred basis. Most variable life insurance policies allow you to take out loans against the cash value and to make withdrawals as long as the remaining cash value is sufficient to keep the policy in force. You can also terminate your policy by surrendering it and receiving the remaining cash value. Terminating your policy will terminate your death benefit protection. Many insurance companies offer riders and other options with their variable life insurance policies, such as disability insurance, income benefits or accelerated death benefits.

When you purchase a variable life insurance product, your insurance premium contributions (net of any fees and charges deducted from premiums) are invested in the investment options – typically underlying mutual funds – that you select. The value of your investment, usually referred to as your cash value, will fluctuate as the values of the underlying mutual funds increase or decrease.

Most insurance companies impose a minimum investment requirement on the initial premium. In the case of variable life insurance, you will also likely be required to make premium payments periodically to keep the policy in force. While you may have some flexibility in the amount or timing of these periodic premium payments, you should consider whether you can afford to continue making premium payments when deciding to purchase a variable life insurance policy. If you fail to make sufficient payments to keep the policy in force, the policy will lapse (terminate without value), and you will no longer have any death benefit protection. A lapse may also create unfavorable tax treatment for the owner of the policy.

Variable products are not short-term savings vehicles. Withdrawing funds or surrendering a variable product in a short time after purchase will likely trigger surrender fees and charges (See discussion of surrender charges above and below), and may also trigger tax penalties. You can lose the money you invest in variable products, including potential loss of your initial investment, due to poor performance of the investment options you select and/or the cumulative impact of fees and charges on your cash value.

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Fees and Costs – Premium Payment Deductions

In the case of some variable products, the insurance company deducts a fee from your premium payment, and only the net premium amount is invested or allocated. In the case of variable annuities, the fee deduction is usually to cover state insurance premium taxes. In the case of variable life products, the fee deduction can also cover the insurer's sales expenses.

Fees and Costs – Surrender and Withdrawal Charges

Most variable products impose a surrender charge if you surrender your variable product or make a withdrawal of your cash value during the surrender charge period. This surrender charge and the surrender period are described in the product prospectus. Surrender charge periods vary by variable product and are generally from six to eight years from the date of purchase for variable annuities, but may range up to 15 years on some variable life insurance policies.

Surrender charges also vary by variable product, and generally begin at approximately 8% of the purchase payment in the first year after purchase and end at approximately 1% of the cash value in the final year of the surrender charge period. Typically, the surrender charge decreases at annual or other intervals over the duration of the surrender charge period, with higher charges applying to surrenders and withdrawals made at the beginning of the surrender charge period and lower charges applying to surrenders and withdrawals made toward the end of the surrender charge period. Tax penalties can also apply to surrenders or withdrawals made from annuities before the owner of the policy has reached age 59½.

Fees and Costs – Ongoing Fees and Expenses

Insurance companies deduct fees and expenses from the cash value of the variable product to cover fees and expenses associated with them. These ongoing fees and expenses commonly include mortality and expense (M&E) risk fees, cost of insurance fees (assessed under variable life insurance policies), administration fees, transaction fees, and fees associated with certain optional riders. The M&E risk fees are calculated as a percentage of your insurance coverage or account value and are an annualized percentage rate charged against the value of your annuity contract. However, some fees, such as administration or transaction fees, are fixed amounts charged annually or when specific transactions occur. The cost of insurance fee charged on variable life insurance contracts is typically calculated by applying a rate based on your underwriting classification to the "net amount at risk" (the difference between your product's death benefit and cash value). These fees are usually deducted from your cash value on an ongoing basis. If you add riders to your variable annuity or variable life insurance policy, the fees for those riders will be deducted from your cash value. Fees for riders are usually charged on an annual basis.

In addition to fees related to the annuity contract itself, you will indirectly pay the ongoing fees and expenses for the mutual funds that are the underlying investment options for the variable product in which you invest. These fees and expenses are separate from the fees charged by the insurance company and will be reflected in the performance of the underlying investment options. These ongoing fees and expenses include the mutual fund's management fees, servicing fees, and 12b-1 fees, and are typically charged as an annualized rate against fund assets.

The commissions, surrender charges, fees for riders, and ongoing fees and expenses associated with variable products vary by insurance company and the type of variable product. More information regarding the commissions, surrender charges, and ongoing fees and expenses for variable products is available in the variable product's prospectus.

The following table summarizes the types of fees usually applicable to variable products and the approximate range applicable to the variable products we offer. This table is intended to act only as a summary, and the fees and other features applicable to any variable product that you purchase will be unique to it. Please review the prospectus for any variable product that you consider purchasing and ask your Financial Professional if you have questions.

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Type of Fee	Annuity Contract A	Annuity Contract B	Annuity Contract C
Contract Owner Transaction Expenses			
Deferred Sales Load	See Surrender Charge Schedule	See Surrender Charge Schedule	See Surrender Charge Schedule
Surrender Charge (Decreases over time)	8½%, 7½%, 6½%, 5½%, 5%, 4%, 2%	8%, 7%, 6%, 5%, 4%, 3%, 2%	7%, 7%, 6%, 5%, 3%
Exchange Fee	$25 Annual	$25 Annual	$0
Ongoing Fees and Expenses (Annual)			
Annual Contract Fee	$35	$50	$50
Separate Account Mortality & Expense Risk Charge	1.30%	1.30%	0.85%
Optional Riders	0.25% – 3.00%	0.25% – 3.00%	0.25% – 3.00%
Underlying Fund Fees and Expenses (Annual)			
Underlying Fund Operating Expenses, including management fees, distribution	0.52% – 2.01%	0.45% – 1.89%	0.27% – 2.14%

Fees and Costs – Our Compensation

When you purchase a variable product, the issuing insurance company will pay us a sales charge or commission and we will pay a portion of it to your Financial Professional. While this sales charge is generally not immediately deducted from the amount of your investment, the insurer factors the commission into the fees and costs of the product that you will pay on an ongoing basis. In this way, you indirectly pay the commission despite the fact that it is not immediately deducted from your initial purchase. We receive this commission for our sales efforts and for assisting you with the insurance application and the underwriting and delivery processes related to the purchase of a variable product.

Commissions and sales charges we receive vary based on the variable product and insurance company, and we receive higher commissions for some types of variable products than for others. This creates a conflict of interest for us because our compensation can be greater based on the product that you purchase. In addition, in the case of variable life insurance, the commissions may vary between initial premium payments and subsequent premium payments.

For example, if you purchase a variable annuity in the amount of $10,000 from an insurer that pays us a 6% commission, we will receive, and you will indirectly pay, an initial commission of $600. If you contribute another $1000 to your variable annuity contract as an additional payment, we will receive, and you will indirectly pay, a subsequent commission of $60.

Fees and Costs – Marketing Expenses and Allowances

Some insurance companies also pay us marketing allowances or other fees for our marketing activities on their behalf. These marketing allowances, also referred to as "revenue-sharing" payments are usually calculated as a percentage of new sales (premiums paid by our retail customers), a percentage of the cash value in variable products held by our retail customers, or both. (Please see the discussion regarding revenue-sharing payments in section 9, below.) The amount of revenue-sharing payments varies from insurer to insurer. Some insurers may also make contributions to cover the costs of business meetings and events that we hold for our Financial Professionals.

Marketing representatives of insurance companies and their affiliated distributors, often referred to as "wholesalers," work with our Financial Professionals to promote sales of their variable products. These insurance companies and their wholesalers may pay for or provide training and education programs for our Financial Professionals. Insurance companies and their wholesalers may also provide small gifts or business entertainment to our Financial Professionals, may cover expenses with our Financial Professionals attending business meetings that they sponsor, and may provide financial assistance to Financial Professionals for their marketing events and activities. You do not pay these marketing expenses directly. However, the marketing expenses are built into the cost of the variable product, so you indirectly pay for the cost of the marketing expenses sponsored by the insurance company and their wholesalers.

More Information

More information about variable products, including the insurance commissions and other fees and expenses built into the cost of the insurance, is available in the variable product's prospectus. In addition, more information on the mutual funds underlying the variable product's investment options, including the mutual fund's ongoing fees and expenses and overall expense ratio, is available in the mutual fund prospectus. You can request a copy of a variable product's prospectus from your Financial Professional.

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4.3 Equities

Characteristics of Equities

We offer a wide range of equity securities, often referred to as stocks, which give stockholders a share of ownership in a company. Before deciding to buy or sell an equity security such as stock of a publicly-traded company, it is important for you to evaluate the risks associated with the company. As part of this evaluation, you will want to carefully review the company's relevant disclosure documents, such as its initial registration statement and prospectus in the case of an initial public offering, or its most recent audited financial statements in the case of a secondary market transaction. Stocks in public companies are registered with the SEC and in most cases, these companies are required to file reports with the SEC quarterly and annually. You may access these disclosure documents on the SEC's website at https://www.sec.gov/edgar.

Fees and Costs

Buying and selling equities entails costs. You will typically pay us a sales charge or commission every time you buy or sell an equity security. You will pay this commission in addition to the price you pay for the security you choose to buy or sell. This commission is a one-time fee, which varies according to the size and dollar value of the transaction. Your commission payment as a percentage of the amount of the transaction will generally be higher in connection with smaller transaction amounts. We are not a "discount" broker-dealer. Many discount broker-dealers offer commission rates lower than ours, and some firms will execute transactions in equity securities for customers without charging commission payments.

We have a standard schedule of charges for brokerage transactions, which may be viewed at https://cetera.com/cetera-wealth-services/disclosures. Commissions on transactions in equity securities may be negotiable between you and your Financial Professional.

In addition to commissions charged for executing transactions, you will pay certain charges in connection with maintaining a brokerage account. These include fees for delivery of transaction confirmations and account statements, wire transfers of funds, and other items, all of which are revenue to us. The amount of the fees and charges you will pay is usually more than the cost that we incur in providing the service to you. If the amount that we charge you for a given service is greater than the amount we pay for it, the differential is additional revenue for us. If you maintain a brokerage account with Pershing and/or NFS, we will often charge you more for providing a service than Pershing and/or NFS charge us. A complete list of charges applicable to your brokerage account may be viewed at https://cetera.com/cetera-wealth-services/disclosures.

4.4 Bonds

Characteristics

We offer a wide range of bonds, including corporate, government, and municipal bonds. Bonds are debt securities issued by corporations, governments, or other entities that pay fixed or variable interest rates to investors for a specific period of time. When the bond reaches maturity, the bond issuer generally returns the principal amount of the bond to investors. There are many types of bonds and the features, characteristics, and risks associated with bonds can vary significantly.

Most bonds make interest periodic payments to owners. The "coupon" rate for a bond is the rate of interest it pays annually and is expressed as a percentage of its face value. Usually, the coupon rate is calculated by dividing the annual interest payment by the face value of a bond.

Bonds generally are priced at an initial face value (sometimes called "par" value) of $1,000 per bond. However, once the bond is traded on a secondary market, the bond's price may be lower than the face value, which is referred to as a "discount," or higher than the face value, which is referred to as a "premium." If the bond is priced at a discount, the investor will receive a higher interest yield (percentage annual return) as a result of paying less than the face value. On the other hand, if the bond is priced at a premium, the investor will receive a lower interest yield as a result of paying more than the face value. Bond prices typically have an inverse relationship with bond interest yields. As bond prices decrease, interest yields increase. As bond prices increase, interest yields decrease.

Unlike equities, where prices are usually quoted based on their daily closing prices, many bonds do not have a uniform closing price because they are traded in over-the-counter (OTC) markets or another negotiated market. Bond prices are affected by many different factors, including but not limited to supply and demand for the bond, the issuer's credit rating, size of the offering, interest rates, and age-to-maturity. With regard to the age-to-maturity pricing factor, bonds are paid in full (at face value) when they mature, though there are options to call, or redeem, some bonds before they mature, and some bonds permit the issuer to call the bond prior to maturity. Since

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a bondholder is closer to receiving the full face value as the maturity date approaches, the bond's price will tend to move toward the par value as the bond ages. Many bonds are priced by discounting the expected cash flow to the present using a discount rate.

Fees and Costs

Instead of charging you a commission on transactions in bonds, we usually execute the transaction as a "principal". This means that instead of acting exclusively as your agent in executing a transaction on an exchange or through a dealer and receiving a sales charge or commission, we purchase or sell the bond directly to you or from you. If we purchase an investment for you as a principal, we purchase it from a third party and then sell it to you at a higher price, and the difference is called a "markup". If you sell a fixed income investment, we will sell it to a third party and take a fee called a "markdown", which is subtracted from the proceeds of the sale. Markups and markdowns are compensation to us for executing principal transactions. There may be other charges and fees associated with a transaction in addition to the markup or markdown. In most cases, we act as a "riskless" principal. As a riskless principal, we buy or sell investments directly to or from you, but we do not generally maintain an inventory of securities for sale or in anticipation of selling them to customers. If you give us an order to purchase or sell a security, we purchase or sell it from a third party and apply a markup or markdown. The amount of a markup/markdown charged on a bond transaction will depend on a number of factors and particular circumstances for each transaction, including the type of bond (corporate, government, or municipal), transaction size, credit quality, unit price, maturity, liquidity, and market scarcity.

With new issues of bonds, our markup is generally included in the par value, so you do not usually pay separate transaction costs. All purchasers of a new issue pay the same price, known as the offering price. If you are interested in a new issue of a bond, you should review the offering document, which describes the bond's features and risks.

If you sell a bond before it matures, you may receive more or less than the par value of the bond. Either way, we will mark down the price of your bond, paying you slightly less than its current market value and will then mark up the price slightly upon resale to another investor or dealer. This is how broker-dealers are compensated in connection with customer purchase and sales of bonds. Pershing or NFS act as dealers in buying and selling bonds, and share with us a portion of the profit they earn in markups and markdowns in transactions with our customers.

> *For example, if you purchase 10 corporate bonds priced at $1,000 per bond and the markup is $10 per bond, you would pay $10,000 for the market price of the bond and then an additional $100 markup, which means you would pay $10,100 in total to purchase the bonds.*

We have a standard schedule of charges for brokerage transactions, which may be viewed at https://cetera.com/cetera-wealth-services/disclosures. Commissions on bond transactions, including markups and markdowns, are usually negotiable between you and your Financial Professional. The compensation that your Financial Professional receives in connection with your purchases and sales of bonds is affected by the amount of the markup or markdown. As such, both we and your Financial Professional have an incentive to increase the amount of the markup or markdown on a given transaction in order to increase the amount of money we earn.

More Information

More information describing a specific bond's features and risks is available in the bond's offering document. More information about bonds, including pricing and issuer credit ratings, is also available on FINRA's website at https://www.finra.org/investors/investing/investment-products/bonds. In addition, more information about government bonds is available on the Municipal Securities Rulemaking Board's (MSRB) website at https://www.msrb.org/.

4.5 Option Contracts

Characteristics

We offer you the ability to purchase or sell listed options. Options are contracts that give you the right, but not the obligation, to buy or sell an underlying asset at a fixed price within a specified period of time. Various exchanges operating in the United States and regulated by the SEC and/or the Commodity Futures Trading Commission (CFTC) offer public trading markets where different types of options are bought and sold, such as options on individual stocks, indexes, and interest rates. Option contracts may also be traded on certain European markets.

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An option contract that gives you the right to buy the underlying asset is referred to as a "call" option, and an option contract that gives you the right to sell the underlying asset is referred to as a "put" option. Most options have certain standardized terms that indicate the nature and amount of the underlying asset, the expiration date, the exercise price, and whether the option is a call or put. Equity options, for example, are designated by reference to the issuer of the underlying security, the expiration month or expiration date of the option, and the option's exercise price and type (put or call). Many securities that are publicly traded in the United States have put or call option contracts, which are available for trading on an exchange in the United States.

Option contracts have a fixed expiration date. The price of the option contract varies according to a number of factors, including the price of the underlying assets in relation to the exercise, or "strike" price of the option, the period of time left until expiration, volatility of the underlying asset, and general market conditions. You should note that after the expiration date, an option contract has no value, regardless of the value of the underlying asset. If the option expires without being sold or exercised to purchase the underlying asset, you will lose your entire investment in that option contract.

Prior to buying or selling options, you will receive a copy of a document entitled "Characteristics and Risks of Standardized Options," also known as the options disclosure document (ODD). Investors should read a copy of the ODD prior to buying or selling any option. The ODD contains required disclosure of the characteristics and risks of standardized option contracts. No certificates are issued to show your ownership of an option, but you will receive written confirmations for all transactions and your ownership positions will appear on your monthly account statements. It is also very important to understand the process for exercising your rights as the holder of an option contract. You must give us instructions in accordance with our firm's procedures in order to exercise your rights, and if you fail to do so, you may lose some or all of the value of the option.

Fees and Costs

You will typically pay us a commission every time you buy or sell an option contract. You will pay this commission in addition to the amount you pay to purchase the option contract, which you will pay regardless of whether you choose to exercise the option to buy or sell the underlying asset. The commission is a one-time fixed fee. The premium is not a standardized term of the option contract, and does not constitute a "down payment" or other interest in the underlying asset. The premium is a non-refundable payment and is in addition to the commission.

More Information

More information about option contracts is available at https://www.cboe.com/us/options/.

4.6 Closed-End and Interval Funds

Characteristics

We offer a wide range of closed-end investment funds, including interval funds, from many different fund sponsors. Each closed-end fund prospectus contains important information that will help you make an informed investment decision, and we encourage you to read the prospectus carefully before investing. In deciding whether to invest in a closed-end fund, you should consider several different factors, including the fund's investment objective, investment strategies and risks, the investment adviser responsible for the management of the fund's assets, and the fees and expenses associated with an investment in a particular closed-end fund.

Similar to mutual funds, closed-end funds are pooled investment vehicles. However, there are some important differences between these types of funds. Unlike mutual funds, most traditional closed-end funds do not continuously offer their shares for sale. Instead, such funds usually sell a fixed number of shares through an initial public offering, after which their shares typically trade on a secondary trading market such as an exchange. The price of shares in a closed-end fund that trades on a secondary market after their initial public offering is determined by the market and may be higher or lower than the net asset value. In addition, there are certain non-traded closed-end funds that sell their shares on an ongoing basis and do not trade on a secondary trading market.

Certain closed-end funds have a specified or targeted termination date, at which time the shareholders receive an amount equivalent to the NAV of the shares at the termination date. Non-traded closed-end funds typically contemplate having a "liquidity" event at some point once the fund's offering has ceased. Liquidity events include liquidation or listing the fund's shares on a secondary trading market. However, many closed-end funds have no "maturity" or termination date, and shareholders can generally only liquidate their investments by selling shares on a secondary trading market, at prices which may be higher or lower than the net asset value of the fund. Closed-end funds that do not have stated termination dates may still be terminated and liquidated based on the investment manager's decision.

Unlike mutual funds, closed-end fund shares are not redeemable, which means that the fund is not required to buy shares back from investors upon request. Non-traded closed-end funds sometimes offer to repurchase their shares from investors in periodic tender offers.

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In addition, some closed-end funds, commonly referred to as "interval funds," offer to repurchase their shares from investors at specified intervals, subject to conditions including limitations on the amount that will be repurchased in any given time period.

The shares of an interval fund usually do not trade on a secondary market and interval funds generally offer their shares on a continuous basis at a price based on the fund's NAV. In order to operate as an interval fund, the fund must offer to repurchase its shares at regular intervals every three, six, or twelve months, as disclosed in the fund's prospectus. The price that interval fund shareholders receive on a repurchase will be based on the per share NAV determined as of a specified date, minus any redemption fees or charges that may apply to the transaction.

Fees and Costs

You will pay us a sales charge when you buy shares in a closed-end fund's public offering, or a commission if you buy and sell shares in a closed-end fund in the secondary market. You will pay this sales charge or commission in addition to the amount of the fund you choose to buy or sell. For a public offering purchase, the fund's sales charge is a one-time fixed fee, which is typically a percentage of the investment amount. For a closed-end fund transaction in the secondary trading market, the commission is also a one-time fixed fee, which varies according to the number of shares purchased or sold and the dollar amount of the transaction.

> *For example, if you purchase $10,000 of shares in the initial offering of a closed-end fund that assesses a 3% sales charge on your investment, a $300 sales charge will be deducted and the remaining $9,700 of your investment will be used to purchase shares in the closed-end fund's initial offering. If you purchase $10,000 of shares in a closed-end fund on a trading market, you will pay a commission based on the size of the transaction.*

Some interval funds also charge you a redemption charge when you accept the fund's offer to repurchase your shares. This redemption charge is a one-time fixed fee. Unlike the sales charges and commissions, the redemption charge is not paid to us, but is paid to the fund to compensate it for expenses associated with the repurchase.

> *For example, if you own $10,000 of shares in an interval fund that assesses a 2% redemption charge, and you accept an interval fund's offer to repurchase all of your shares, a $200 redemption charge will be deducted and you will receive the remaining $9,800 as your redemption proceeds.*

Closed-end funds, including interval funds, also deduct other ongoing fees and expenses, such as management fees, from fund assets. In addition, the ongoing fees and expenses of many interval funds include 12b-1 fees, which are intended to finance distribution activities and result in the sale of additional shares of the interval fund, and include marketing and advertising expenses. These ongoing fees and expenses, which are reflected in the fund's overall expense ratio, are typically used to pay for the fund's continued operations, such as paying the fund's investment manager, accounting and auditing expenses, legal expenses, and recordkeeping expenses. These ongoing fees and expenses are typically charged daily as a percentage of your assets. You pay these fees and expenses indirectly because they are deducted from your assets on an ongoing basis.

More Information

More information on the sales charges, ongoing fees and expenses, and overall expense ratio for closed-end funds, including interval funds, is available in the fund's prospectus. You can request a copy of a fund's prospectus from your Financial Professional.

4.7 Exchange-Traded Funds and Exchange- Traded Products

Characteristics

We offer a wide range of exchange-traded funds (ETFs) and Exchange-Traded Products (ETPs). ETFs are investment funds that are listed for trading on a national securities exchange and can be bought and sold in the equity trading markets. Shares in the ETF represent an interest in a portfolio of securities. ETPs may consist of different assets, but ownership of an ETP gives the holder an interest in the underlying pool of assets, whatever they are.

ETFs possess characteristics of both mutual funds and closed-end funds. Similar to mutual funds, an ETF pools assets of multiple investors and invests those pooled assets according to its investment objective and investment strategy. ETFs also continuously offer their shares for sale like mutual funds. In addition, ETFs share certain characteristics with closed-end funds, namely that the fund's shares trade on a secondary market and may trade at prices higher or lower than the fund's NAV.

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ETFs do not sell or redeem individual shares. Instead, certain "authorized participants" have contractual arrangements with the ETP to purchase and redeem shares directly from the ETF in blocks called "creation units" and "redemption units," respectively, where each creation or redemption unit typically represents 50,000 shares of the ETF. After purchasing a "creation unit," the authorized participants generally sell the ETF shares in the secondary trading market.

The creation and redemption process for ETF shares provides arbitrage opportunities designed to help keep the market price of ETF shares at or close to the NAV per share of the ETF. For example, if ETF shares are trading at a price below the NAV (generally referred to as a "discount"), an authorized participant can purchase ETF shares in secondary market transactions, and after accumulating enough shares to compose a "redemption unit", can redeem those shares from the ETF for a pro rata share of the fund's underlying securities, which would be more valuable than the shares redeemed. The authorized participant's purchase of ETF shares in the secondary market will tend to create upward pressure on ETF share prices, which would tend to bring them closer to the NAV per share of the ETF.

Fees and Costs

You will pay us a commission every time you buy or sell shares in an ETF. You will pay this commission in addition to the amount of the ETF you choose to buy or sell. This commission is a one-time fixed fee and is determined by our schedule of fees and commissions in effect at the time of the transaction.

ETFs also deduct ongoing fees and expenses, such as management fees, from their assets. These ongoing fees and expenses are typically used to pay for the ETF's continuing operations, such as paying fees to the investment manager, accounting and auditing expenses, legal expenses, and recordkeeping expenses. However, ETFs generally have lower expense ratios than mutual funds because most ETFs are not actively managed and, therefore, do not incur the internal costs of buying and selling the underlying portfolio securities.

These ongoing fees and expenses are typically charged annually as a percentage of your assets. You pay these fees and expenses indirectly because they are deducted from your assets on an ongoing basis. We receive payments from the sponsor or investment adviser of the ETF, where such payments are generally referred to as revenue-sharing payments. (Please see the discussion regarding revenue-sharing in section 9, below.)

Actively-Managed ETFs and Mutual Funds with Similar Investment Holdings

Some fund sponsors offer both mutual funds and ETFs. While most ETFs consist of a "static" pool of assets that does not change over time, some ETFs are actively-managed, which means that the manager of the ETF purchases and sells investments for the fund and the composition of the fund will change over time. A mutual fund sponsor may offer both a mutual fund and an actively-managed ETF that have significant overlap between their portfolios, and in some cases the portfolios may be substantially identical.

The sales charges that you will incur in purchasing shares of a mutual fund will usually be higher than those that you will pay in connection with purchase of an ETF, and the ongoing management expenses for mutual funds will generally be higher than those for an ETF with a similar portfolio. The actual sales charge that you pay in connection with purchase of a mutual fund will vary according to a number of factors (Please see the discussion of mutual fund sales charges and operating expenses in section 3, above.) In addition, mutual funds usually charge 12b-1 fees in connection with mutual funds, whereas ETFs do not. All of these factors will usually combine to make the cost for investors who purchase shares of mutual funds higher than for those who purchase ETFs with similar portfolios. This creates a conflict of interest for both the firm and your Financial Professional, because we will usually receive greater compensation in connection with purchases of mutual funds than we would in connection with purchases of ETFs that have similar investment portfolios. We also receive more revenue-sharing compensation from mutual fund sponsors than we do from sponsors of ETFs (Please see the discussion of our revenue-sharing arrangements in section 9, below.) This creates an incentive for us to recommend that you purchase mutual funds instead of ETFs that have similar investment portfolios.

We do not allow Financial Professionals to recommend new purchases of actively-managed ETFs to customers in brokerage accounts, although we allow customers who have existing holdings of actively-traded ETFs to maintain them. We do allow Financial Professionals to recommend new purchases of actively-managed ETFs in investment advisory accounts.

More Information

More information about ETFs, including their ongoing fees and expenses and overall expense ratio, is available in the prospectus. You can request a copy of a mutual fund's prospectus from your Financial Professional.

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4.8 Unit Investment Trusts

Characteristics

We offer a wide range of unit investment trusts (UITs). UITs are pooled investment vehicles in which a portfolio of securities is selected by the trust's sponsor and deposited into the trust for a specified period of time. The portfolio of securities is not actively traded, and the trust generally follows a "buy and hold" investment strategy. The portfolio will generally remain fixed until the termination of the trust. UIT term lengths vary, but usually have a maturity date that is between 15 to 24 months from the initial offering date.

At the UIT's maturity date, an investor will usually receive the cash value of their investment as of the date of the liquidation, but some UITs offer unitholders the ability to receive their pro rata share of the securities held in the underlying portfolio in lieu of cash.

The portfolio of the UIT is generally designed to follow a defined investment objective over a specified period of time. A UIT is formed by the trust sponsor, who enters into an agreement with the trustee. When the trust is formed, the investment terms and conditions are set forth in the trust agreement, such as the trust objective, the securities that will be placed in the trust, when the trust will terminate, and what fees and expenses will be charged to the trust's assets. These terms and conditions of the trust will be listed in the prospectus.

Fees and Costs

You will pay us a sales charge when you buy units in a UIT in an initial offering, or a commission when you buy or sell units in a secondary trading market. You will pay this sales charge or commission in addition to the amount of the UIT you choose to buy or sell.

> *For example, if you invest $10,000 in a UIT's initial offering that assesses a 2% sales charge, then a $200 sales charge will be deducted and the remaining $9,800 of your investment will be used to purchase units in the UIT's initial offering. If you purchase $10,000 of units in a UIT on a trading market, after the initial offering, you will pay a commission or sales charge based on the value of the investment.*

In some instances, collection of all or part of a sales charge in connection with a UIT is deferred over a period following the purchase of units. Typically, the deferred sales charge is deducted from the unitholder's distributions on the units owned during the collection period until the total amount of the sales charge is paid. If you liquidate your investment in a UIT prior to the maturity date, you may pay a fee to the sponsor at the time of the liquidation, which will reduce the proceeds of the liquidation.

UITs also deduct other fees and expenses from trust assets, such as organizational and operating expenses. These fees and expenses include portfolio supervision, recordkeeping, administrative fees, and trustee fees. UITs also charge creation and development fees, which compensate the sponsors for creating and developing the trusts. However, UITs generally do not deduct a separate management fee because the portfolio is not actively managed. We may receive a portion of these fees and expenses, generally referred to as revenue sharing. Please see section 9, below, for a discussion regarding revenue-sharing payments that we receive from investment sponsors.

More Information

More information about UITs, including their sales charge and ongoing fees and expenses, is available in the prospectus for each UIT.

4.9 Real Estate Investment Trusts

Characteristics

We offer a number of real estate investment trusts (REITs). They own and usually operate real estate assets, such as office buildings, shopping malls, apartments, hotels, resorts, self-storage facilities, warehouses, portfolios of single-family homes, and real estate mortgages or loans. Unlike some other real estate companies, REITs generally do not develop real estate properties to resell them, but rather buy and develop properties primarily to operate them as part of their own investment portfolio.

REITS provide investors with exposure to the investment performance of real estate and real estate-backed loans. Distributions to shareholders from REITs often enjoy tax-advantaged status, but REITs are required to pay out most of the taxable income to their shareholders in order to qualify for that favorable tax treatment.

We offer both publicly-traded REITs (traded REITs), which are typically listed for trading on a national securities exchange, and non-traded REITs, which are not listed for trading on an exchange. While traded REITs can be bought and sold on a secondary trading market, non-traded REITs cannot be bought or sold readily in a secondary trading market and are typically only available for purchase

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when the REIT is conducting a public offering of its shares. The market price for shares of traded REITs is readily available, but since non-traded REITs are not traded on an exchange or other public market, their price is not readily available. Shares of non-traded REITs are illiquid investments because you may not be able to sell your shares readily. Also, in the case of non-traded REITs, which generally are purchasing real estate assets as they are conducting their offerings, dividend yields may come in whole or in part from offering proceeds or borrowings rather than from rental or other income, reducing the amount available to invest in real estate assets. Non-traded REITs also often have an external manager whereas traded REITs typically have internal employees who manage the assets of the REIT. The interests of external managers, who receive fees from the REIT for managing the REIT and assisting with acquisitions, can conflict with the interests of the shareholders of the non-traded REITs.

Fees and Costs

You will pay us a commission when you buy shares in a traded REIT's public offering, or buy or sell shares in a traded REIT in a secondary trading market. For an initial offering purchase, the commission on a traded REIT is a one-time fixed fee, typically a percentage of the investment amount, and usually ranges between 1% and 2% of the investment amount.

Non-traded REITs have initial offering commissions which typically include both a commission payable to us and a "dealer manager" fee which is payable to a distributor that is usually an affiliate of the issuer. The commissions and sales charges are usually significantly higher than those applicable to traded REITs, and the commission is deducted from the amount you invest. For a purchase or sale transaction in the secondary trading market, the commission is generally similar to a commission on an equity trade, and is also a one-time fixed fee. The commission is a separate charge from the purchase or sale amount.

> *For example, if you purchase $10,000 of shares in a public offering of a publicly-traded REIT that assesses a 2% commission on your investment, you will pay a $200 commission and the remaining $9,800 of your investment will be used to purchase shares in the REIT's offering. If you purchase $10,000 of shares in a REIT in the secondary trading markets, you will pay a commission based on the value of the transaction.*

Both traded- and non-traded REITs bear the fees and expenses associated with acquiring, operating, and disposing of their assets. You pay these fees and expenses indirectly, because they impact the profitability of the REIT and the value of your shares.

We receive payments from sponsors of non-traded REITs, generally referred to as revenue-sharing. These payments, as well as the conflicts of interest associated with them, are described more fully below in section 9, below. Since we receive revenue-sharing payments in connection with purchases and holdings of non-traded REITs, we have an incentive to recommend that you purchase shares of non-traded REITs instead of traded REITs.

The cost to purchase a share of a traded REIT is determined by the market in which it trades, and may be higher or lower than the value of the assets owned by the REIT. Non-traded REITs generally offer owners the ability to liquidate or "redeem" their shares at specified intervals, usually every month. Since there is not typically a public market for the shares of a non-traded REIT, the only option you have if you choose to liquidate your ownership interest is to tender your shares to the REIT. If you choose to liquidate your REIT shares by tendering them to the REIT, the price you receive will be the NAV as determined by the fund sponsor. In addition, most non-traded REITs that offer to repurchase REIT shares limit the dollar amount of the shares that they will purchase in any given time period. If the REIT receives requests to redeem in amounts greater than the limit established by the sponsor, the sponsor has the right to decline to purchase a portion of the shares that you and other shareholders have tendered. In most cases, you may continue to tender any shares that have not been redeemed in succeeding periods, but if the volume of redemption requests from all shareholders exceeds the limit established by the sponsor, it may take some time for you to liquidate your entire investment. The price you receive for liquidating your shares will depend on the NAV of the REIT at the time when your redemption is processed.

When you purchase or sell a traded REIT, you will pay us a commission, which is determined by published commission schedule for transactions executed in public markets. If you purchase shares of a non-traded REIT, you will pay a sales charge that include the dealer-manager fee, as described above. The commission payable in connection with the purchase of a traded REIT is usually lower than the commission that you will pay in connection with purchase of a non-traded REIT as a percentage of the investment amount. Non-traded REITs are different from traded REITs in several material ways, including those mentioned above, and are not directly comparable as investments. If you are interested in investing in real estate though purchase of a REIT, please ask you Financial Professional for additional information regarding the differences between traded and non-traded REITs, including the fees and expenses you will incur in connection with purchasing and selling them.

More Information

More information about REITs, including their initial commissions and ongoing fees and expenses, is available in the REIT's prospectus.

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4.10 Business Development Companies

Characteristics

We offer interests in a number of Business Development Companies (BDCs). BDCs are a type of closed-end investment fund that offers investors the ability to invest money in small and medium-sized private companies and other investments, including public companies.

BDCs pool money from investors and usually invest in debt and equity of small and medium-sized private or small public companies. The companies BDCs invest in are often in early stages of development, or may not be large enough to obtain bank loans or raise money from other investors. BDCs are sometimes compared to venture capital funds or private equity funds, which provide exposure to private, often illiquid, investments and may provide management or other assistance to the companies they invest in. However, BDCs are registered with the SEC and may be purchased by most investors. Publicly-traded BDCs are similar to other closed-end funds and ETFs in that their shares are typically bought and sold on national securities exchanges at market prices.

We also offer non-traded BDCs. The assets they own are similar to publicly-traded BDCs, but while traded BDCs can be bought and sold on a secondary trading market, non-traded BDCs cannot be bought or sold readily in a secondary trading market and are typically only available for purchase when the BDC is conducting a public offering of its shares. The market price for shares of traded BDCs is readily available, but since non-traded BDCs are not traded on an exchange or other public market, the price is not readily available. Shares of non-traded BDCs are considered to be illiquid investments because you may not be able to sell your shares readily. Also, in the case of non-traded BDCs, which generally are making loans or purchasing securities of other companies as they are conducting their offerings, dividend yields may come from offering proceeds or borrowings rather than from interest or other income, reducing the amount available to invest in other assets.

Fees and Costs

You will pay us a commission when you buy shares in a traded BDC's public offering or buy or sell shares in a secondary trading market. For an initial offering purchase, the commission on a traded BDC is a one-time fixed fee, typically a percentage of the investment amount, and usually ranges between 1% and 2% of the investment amount.

Non-traded BDCs have initial offering commissions which typically include both a commission payable to us and a "dealer manager" fee which is payable to a distributor that is usually an affiliate of the issuer. The commissions and sales charges are significantly higher than those applicable to traded BDCs, and generally ranges from 2% to 5% of the initial investment amount. The commission is deducted from the amount you invest. For a purchase or sale transaction in a secondary trading market, the commission is similar to a commission on an equity trade, and is also a one-time fixed fee, depending primarily on the value of the transaction. The commission is a separate charge from the purchase or sale amount.

> *For example, if you purchase $10,000 of shares in a public offering of a traded BDC that assesses a 2% commission on your investment, then you will pay a $200 commission and the remaining $9,800 of your investment will be used to purchase shares in the BDC's offering. If you purchase $10,000 of shares in a BDC in the secondary trading markets, you will pay a commission based on the value of the transaction.*

Both traded and non-traded BDCs bear the fees and expenses associated with acquiring, operating, and disposing of their assets. You pay these fees and expenses indirectly because they impact the profitability of the BDC and the value of your shares. We may receive payments from the sponsor of the BDC, generally referred to as revenue sharing.

We receive payments from sponsors of non-traded REITs, generally referred to as revenue-sharing. We do not generally receive revenue-sharing payments from sponsors of traded BDCs, which creates an incentive for us to recommend that you purchase shares of non-traded BDCs rather than traded BDCs. These payments, as well as the conflicts of interest associated with them, are described more fully below in section 9, below.

> *For example, if you purchase $10,000 of shares in a public offering of a non-traded BDC that assesses a 4% commission on your investment, then you will pay a $400 commission and the remaining $9,600 of your investment will be used to purchase shares in the BDC's offering.*

Both traded- and non-traded BDCs bear the fees and expenses associated with acquiring, operating, and disposing of their assets. You pay these fees and expenses indirectly, because they impact the profitability of the BDC and the value of your shares.

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The cost to purchase a share of a traded BDC is determined by the market in which it trades, and may be higher or lower than the value of the assets owned by the BDC. Non-traded BDCs usually offer owners the ability to liquidate or "redeem" their shares at specified intervals, usually every month. Since there is not typically a public market for the shares of the non-traded BDC, the only option you have if you choose to liquidate your ownership interest is to tender your shares to the BDC. If you chose to liquidate your BDC shares by tendering them to the BDC, the price you receive will be the NAV as determined by the fund sponsor as of the time of the liquidation. In addition, most non-traded BDCs that offer to repurchase shares limit the dollar amount of the shares that they will purchase in any given time period. If the BDC receives requests to redeem shares in amounts greater than the limit established by the sponsor, the sponsor has the right to decline to purchase the shares you have tendered. In most cases, you may continue to tender your shares in succeeding periods, but if the volume of redemption requests by all shareholders exceeds the limit established by the sponsor, it may take some time for you to liquidate your entire investment. The price you receive will depend upon the NAV of the BDC at the time when your redemption is processed.

When you purchase or sell a traded BDC, you will pay us a commission, which is determined by our published commission schedule for transactions executed in public markets. If you purchase shares of a non-traded BDC, you will pay a sales charge that includes the dealer-manager fee, as described above. The commission that you will pay in connection with the purchase of a traded BDC is usually lower as a percentage of the investment amount than the commission that you will pay in connection with purchase of a non-traded BDC. Non-traded BDCs are different from traded BDCs in several material ways, and are not directly comparable as investments. If you are interested in investing in a BDC, please ask you Financial Professional for additional information regarding the differences between traded and non-traded BDCs, including the fees and expenses you will incur in connection with purchasing and selling them.

More Information

More information about BDCs, including their initial commissions and ongoing fees and expenses, is available in the prospectus.

4.11 Education Savings Plans

Characteristics

We offer a number of college and education savings plans, often referred to as "529 plans." 529 plans are tax-advantaged and state-sponsored investment programs designed specifically for education savings and named after the section of the Internal Revenue Code that created them.

There are two general types of 529 plans: Education savings plans and prepaid tuition plans. Education savings plans are securities that allow investment earnings to grow tax-deferred, and withdrawals are exempt from federal taxation when used for qualified educational expenses. Education savings plans generally operate through state-sponsored trusts and permit investors to allocate contributions to one or more investment options offered in the plan. Prepaid tuition plans allow investors to "lock in" tuition rates at specified educational institutions for students who will attend the institution at a later time. Every state offers at least one type of 529 plan, and some states offer both types. The remainder of this discussion is limited to education savings plans and does not include prepaid tuition plans. 529 plans were originally limited to funding qualified college expenses, but have been expanded to allow for use in connection with qualified education expenses at other institutions for students in primary and secondary schools.

Education savings plan contributions are generally invested in certain underlying investment options, such as mutual funds. The value of the contributions will fluctuate as the underlying investment options increase or decrease in value, and there is no guarantee that the amount contributed to the plan will equal the amount necessary for future education expenses. Although similar to mutual funds in certain ways, education savings plans are issued by state governments, and are not directly regulated or registered under the federal securities laws.

If you are considering investing in an education savings plan, you should read the offering document (often called a program description or "official statement") carefully before investing. Each program description contains important information that will help you make an informed decision about an investment in the plan. In deciding whether to invest in an education savings plan, you should consider several different factors, including each investment option's past performance, investment objective, investment strategy and risks, the investment adviser responsible for advising the state issuer, and the fees and expenses associated with an investment in a particular investment option. While past performance of an investment option is not indicative of future results, an investment option's long-term performance record may be an important factor in deciding to invest.

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Fees and Costs

You will usually pay us a sales charge when you purchase an education savings plan. We receive a portion of this sales charge for the sales and related services we provide to the primary distributor of the plan.

Most education savings plans offer multiple classes of units (often called share classes), similar to the share class structure offered by many mutual funds. Though there are several types of share classes, but the most common share classes available to you are Classes A, B, and C. Each class typically has different fees and expenses, and therefore investment option performance results will differ as those fees and expenses reduce performance across share classes. You should also note that the amount of time you expect to hold your investment in a college savings plan may play an important role in determining which share class is most appropriate for you, and you should discuss this consideration with your Financial Professional. For example, Class C units may not be appropriate for situations in which the intended beneficiary of the account (the student(s) who intend to use the proceeds of the account for qualified education expenses) is less than 10 years old at the time that the initial deposit into the account is made. Similarly, class A shares may not be appropriate for situations in which the intended beneficiary is more than 12 years old at the time of the original deposit.

While there are no standard definitions for these share classes and each education savings plan defines its share classes in its offering document, these are basic descriptions of the most common share classes available to you:

- Class A – This share class usually carries a front-end sales charge, which is typically assessed as a percentage of each contribution. The net amount of your contribution after the deduction of the sales charge is invested in shares of the plan investment option(s) that you select. Class A shares typically have lower operating expenses compared to the other share classes of the same investment option. This means that ongoing costs will typically be lower than ongoing costs associated with other share classes of the same investment option. Many plans also offer "breakpoint" discounts for large investments in Class A shares, which means that the front-end sales charge decreases as the investment increases. These breakpoints are described in the plan's offering document. Breakpoints applicable to education savings plans are similar to but not always identical to breakpoints available in connection with purchase of mutual fund shares. Please review the terms of the various share classes with your Financial Professional prior to making an investment in an education savings plan.

  For example, if you purchase $10,000 of Class A shares of an investment option for an education savings plan that assesses a 3% front-end sales charge on your investment, you will pay a $300 front-end sales charge and the remaining $9,700 of your contribution will be used to purchase Class A shares of the investment option.

- Class B – This share class has no front-end sales charge like Class A shares, but has "back-end" or "contingent deferred sales charges" (CDSC) that apply. The CDSC means that you pay a sales charge when you redeem shares from your investment option. The amount of the CDSC is typically assessed as a percentage of the investment option. It generally declines as a percentage of the value of your account over the time that you hold your shares and eventually is eliminated. The period of decline typically lasts anywhere from five to eight years from the date of the contribution, depending on the plan and investment option. Once the CDSC is eliminated (typically at the end of the five-to-eight-year period), Class B shares usually convert to Class A shares. Until this conversion takes place, Class B shares will typically have higher ongoing operating expenses than Class A shares.

  For example, if you purchase $10,000 of Class B shares of an investment option of an education savings plan that assesses a CDSC, you will not pay a front-end sales charge and the entire $10,000 contribution will be used to purchase Class B shares of the investment option at the time of purchase. However, if you decide to redeem those same Class B shares two years later, you will pay a CDSC based on the time that has elapsed since the purchase.

- Class C – This share class is characterized by a level asset-based sales charge that you pay annually as a percentage of your assets in an investment option. It does not have a front-end sales charge like Class A shares, but does have a CDSC like Class B shares.

However, unlike Class B shares, the CDSC for Class C shares is generally eliminated after a short period of time (usually one year). Operating expenses for Class C shares are usually higher than for Class A or B shares.

For example, if you purchase $10,000 of Class C shares of an investment option of an education savings plan with a 1% asset-based sales charge, you will not pay a front-end sales charge or a CDSC, so the entire $10,000 contribution will be used to purchase Class C shares of the investment option at the time of purchase. However, each year, your contribution will be charged a 1% asset-based charge, so your $10,000 contribution will be reduced to $9,900 after the first year, assuming no appreciation or depreciation of the shares in that one-year period.

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In addition to these sales charges, education savings plans typically deduct certain ongoing fees and expenses from each investment option, such as program management fees, from assets in the investment options. Although these ongoing fees and expenses will vary based on the plan, some of the more common ones include:

- Program Management Fees – Education savings plans generally deduct a program management fee to pay the program manager for providing investment advisory, accounting, and other services to the plan. This fee is typically charged annually as a percentage of your assets, and is reflected in the NAV of the plan's investment options.

- Maintenance Fee – Most plans charge an annual maintenance fee. This fee, which compensates the plan sponsor for costs of maintaining the plan, may be waived in certain circumstances, such as when your plan assets exceed certain thresholds.

- Underlying Mutual Fund Expenses – Most plans invest contributions in one or more mutual funds and bear a portion of the fees and expenses of these underlying funds. The underlying mutual fund expenses are deducted from fund assets and reflected in the NAV of the underlying mutual funds, which means they are also reflected in the NAV of the plan's investment options. More information on the mutual funds that underlie the plan's investment options is available in the plan's offering document. In addition, more information on the underlying mutual funds, including their ongoing fees and expenses and overall expense ratio, is available in the fund prospectuses.

You pay these fees and expenses indirectly as they are deducted from your investment option assets, or the assets of underlying mutual funds, on an ongoing basis.

More Information

More information on the sales charges and ongoing fees and expenses is available in the college savings plan's offering document, which you can request from your Financial Professional.

4.12 Structured Products

Characteristics of Structured Products

Structured products are securities whose value is based upon or derived from the price of another asset, such as a security or a basket of securities, an index, a commodity, a debt instrument, or a foreign currency. They are often referred to as structured notes, or structured certificates of deposit (if issued by a bank or other depository institution). They bear similarities to other fixed income instruments such as bonds, but often do not make interest payments or require repayment of the principal by the issuer. They are usually issued for a fixed term of months or years and redeemed by the issuer at the end of the term.

Structured products are generally unsecured debt of the issuer and subject to the credit rating and ability of the issuer to repay its obligations. This risk exists whether or not the investment held in the account offers principal protection from an insurer or other third party.

Structured products are offered by issuers in initial offerings that may be ongoing or continuous. If you purchase a structured product in an initial offering, you will pay us a sales charge or fee that is a percentage of your investment of your investment. Structured products are not usually traded on secondary markets such as exchanges, and it may be difficult to liquidate a structured product prior to its maturity. Many issuers offer to buy structured products that they have issued, but may only do so at prices that are below the initial offering price or the current net asset value of the instrument. The market price of the security in the secondary market, if there is one, may be adversely impacted if the issuer's credit rating is downgraded.

Some structured products offer full protection of the principal invested, others offer only partial or no protection. Where protection exists, the return of principal may not be for many years and there is significant liquidity risk with these investments. Investors may give up a higher yield to obtain the principal guarantee. In addition, the principal guarantee relates to the nominal principal amount and does not offer inflation protection. An investor in a structured product usually does not have a claim on the underlying investment or reference asset.

Tax treatment of structured products may be different from other investments (for example, income may be taxed as ordinary income even though payment is not received until maturity). Structured CDs that are insured by the FDIC are subject to applicable FDIC limits.

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Fees and Costs

You will pay us a commission when you buy shares in a public offering of a structured product or liquidate it by selling it back to the issuer or a third party. For an initial offering purchase, the commission on a structured product is a one-time fixed fee, typically a percentage of the investment amount. The commission is a separate charge from the purchase or sale amount.

> *For example, if you purchase $10,000 of interests in a public offering of a structured product that assesses a 2% sales charge on your investment, then you will pay a $200 commission and the remaining $9,800 of your investment will be used to purchase the structured product.*

More Information

More information about structured products, including their initial commissions and ongoing fees and expenses, is available in the prospectus.

5. CONFLICTS OF INTEREST

All broker-dealers and Financial Professionals have conflicts of interest in dealing with customers because they have an incentive to recommend that customers purchase or hold securities or contract for services that will yield them the largest amount of compensation, both per transaction and in the aggregate. SEC Regulation Best Interest (Reg. BI) requires that we act in your best interest when we make recommendations to you, and that we do not place our financial or other interest above yours.

We have identified certain conflicts of interest that relate to the recommendations that we and our Financial Professionals make to you. A conflict arises when an economic benefit, usually in the form of compensation or payments that we receive from you or a third party, creates an incentive for either us or a Financial Professional to put our interests ahead of yours. Some of these conflicts exist between customers and both the firm and Financial Professionals. Others exist between customers and the firm alone, and some between customers and Financial Professionals alone. The discussion below summarizes material aspects of these conflicts to assist you in making an informed decision regarding any recommendation a Financial Professional provides you. If you have questions regarding these conflicts or others, please consult with your Financial Professional.

We receive different types and amounts of compensation for performing different services for you. These are discussed in more detail below, but the way we are compensated and who pays us creates incentives for us to recommend that you establish or maintain a given type of relationship with us (brokerage or advisory), that you purchase specific types or amounts of investments, or both. We will make recommendations that we believe are in your best interest, but you should be aware of the incentives that we have when we make recommendations to you and the conflicts of interest that they create. You have the sole authority to control all decisions regarding transactions executed on your behalf, although you may choose to give your Financial Professional discretionary authority to execute transactions in your investment advisory account. The compensation we receive and the incentives we have for recommending services to you include the following:

- *Your relationship with us – Brokerage vs. Investment Advisory* – If you choose to establish a brokerage account or purchase assets that will be held directly by product sponsors, you will pay us for transactions that we execute for you. We also receive ongoing compensation in connection with certain investments that you own. In general, if you choose a brokerage or direct account, you will pay us sales charges when you purchase or sell investments. We have an incentive to recommend that you execute both more transactions and transactions for larger dollar amounts in your brokerage account because that increases our compensation.

  If you choose an investment advisory relationship, you will pay us ongoing fees to give you advice, execute transactions, and monitor the performance of your investments. Our fees are based on the value of the assets in your account, a fixed or hourly fee, or a combination of both, but you will pay us fees for providing ongoing advice and monitoring of your investments whether we execute transactions in your account or not. Some of our advisory programs are referred to as "wrap" programs, in which you pay a single fee for advice and execution of transactions. In some of our advisory programs, you will pay fees for execution of transactions in addition to advisory fees. We do not have a financial incentive to recommend or execute more transactions in wrap accounts, but we have an incentive to do so in advisory programs where you pay a fee for execution of transactions. We also have an incentive to recommend that you establish an advisory account instead of a brokerage account because we will receive fees regardless of whether transactions are executed in your account.

- *Different compensation applies to different types of investments* – If you choose a brokerage relationship, you may purchase many different types of investments, including stocks, bonds or other fixed-income investments, mutual funds, ETFs, variable products,

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and alternative investments such as non-traded REITs, non-traded BDCs, and private investment funds. Each of these investments has different characteristics, risks, and potential benefits. Some investments have higher initial and/or ongoing sales charges than others. We have an incentive to recommend investments and investment types that pay us a larger amount of compensation, both initially and on an ongoing basis, and to recommend one product of a given type over another if it pays us more compensation.

5.1 Conflicts for Both Us and Our Financial Professionals

Conflicts between the interests of customers and both our firm and Financial Professionals may be caused by a variety of arrangements, including the role we play in a transaction and our compensation arrangements, charges applicable to specific transactions, and other forms of compensation that we receive from investment product sponsors and other third parties.

Our relationship with you creates a number of conflicts between our interests and yours, including the following:

- *We and our Financial Professionals are paid when you trade or invest based on our recommendations*. We are paid each time you trade or make a new investment. Conversely, if you do not trade or make investments through us, we will receive less compensation in connection with your account than we would if you trade actively. We pay our Financial Professionals a portion of the transaction-based payments that we receive. These transaction-based payments (commissions and sales charges) create incentives for us and your Financial Professional to encourage you to trade more and purchase additional investments that result in additional revenue for our firm and your Financial Professional.

- *For some investments that you purchase, we receive payments from third-parties that are in addition to the transaction-based payments described above.* This is particularly true when you purchase mutual funds, education savings plans, and variable products. For example, certain mutual fund sponsors make ongoing payments to us based on invested assets and not just new investments. These include 12b-1 fees, shareholder servicing fees, and trail compensation. These third-party payments are described in further detail in the prospectus or offering materials for the investment, and also below in section 9. All of these third- party payments create incentives for us and your Financial Professional to recommend that you purchase and hold investments that entail these payments rather than investments that do not, or that entail comparatively lower payments.

- *For investments with multi-share class structures, we generally receive comparatively more compensation when we recommend that you purchase or hold a share class that is likely to be more costly for you.* Some investments, such as mutual funds, education savings plans, and variable products, offer multiple share classes, and depending on the share class that you purchase, we may earn higher commissions, ongoing payments and/or other compensation. These comparatively higher commissions, ongoing payments and other compensation create incentives for us and your Financial Professional to recommend that you purchase and/ or hold the share class that results in the most compensation for us and is likely to be more costly for you. Where issuers offer multi-share class structures, the lowest-cost share classes may not be available to retail investors, due to high minimum investment amounts or account type requirements (for example, only retirement or advisory accounts). You can find more information about the compensation paid on different share classes in the prospectus for the investment or by asking your Financial Professional.

  In general, we have “levelized” compensation payable to our Financial Professionals in connection with purchases of variable products and alternative investments such as non-traded REITs and BDCs, with the intention of mitigating the incentive for a Financial Professional to recommend either a given investment or share class over another. This levelization process is intended to make the amount of compensation that the Financial Professional receives in connection with all share classes approximately equal if you hold the investment for a period of seven years. We have not levelized compensation payable to Financial Professionals with respect to purchases of mutual funds. As discussed in more retail in section 3, above, mutual funds are often subject to discounts on sales charges based on breakpoints or other sales charge reduction programs, but we have not levelized compensation to Financial Professionals across mutual funds and share classes.

- *We are paid when you engage in rollover transactions.* We may recommend that you roll over assets from your workplace retirement plan into an IRA account. When you engage in a rollover to an IRA, we and your Financial Professional will receive compensation in connection with the investments that you purchase and hold in your IRA account. We offer investment advice and services to participants in workplace retirement plans, but the compensation we receive in connection with those services is usually lower than what we would receive if you rollover those assets to an IRA. This creates incentives for us and your Financial Professional to encourage you to transfer or roll over assets from a workplace retirement plan to an IRA and to purchase investments that will result in additional compensation for us and your Financial Professional.

- *We have an incentive to recommend the account type that pays us the most compensation.* We can recommend that you invest through different account type arrangements, such as through a brokerage account, an account directly held with the issuer of the investment (or its transfer agent), or an investment advisory account. Depending on factors such as the type and level of services

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you select and the frequency of trading in your account, one of these account types may be more cost-effective for you than the others. The availability of different account types creates incentives for us to recommend the account type that results in the most compensation for us and your Financial Professional.

We have agreements with multiple clearing firms and you may pay higher fees for similar services than you would pay if you utilized the other clearing broker. We currently utilize the services of two clearing firms, Pershing and NFS. They execute transactions for customers, maintain custody of customer investment assets, and perform other services related to purchases, sales, and holdings of investment assets for customers.

Pershing and NFS perform similar services for us and our customers, but our agreements with them contain different terms. The differences include, but are not limited to, the following:

- You may pay higher fees for substantially similar services. For example, charges for execution of transactions, interest on margin loans, or fees for specific services such as delivery of transaction confirmations and account statements or execution of wire transfer payments may be higher at Pershing than at NFS.

- We have different arrangements with Pershing and NFS with respect to payments that they make to us. For example, NFS may pay us more in connection with customer margin debit balances, investment of customer cash balances, and fees paid by investment product sponsors.

If you choose to establish or maintain a brokerage account with us, your account will be held by either Pershing or NFS as the clearing broker. Since you will often pay different fees for similar services provided by the two clearing firms, it could be more cost-effective for you to establish a brokerage account at one firm rather than the other. The clearing firm that would be the most cost-effective for you depends on several factors, including the type of account that you maintain (brokerage vs. investment advisory) the type and frequency of transactions in your account, the types of assets held in your account, and the degree to which you utilize other services such as margin, checking facilities or wire transfers.

Given the fact that we have different arrangements with Pershing and NFS and that the fees you pay for utilizing each will be different, we and your Financial Professional have a financial incentive to recommend that you establish an account with one clearing broker rather than the other, based upon the type of account and types of activity that we expect to take place in your account. That creates a potential conflict between your interests and ours. In order to mitigate the potential for this conflict of interest, your Financial Professional is usually only allowed to establish or maintain brokerage accounts for customers at a single clearing broker, either Pershing or NFS. Without receiving specific approval, your Financial Professional may not recommend that their customers establish accounts at the other clearing broker or maintain accounts with both Pershing and NFS. Your Financial Professional must elect to utilize the services of only one clearing broker for all of their customer brokerage accounts and may not choose between NFS and Pershing with respect to individual customer accounts. There may be instances in which it would be more cost-effective for you to maintain an account at Pershing versus NFS, but since individual Financial Professionals are limited to utilizing only either NFS or Pershing, you may not be able to establish a brokerage account at the clearing broker that would offer you more or lower-cost services. The decision that your Financial Professional has made to utilize either NFS or Pershing could result in an economic disadvantage to you.

Schedules of account-related charges for Pershing and NFS are included in Section 3.4.1 of this document. We encourage you to review them and ask your Financial Professional if you have questions about any charges or how they are calculated. Since we generally only allow Financial Professionals to utilize a single clearing broker for brokerage accounts maintained by customers of the Financial Professional, you will not usually have the ability to choose to establish an account at a different clearing broker even if it would be advantageous to you.

5.2 Conflicts for The Firm Alone

Some conflicts exist solely or largely between the firm and the customer, primarily due to the type of payments we receive from third parties or the role that the firm plays in a transaction or service provided to customers. These are examples of material conflicts for the firm that do not directly involve the Financial Professional.

- *Many issuers of the investments that our Financial Professionals recommend pay us based on the total amount of sales of their investments or the total amount of customer assets we direct to them.* These payments are sometimes called revenue- sharing payments, and are described in more detail in section 9, below. Revenue-sharing payments create an incentive for us to recommend that you purchase and/or hold investments that include such payments rather than investments that do not, or entail comparatively lower payments.

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- *Many investment product sponsors or their affiliates also make payments to us to cover the costs associated with certain educational conferences or training seminars that we host for our Financial Professionals.* These payments are generally not tied directly to total sales or customer assets, but by reimbursing us for costs involved in educating our Financial Professionals about their products, these payments reduce our expenses, increase our profit, and create an incentive for us to recommend that you purchase and/or hold investments issued by sponsors that make these payments rather than investments of those that do not, or who make comparatively lower payments. Please see section 9, below, regarding the specific issuers with whom we have arrangements for revenue sharing and other similar payments.

  Pershing and NFS, our clearing brokers, make payments to us based on the amount of our total customer assets invested in certain investments as of certain dates. These payments create incentives for us to recommend that you purchase and/or hold investments that entail such payments rather than investments that do not, or entail less of such payments. In addition, certain executing broker-dealers including Pershing and NFS offer us payments for order flow, which refers to the compensation we receive for routing securities transactions to executing broker-dealers for execution. These order flow payments create incentives for us to route orders to executing broker-dealers that offer order flow payments instead of pursuing the best execution price for your transaction without regard to any order flow payments. Please see section 9, below, regarding the specific issuers with whom we have arrangements for revenue sharing and other similar payments.

5.3 Conflicts for Financial Professionals Alone

Conflicts between customers and our Financial Professionals may be caused by a variety of arrangements, including compensation arrangements, factors specific to individual customers, and outside business activities in which the Financial Professional engages. Material facts relating to these conflicts are as follows:

- *Your Financial Professional receives a larger share of the compensation we receive for performing services for you as their total annual revenue increases.* We pay our Financial Professionals a portion of the revenue that they generate in connection with providing services to customers. The revenue generated by transactions affected for customers is often referred to as the "gross dealer concession" or "GDC." GDC for Financial Professionals includes both commission revenue attributable to brokerage transactions investment advisory fees attributable to customer accounts, and revenue from all accounts and products is generally accorded the same weight in determining the tier or compensation band into which the Financial Professional falls.

  Our Financial Professionals receive a greater percentage of the GDC as the total annual revenue they produce for the firm increases. For example, if a Financial Professional generates $100,000 of GDC is a given year, he or she may receive approximately 75% as their portion of the compensation. If the Financial Professional generates $1 million of GDC in a given year, they could receive approximately 95% as their portion. The higher percentages are not retroactive, and are only payable on incremental revenue above a specific band or threshold. These arrangements create incentives for your Financial Professional to encourage more trading and the purchase of additional investments that result in them receiving a greater percentage of the total revenue that they generate in a given calendar year.

- *Some of our managers and supervisors are paid, in whole or in part, based on the financial performance of the branches that they supervise*. Our managers and supervisors oversee the sales and marketing activities of our firm, including supervision and oversight of sales practices of Financial Professionals. The compensation of some branch managers and supervisors is tied to the level of revenue or profit of the branches or region over which they have managerial or supervisory responsibility. The tying of managers' and supervisors' compensation to the revenue or profit of the branches or regions they supervise creates an incentive for them to spend more time on increasing production levels in a given branch or region than on their supervisory responsibilities.

- *We offer loans and other financial assistance to both Financial Professionals who join us from other firms and to our current Financial Professionals.* Some of the Financial Professionals that join us from other firms are provided with forgivable loans or other financial incentives to induce them to join us. If your Financial Professional has received one of these loans or is eligible for another type of payment, it creates an incentive for your Financial Professional to encourage more trading and the purchase of additional investments that result in your Financial Professional meeting production targets so that his or her loan will be forgiven by the firm or other incentive payments will be made by the firm. This conflict becomes more acute as your Financial Professional approaches his or her milestone date. (Please see section 6, below, for more information regarding transition assistance to Financial Professionals.)

- *We offer to purchase the business of Financial Professionals under some circumstances, and the compensation payable to the Financial Professional depends upon factors including the type of accounts that their customers maintain with us.*

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In addition to transition assistance to Financial Professionals who join Cetera from other firms, we also offer arrangements under which Cetera agrees to compensate Financial Professionals for the value of their customer relationships in the event that they die, become disabled, or retire after a specified age. One such arrangement is the Legacy Builder program, which is primarily designed to allow the Financial Professional or their heirs to realize the value of their business when the Financial Professional ceases to perform investment-related services on behalf of their customers.

If a Financial Professional wishes to participate in the Legacy Builder program, they enter onto an agreement with Cetera that sets forth the circumstances under which we will purchase their business and the amount of compensation that will be paid to them, their heirs, or their estate. The amount payable is determined by the type and volume of revenue attributable to the customer accounts serviced by the Financial Professional. Revenues fall into four categories:

- Investment advisory fees attributable to management of customer assets by the Financial Professional;
- Investment advisory fees attributable to management of customer assets by investment managers other than the Financial Professional;
- Recurring sales charges or other payments such as 12b-1 fees and trail payments attributable to the sale of mutual funds, annuity contracts, and other securities; and
- Revenue attributable to sales charges or commissions that are not recurring.

The payment to the Financial Professional is greater with respect to investment advisory fees and is lower for the other categories of revenues. As a result, if a Financial Professional chooses to participate in the Legacy Builder program and their business is ultimately purchased by Cetera, the amount of compensation payable to the Financial Professional, his or her estate, or their heirs, will be greater as the revenue attributable to investment advisory fees increases. This creates an incentive for the Financial Professional to recommend that customers enter into investment advisory relationships instead of securities brokerage or other arrangements that do not include recurring revenues such as investment advisory fees. This creates a potential conflict between the interests of customers and both Cetera and the Financial Professional.

Our Financial Professionals are not required to participate in the Legacy Builder program and may generally elect to withdraw from it at any time prior to a triggering event. Financial Professionals may also enter into similar arrangements with other Financial Professionals or third parties in which another individual or entity assumes obligations similar to those of Cetera under the Legacy Builder program. All such agreements are negotiated between the Financial Professional and the other party, and Cetera is not involved with them. If you have questions about your Financial Professional's participation in the Legacy Builder or other similar arrangements, please ask you Financial Professional for additional information.

- *Financial Professionals receive reimbursement for some or all of their travel and related expenses to attend events based on the revenue that they generate.* We sponsor conferences, meetings, and other educational events in various locations that are attended by our Financial Professionals. Some of these meetings include social events such as dinners and recreational activities in addition to educational or business functions. Financial Professionals receive reimbursement for some or all of their travel and related expenses to attend these events, the amount of which is generally based on the amount of revenue that they produce in a given year. Financial Professionals who produce larger amounts of revenue are generally reimbursed for a larger percentage of the cost of attending events than Financial Professionals who produce smaller amounts of revenue.

- *Some of our Financial Professionals receive additional training and support from product sponsors.* Certain product sponsors and their affiliates provide our Financial Professionals with more training and administrative support services than others. If your Financial Professional receives this additional training and support, creates an incentive for them to recommend investments sponsored by firms that provide such training and services over those that do not, even if such investments are not necessarily in your best interest. (Please see section 6, below for additional discussion regarding marketing assistance and other payments from investment product sponsors.)

- *Some of our Financial Professionals' marketing efforts are subsidized by wholesalers.* Some of our Financial Professionals receive reimbursements or direct payments from employees of investment product sponsors as reimbursement for marketing expenses they incur in connection with the distribution of investment products sponsored by those sponsors. If your Financial Professional receives such reimbursements or direct payments, they create an incentive for her or him to recommend investments that entail these reimbursements or payments over investments that do not, even if such investments are not necessarily in your best interest. (Please see section 6, below for additional information regarding marketing assistance and other similar payments).

- *Some Financial Professionals have outside business activities that compete for their time.* The large majority of our Financial Professionals are independent contractors and not employees of Cetera Wealth Services, and they may engage in business activities outside of their work with us. (These are commonly referred to as "Outside Business Activities, or "OBAs.") If your Financial

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Professional engages in any outside business activities, these activities can create an incentive for your Financial Professional to spend more time on the outside business activity rather than on his or her relationship with you. You may research any outside business activities your Financial Professional has by viewing FINRA's BrokerCheck website at https://brokercheck.finra.org.

- In addition, some of our Financial Professionals offer non-securities investment products and services on their own or through entities that are not affiliated with us. Examples include sales of life, health, and property and casualty insurance and sales of investment products that are not deemed securities, such as fixed and fixed-indexed annuities. These investment products may be similar to investments that the Financial Profession offers through us, but may offer greater compensation to the Financial Professional than a similar product that we offer. This creates an incentive for Financial Professionals to recommend investment products and services that offer greater compensation to them than they could earn through provision of similar services though us.

- *Some Financial Professionals provide investment advisory services through companies that are not affiliated with us.* In addition to the non-securities-related outside business activities noted above, some of our Financial Professionals offer investment advisory services through ORIAs. Aspects of the investment recommendations that Financial Professionals make to customers through ORIAs are subject to our supervision and oversight, but the services the ORIA provides and the fees they charge may be different from those available through us. If your Financial Professional offers investment advisory services through an ORIA, he or she will provide you with a written disclosure of that fact, and will provide you with a copy of the Form ADV for the ORIA. If the revenue that your Financial Professional receives from the ORIA for providing investment advisory services is greater than that which he or she would receive from us for providing similar services, they have an incentive to recommend that you contract for investment advisory services through the ORIA instead of through CIS.

6. COMPENSATION AND OTHER BENEFITS THAT WE PAY OUR FINANCIAL PROFESSIONALS

We provide investment-related services to customers through our Financial Professionals. They receive a portion of the compensation that you pay us in connection with providing brokerage, investment advisory, and other services to you. The portion of the compensation that they receive is negotiated between your Financial Professional and us and is primarily based on the amount of revenue that they produce each year. In general, the more revenue a Financial Professional produces in a given year, the greater the percentage of the gross compensation we pay them. The types and amounts of compensation payable to Financial Professionals are described below. In addition to receiving a portion of the compensation that you pay us for providing brokerage and advisory services to you, your Financial Professional may receive some or all of the following from us or third parties as additional compensation.

- *Transition Loans and Assistance:* Some of our Financial Professionals receive payments from us at the time that they join us. These payments are designed primarily to cover costs that these Financial Professionals incur in connection with transferring customer assets to us, but the amount of the payment that we make to them is often more than the amount of the actual costs incurred in the transition process. Transition assistance of this type is common in the financial services industry, and usually takes the form of a loan to the Financial Professional that may be paid off partially or in full by achieving certain milestones such as remaining affiliated with us for a specified period of time or maintaining a specified dollar amount of customer assets with us. Loans are offered to Financial Professionals at our discretion and vary in amount and terms. The principal amounts are advanced to the Financial Professional either upon joining us, or a portion upon joining with the remaining amount advanced upon a certain threshold of assets being moved to accounts with us.

- In addition to transition loans and assistance, we also offer loans or other financial incentives to Financial Professionals who are already associated with us. These loans or other financial assistance may be used to finance growth of the Financial Professional's business, to acquire assets including customer relationships and accounts from other Financial Professionals, or for other activities intended to increase the revenue of the Financial Professional.

- Loans are forgiven or paid off in parts at regular intervals based on a Financial Professional's continued affiliation in good standing with us and/or upon generating a certain amount of revenue or maintaining a specified amount of assets in customer accounts. If your Financial Professional has received a loan in connection with joining us and repayment of all or part of it is conditioned upon the Financial Professional remaining affiliated with us for a specified period of time or maintaining a specified level of assets in accounts with us, or he or she has an incentive to recommend that you deposit assets and/or establish accounts with us. Repayment or forgiveness of loans that we make to Financial Professionals is not conditioned upon the sale of any specific product or service, including specific investment advisory programs. A Financial Professional is responsible for paying back any amounts owed if he or she fails to abide by the terms of the loan or related agreements, including but not limited to failure to maintain affiliation with us. Loans of this type create an incentive for the Financial Professional to select us to service your account(s) and remain with us for the duration of the loan forgiveness term instead of joining another firm that may not offer loans or other consideration.

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- *Marketing support and assistance:* We and the companies whose investment products we offer reimburse Financial Professionals for the cost of attending meetings or events in which Financial Professionals receive training and education regarding investment products that are created or managed by sponsor firms. In addition, some product sponsors reimburse Financial Professionals for costs incurred in producing educational or marketing material and events for customers or prospective customers of the Financial Professional. The amount that any given product sponsor reimburses to a Financial Professional is negotiated between the sponsor and the Financial Professional, subject to specific limits imposed by FINRA rules. You may be invited to attend seminars or training and educational meetings regarding investment products. If you attend a training or educational meeting with your financial advisor and a product sponsor is present, you should assume that the product sponsor has paid for all or a portion of the cost of the meeting or event, including the cost of travel to the event and any meals or accommodations offered. Additionally, product sponsors provide business entertainment or gifts of nominal value to our Financial Professionals and employees and reimburse them for the purchase of computer software or other similar items that they use in conducting their securities business. If a product sponsor reimburses a Financial Professional for the cost of attending educational meetings, producing educational or marketing events for customers or prospective customers, software, or other costs of marketing and promotion, the Financial Professional has an incentive to recommend that customers purchase investment products or services offered by that sponsor instead of other sponsors.

- *Other Cash and Non-Cash Compensation.* In addition to reimbursement of training and educational meeting costs, we and our Financial Professionals receive promotional items, meals, entertainment or other non-cash compensation from investment product sponsors, as permitted by applicable regulation and rules. Additionally, sales of any mutual funds, variable products, and alternative investment products, including those offered by Strategic Partners, often qualify our Financial Professionals for additional business support and for attendance at seminars, conferences and entertainment events. Some of our home-office management and certain other employees receive a portion of their compensation based on sales of products offered by Strategic Partners and sponsors of other investment products.

7. LIMITATIONS ON THE SERVICES THAT WE PROVIDE TO YOU

We offer securities brokerage and investment advisory services and sales of insurance products. Most of our Financial Professionals offer all of these services to customers. After consultation with you, your Financial Professional will recommend the type(s) of account, products, and services that they reasonably believe best fit your circumstances and objectives, based upon the information you provide them.

Some of our Financial Professionals offer only specific types of services or products. This may be due to their desire to concentrate their business on a group of customers or services, or in some cases the Financial Professional may not have all of the qualifications (such as licenses) necessary to offer a given product or service. If your Financial Professional does not offer all of the services that are described herein or available through us, he or she will inform you the services they provide and the limitations that may result. If you have questions about limitations on the ability of your Financial Professional to provide any type of investment-related service, please consult with your Financial Professional.

We do not require a minimum investment amount in order to establish or maintain a brokerage account with us. However, many sponsors of investment products have minimum investment amounts for investment products that you purchase, and may limit investment in their products to customers who have minimum levels of investment experience, income, total assets, or liquid assets.

Please consult with your Financial Professional and review the prospectus, if applicable, for any investment that you are considering to help you better understand the investment options, risks, investment conditions, and costs. If you maintain a brokerage account with us, you will pay certain charges in connection with it. (Please see section 3, above.) Certain additional charges may apply if the dollar value of the assets in your account declines below a certain level.

All of our investment advisory programs require minimum initial deposits. In our sole discretion we may waive the minimum account size. If you establish a new account and deposit funds less than the minimum opening balance requirement, your funds will not be managed until the minimum dollar amount is met. Any cash that you deposit will be placed into the Cash Sweep Program (Please see the description of our Cash Sweep Program in section 10., below) until the minimum opening balance requirements are met. Information regarding minimum investment amounts for all of our investment advisory programs can be obtained by reviewing our Form ADV Part 2A at https://cetera.com/cetera-wealth-services/disclosures.

8. HOW WE SELECT THE INVESTMENT PRODUCTS AND SERVICES THAT WE OFFER

There are many types of securities and other investment products available to investors. We offer investments that are created and managed by many investment product sponsors. They include the investment products described in this document in addition to others. The product sponsors and specific investments that we offer will change from time to time.

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We offer many different investments and investment products, but we do not offer all of the investments or investment product types that are available through other broker-dealers, financial advisers, or investment sponsors. We have a professional staff that reviews all of the investment products we offer. They consider the underlying characteristics of the product, who manages it, the risks that it involves, under what circumstances it is expected to produce investment returns, and other relevant factors. When we approve a given product, it is added to our firm's "approved products" list and may be offered to customers by our Financial Professionals. Some broker-dealers sponsor investment products themselves or offer investment products that are sponsored by affiliated companies. These are often referred to as "proprietary" products, meaning that they are created, sold, and/or managed by related entities. We offer investment advisory programs in which we manage investments and receive advisory fees, but neither we nor any of our affiliated companies create, sponsor, or manage securities or investment products.

In order to help our Financial Professionals better understand the investment products that we offer to our customers, we limit the investments they offer to those on our approved products list, and Financial Professionals are not permitted to offer or recommend any security that is not on the approved products list. The approved products list is based upon our evaluation of which investments offer a combination of characteristics, risks, and benefits that are designed with the goal of producing the expected investment outcome. All investments involve risk, and there is no guarantee that the investments we offer will produce any investment returns or returns that exceed those from comparable investments that we do not offer. All investments have a risk of loss, up to and including total loss, and in some cases exceeding the amount of the investment. We revise our approved products list from time to time based on market conditions, when new products become available, demand from our customers, and our view of economic and other conditions relating to investments.

In providing investment advice and other services to you we rely upon information that you provide to us, including your risk tolerance, investment experience, investment timeframe, liquidity needs, income, assets in accounts with us and those that you have with other institutions, and liquid assets. In many cases, we impose limitations on the offer or sale of specific investments to our customers depending upon their circumstances and the information that they provide to us. Some investments involve higher levels of risk, may be "illiquid" (not traded on an established public market or otherwise more difficult to sell or liquidate), or may not otherwise be appropriate for all of our customers for other reasons. In some cases, we require that a customer have a specified level of income, assets, total or liquid net worth, or not exceed a certain age in order to purchase a given investment. For all of these reasons, it is important that you disclose accurately and completely all material aspects of your financial situation to your Financial Professional and to us because we rely on that information in making recommendations to you. If you would like additional information regarding investments that may be restricted to certain purchasers, please consult with your Financial Professional.

9. PAYMENTS WE RECEIVE FROM THIRD PARTIES

As an investor, it is important for you to understand the fees and charges associated with your investments, the compensation we receive, and the conflicts of interest that they create for us and your Financial Professional when we recommend investments to you. The information below is intended to help you understand various forms of compensation that we receive in addition to sales charges and ongoing compensation that we and your Financial Professional earn when you purchase a mutual fund, variable product, education savings plan, direct participation program, or alternative investment product such as a non-traded REIT or non-traded BDC.

Compensation arrangements for the investments we offer are described in more detail in the prospectus and/or Statement of Additional Information (SAI) for each mutual fund, variable product, or other investment, in the plan document for a 529 college savings plan, or in other documents prepared by the product sponsor. We have also summarized compensation that we receive in connection with certain investments in section 3, above.

In addition to the commissions and sales charges that we receive in connection with purchases and sales of mutual funds, variable products, alternative investments, and other securities, we also receive additional payments from sponsors of investment products. These include ongoing payments based on sales of products, the value of customer assets managed or held by product sponsors, and other factors described below. Your Financial Professional does not generally share in the additional payments that we receive from product sponsors. He or she receives a portion of the initial sales charge and other ongoing compensation such as 12b-1 fees that we receive from the product sponsor, but the payments described below are usually retained exclusively by the firm. Since we receive these additional payments, we have an incentive to recommend that you purchase or hold certain investment products and to encourage your Financial Professional to recommend that you purchase investments sponsored by companies that pay us additional compensation.

9.1 The Strategic Partners Program - Mutual Funds and Variable Products

We offer more than 1,000 mutual funds sponsored by more than 50 mutual fund companies, and more than 100 variable annuity and variable life insurance contracts sponsored by more than 20 insurance companies. We concentrate our marketing and training efforts on investments offered by a limited number of select and well-known investment sponsors, known as our Strategic Partners. Strategic

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Partners are selected, in part, based on their size, attributes of their products, technology, customer service and training capabilities. Strategic Partners receive benefits from us including more opportunities than other product sponsors to meet with and educate our Financial Professionals on investments and the products they offer. For a current list of our Strategic Partners, please see our website at https://cetera.com/cetera-wealth-services/disclosures.

Our Strategic Partners pay us compensation in addition to the customary sales charges and ongoing compensation described above. In addition to the sales charges or commissions and 12b-1 fees that you pay in connection with purchases of mutual funds and the sales charges and trail commissions on purchases of variable products, Strategic Partners make additional payments to us. The amounts paid vary by Strategic Partner and from year-to-year. The payments from Strategic Partners do not come directly from your investment or reduce its value, and do not affect the potential return on your investment over time. Revenue-sharing is paid by the mutual fund and insurance companies and/or their affiliates out of their assets or earnings.

Strategic Partners pay us up to 0.50% of the total purchase amount of your mutual fund or variable product purchase. (For example, if you invest $10,000 in a mutual fund, we would be paid up to $50.00 in addition to the usual sales charges and ongoing fees that we receive in connection with mutual fund sales). In addition, Strategic Partners pay us up to 0.15% per year based on the value of the assets you hold in the variable product or mutual fund which is broken down by fund family as follows:

Fund Strategic Partner Payment Table		
One-time Payment Based on Sales Amount (bps* range)	**Name of Fund Family**	
5 – 25 bps	Fidelity Advisors Invesco Pacific Life PIMCO	Putnam Transamerica Mutual Funds

Ongoing Annual Payment Based on Assets (bps*)	**Name of Fund Family**	
2 – 9 bps	American Funds Blackrock Fidelity Advisors First Trust Franklin Templeton John Hancock	Lord Abbett Pacific Life PIMCO Putnam Wisdom Tree** Global X**
10 – 15 bps	Amundi Pioneer Cantor Fitzgerald Columbia Management DWS Asset Management Eaton Vance Federated Goldman Sachs	Invesco JP Morgan New York Life Mainstay PGIM Virtus Investment Partners Voya Investment Management

*Strategic Partner payments are calculated using basis points. One basis point equals .01%. For example, 10 bps on $100,000 of assets equals $100.

** Wisdom Tree and Global X have a blended rate which combines a flat asset-based fee and a percentage of the funds' net expense ratio (i.e., 15% for Global X and 25% for Wisdom Tree).

9.2 Conflicts of Interest in Our Revenue-Sharing Programs with Strategic Partners

We are paid more revenue-sharing fees if you purchase one type of investment product instead of another and/or if you purchase a product from one sponsor instead of another. This creates an incentive for us to recommend that you purchase or maintain investments sponsored by Strategic Partners or other product sponsors that make revenue-sharing payments to us. Our Financial Professionals generally do not directly receive any portion the revenue-sharing payments from Strategic Partners or other product sponsors described above, but they do indirectly benefit from Strategic Partner payments when the money is used to increase compensation to Financial Professionals, support costs relating to product review, marketing or training, waiver of ticket charges, or for other activities that may indirectly benefit Financial Professionals. As a result, both we and your Financial Professional have an incentive to recommend that you purchase or hold investments sponsored by companies that make revenue-sharing payments to us instead of those that do not. In general, all investment product sponsors whose products are on our approved products list pay us some form of revenue-sharing, and we do not normally include investment sponsors on our approved products list if they do not make revenue-sharing payments.

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When you purchase a mutual fund or an Exchange-Traded Partner product in a brokerage account, we or your Financial Professional pay a transaction fee or "ticket charge" to Pershing or NFS in connection with that transaction. The amount of the ticket charge is currently up to $30 per transaction and is subject to change. The mutual fund and Exchange-Traded Product sponsors that participate in the Strategic Partner Program subsidize some or all of these ticket charges, either as part of the compensation described above or by paying us a fee in connection with each transaction. Transactions that qualify for ticket charge waivers vary depending on the Strategic Partner. In general, the ticket charge will be waived or reimbursed by the Strategic Partner in connection with purchases of mutual funds in the amount of $2,500 or more. The mutual funds that we offer can also be purchased without a ticket charge by executing purchases directly with the mutual fund sponsor instead of in a brokerage account. (Please see the discussion of direct mutual fund holdings in section 2, above.) The fact that Strategic Partner firms reimburse us for all or a portion of the ticket charges applicable to transactions creates an incentive for us to recommend that you purchase mutual funds offered by Strategic Partners over those of other mutual fund sponsors.

9.3 The Exchange-Traded Products Partner Program

In addition to mutual funds and other investment products, we offer several ETPs. ETPs generally consist of a pool of assets such as stocks or fixed-income investments, but customers do not purchase them directly from the fund sponsor. Instead, ETPs are traded on organized exchanges similar to stocks or other equities. We have an exchange-traded products Partner program (the "ETP Partner Program"), which is similar to our Strategic Partner Program. A current list of our ETP Partners is set forth below and can also be reviewed on our website, at https://cetera.com/cetera-wealth-services/disclosures.

An ETP Partner pays extra compensation to us in addition to commissions and sales charges that we receive in connection with purchases and sales of products that they sponsor. The additional amounts vary from one ETP Partner to another and from year-to-year. In general, an ETP Partner pays us the greater of:

- An annual flat fee of up to 0.25% (0.0025) of the ETP's net expense ratio (as set forth in the prospectus or supplement) of the Fund's average daily balance during the quarter. If 0.25% of the ETP's next expense ratio does not exceed the flat fee we would still be paid the flat fee; or

- (Up to 0.07% (.0007) annually on all of our customer assets under management by the product sponsor. (For each $10,000 average daily balance of an ETP Partner's total assets under management held by our clients, we would be paid up to $7.00 on an annual basis).

These payments are paid by the ETP Partner and/or their affiliates out of the assets or earnings of the ETP Partner and constitute additional revenue for us. They do not affect the returns on your investment.

9.3.1 Conflicts of Interest in Revenue-Sharing and Ticket Charge Waiver Programs with ETP Partners

We receive more revenue if you purchase an ETP Partner product than if you purchase a similar product from a sponsor that is not an ETP Partner. Our Financial Professionals do not directly receive any portion of these payments, but they benefit indirectly from ETP Partner payments when the money is used to support compensation to Financial Professionals, costs relating to product review, marketing or training as described above, waiver of ticket charges, or other expenditures that directly or indirectly benefit the Financial Professional. When you purchase an ETP Partner product, we absorb the ticket charge for each transaction, which would normally be paid by you or your Financial Professional. In general, the ticket charge will be waived in connection with purchases of ETP Partner products in an amount of $2,500.00 or more. If we absorb the ticket charge associated with an ETP Partner product that the Financial Professional would have otherwise had to pay, it creates a conflict of interest between your Financial Professional and you because he or she has a financial incentive to recommend an ETP Partner Product over a product from a sponsor that is not an ETP Partner.

9.4 Direct Participation Programs and Alternative Investment Products

We offer a wide variety of alternative investment products including non-traded REITs and BDCs, limited partnerships and direct participation programs, Section 1031 exchange programs, and oil and gas programs (collectively "Alternative Investment Products"). As noted above, these are often higher risk investments and are not suitable for all investors. In addition to commissions and sales charges that we receive in connection with customer purchases of these products, we receive marketing allowance payments from product sponsors. The additional compensation we receive varies with each sponsor of an Alternative Investment Product. Some sponsors pay a marketing allowance fee of either:

- Up to 0.25% (0.0025) annually on assets held in the Alternative Investment Product. (0.25% of a $10,000 investment is $25.00 per year.); or

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- Up to 1.50% on the gross amount of each customer purchase, depending on the product. (1.50% of a $10,000 investment is $150.00.) These payments constitute additional revenue to us. They do not directly reduce the value of your investment or affect your investment return and are paid by the product sponsor out of the assets or earnings of the product sponsor. Your Financial Professional does not receive additional compensation for selling products from sponsors that pay us such additional compensation, but Financial Professionals benefit indirectly from alternative investment product partner payments when the money is used to support compensation to Financial Professionals or costs relating to product review, marketing or training, waivers of ticket charges or other similar expenditures.

We are paid more revenue-sharing fees if you purchase one type of Alternative Investment Product instead of another and/or if you purchase a product from one sponsor instead of another. Your Financial Professional also indirectly benefits from these sponsor payments when the money is used to support costs relating to product review, marketing or training. This creates an incentive for us to recommend that you purchase or maintain an Alternative Investment Product instead of one that does not pay us similar compensation.

For a current list of the Alternative Product sponsors that pay us additional compensation, please see our website at https://cetera.com/cetera-wealth-services/disclosures.

9.5 Retirement Strategic Partners Program

We also receive certain revenue-sharing payments from third parties such as retirement plan recordkeeping platforms, investment managers, and issuers of annuities that offer products to certain tax-qualified retirement plans such as Section 401(k), 403(b), 457, and other employer-sponsored retirement plans. These firms are referred to as our "Retirement Partners" and participate in activities that are designed to help facilitate the distribution of their products and services such as marketing activities and educational programs, including attendance at conferences and presentations to our Financial Professionals. These revenue-sharing payments are fixed annual dollar amounts that do not depend on the amount you invest in any product or if you utilize the services of the Retirement Partner. Retirement Partners also pay or reimburse some of our expenses or provide non-cash items and services to facilitate training and educational meetings for our Financial Professionals. These payments do not depend on the amount of the Plan's investment in any product or utilization of any Retirement Partners' service. Your Financial Professional does not receive additional compensation for selling or recommending a Retirement Partner product or service, but he or she does indirectly benefit from these sponsor payments when they are used to support costs relating to product review, marketing or training. The fact that we receive compensation from Retirement Partners creates an incentive for us to recommend that you purchase products or services from them instead of other providers who do not make similar payments to us.

9.6 Section 529 Education Saving Plans

A Section 529 education savings plan is a plan that allows individuals to save for college or other qualified education expenses on a tax-advantaged basis. Every state offers at least one Section 529 plan.

If you purchase an educations savings plan through us, we receive compensation from the program sponsor in much the same manner as when you purchase mutual funds. In addition to sales charges and ongoing payments that we and your Financial Professional receive as compensation for sales of 529 plans, 529 plan assets are included in the amount of total mutual fund or variable annuity assets for which we receive payments from Strategic Partners described above. This creates an incentive for us to recommend that you purchase products or services from them instead of other providers who do not make similar payments to us.

9.7 Insurance Agency Compensation

In addition to securities and investment advisory services, we also offer and sell insurance products that are not securities. Sales of these products may be made through us or our affiliated insurance agencies. We receive selling commissions when we sell fixed annuities and life insurance (Insurance Products) to our customers. A portion of those commissions are paid to your Financial Professional and a portion is retained by us or our affiliated insurance agencies. Although we make a wide variety of Insurance Products available, we concentrate our marketing and training efforts on those that are issued by a limited number of insurance companies (Designated Insurance Companies). Designated Insurance Companies have greater access to and more opportunities to provide training and education to our Financial Professionals. Some Designated Insurance Companies make payments to us in addition to sales commissions. These payments are generally either a flat fee or a percentage of the total premiums received by a Designated Insurance Company each year. For fixed and fixed-indexed annuities, Designated Insurance Companies pay us the greater of an annual flat fee or up to 0.50% of the total purchase amount of their products. Although these payments are not shared with your Financial Professional, your Financial Professional benefits indirectly by receiving greater training and education from Designated Insurance Product sponsors. The fact that we receive compensation from Designated Insurance Companies creates an incentive for us to recommend that you purchase products or services from them instead of other providers that do not make similar payments to us.

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Lists of our Strategic Partners and the other product and platform sponsors that make revenue-sharing or other similar payments to us can be viewed on our website at https://cetera.com/cetera-wealth-services/disclosures.

10. EMPLOYER-SPONSORED RETIREMENT SAVINGS PROGRAMS AND IRA ROLLOVERS

Many employers offer retirement savings plans in which their employees participate. These include Section 401(k), 403(b), and 457 plans, among others. If you are changing jobs or retiring, one of the most important financial decisions you may face is how to handle the money you have accumulated in your workplace retirement plan, and you may choose to transfer your retirement assets from the employer-sponsored plan to an Individual Retirement Account (IRA). You may also be considering a transfer of funds from your existing IRA to another IRA.

You generally have several options to consider in making an IRA rollover. Each of these has advantages and disadvantages and the one that is best depends upon your individual circumstances. You should consider features such as investment choices, fees and expenses, services offered, and potential tax consequences, both at the time you leave your job and afterward. (Please see "Things to Consider When Making an IRA Rollover" at https://cetera.com/cetera-wealth-services/disclosures.)

We provide investment advice and services to retirement plan sponsors and individual participants, but the compensation that we receive is usually much less than what we would receive in connection with similar advice and recommendations to you in connection with an IRA account. As such, we have an incentive to recommend that you transfer or roll over the assets in your employer-sponsored plan to an IRA so that we will receive compensation in the form of sales charges, commissions, and/or investment advisory fees and other types of compensation. The fees, expenses, and other costs associated with investments in an IRA will usually be higher than if you held similar assets in the employer-sponsored plan. For example, you may pay annual investment-related expenses of less than 1% in connection with purchase or ownership of mutual funds in an employer-sponsored plan, whereas if you purchase similar mutual funds in an IRA, you would pay higher fees for commissions, 12b-1 fees, and other expenses. (Please see the discussion of mutual fund share Classes in section 3, above.) For these reasons, there are conflicts between your interests and ours when we recommend that you undertake an IRA rollover.

Things you should consider in connection with a rollover include the following:

- *Fees and expenses.* Investment expenses in an IRA depend largely on the investment choices that you make, but will almost always be higher than those in your workplace retirement plan. Expenses in connection with an IRA include sales charges or commissions, management or other expenses charged by sponsors of investment products such as mutual funds or annuities, account maintenance fees, investment advisory fees, 12b-1 fees or trail payments, and others. Fees applicable to investments in an employer-sponsored retirement plan are often subsidized by the employer and therefore lower than would be applicable to purchases of similar investments in an IRA due to economies of scale and the costs applicable to different mutual fund share classes. (Please see the discussion of mutual fund share classes, particularly Class R shares, in section 3, above. You should consult with your tax professional and the administrator of your retirement plan to get an understanding of the fees and expenses charged by your current plan and compare those with the expenses that you would incur if your retirement savings were held in an IRA. It is important that you share information about your current retirement savings plans with your Financial Professional since he or she will need complete and accurate information to help with their recommendation to you.

- *Breadth of investment offerings.* In general, IRAs offer a broader range of investment products than employer-sponsored plans. You should consult with your Financial Professional or the sponsor of your employer-sponsored plan to compare the types of investment options available in each case and their associated cost.

- *Access to personalized management.* IRAs offer you the ability to receive investment advice and recommendations that relate specifically to you and you financial circumstances. Most employer-sponsored plans either do not offer personalized investment advice or have limitations on the type of advice that they offer.

- *Availability of guaranteed payments.* Annuity contracts and similar investment products often give owners the ability to receive death benefits and specified payments of income, for either a set term or for the life of the owner or other beneficiary. Most employer-sponsored plans do not offer annuity contracts or similar investment products that include guaranteed payments.

There are many sources of information about IRA rollovers and the considerations that may come into play when you make a decision. The SEC and FINRA have both published information about this process, which you can review at the following websites:

SEC: investor.gov/introduction-investing
FINRA: finra.org/investors/alerts/ira-rollover-10-tips-making-sound-decision

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11. CASH IN YOUR BROKERAGE OR ADVISORY ACCOUNT – OUR CASH SWEEP PROGRAMS

At any time, you may have a cash balance in your brokerage or investment advisory account from deposits into the account, the proceeds of securities transactions, dividend and interest payments, or other activities. We offer a facility referred to as "Cash Sweep Programs" that automatically moves uninvested cash balances from your account into a cash sweep product chosen specifically for your account type. Based on your account type, cash balances in that account will be swept into either an FDIC-insured bank deposit program or a money-market mutual fund pending subsequent investment of the cash. If you have a cash balance in your account and do not instruct us otherwise, the cash balance will be swept from your account daily and deposited as described below.

We offer two FDIC-insured bank deposit programs (Bank Deposit Programs) that automatically move the uninvested cash balances in your eligible accounts into interest-bearing deposit accounts at one or more Bank Deposit Program banks (Program Banks). As shown in the table below, the two Bank Deposit Programs – the FlexInsured Account® and the Insured Deposit Sweep Account – are available to different types of investment accounts. Program Banks that participate in the Bank Deposit Programs pay us substantial fees based on the amount of cash deposited with them from customer accounts and other market factors. Our receipt of payments from Program Banks that participate in the Bank Deposit Programs creates a significant incentive for us to utilize Bank Deposit Programs for sweeping cash balances from your eligible account instead of into a money-market mutual fund, fixed income instrument, or other product.

The interest rate payable to you on balances deposited in Program Banks through the Bank Deposit Programs will almost always be lower than what you could obtain by holding a money-market mutual fund or other alternative product. Additionally, we will almost always receive more fees from Program Banks in connection with your cash in the Bank Deposit Programs than the amount of interest you receive.

As an alternative to the automatic cash sweep feature, a variety of money market mutual funds or other products can be purchased in your brokerage account. You can elect to discontinue the automatic sweep program at any time by contacting your Financial Professional. We reserve the right to change the eligibility criteria for the Cash Sweep Programs and may change the products available in the Cash Sweep Programs. We encourage you to review the detailed terms and conditions of the Cash Sweep Programs contained in the applicable disclosure statement or prospectus.

Default Sweep Program by Account Type

Account Type	Default Sweep Program
• Advisory Account (Non-Retirement) • Brokerage Account (Non-Retirement) • Broker Brokerage Retirement Account (excluding Brokerage 403(b))	FlexInsured Account® – Bank Deposit Program
• Advisory Individual Retirement Account	Insured Deposit Sweep Account – Bank Deposit Program
• Brokerage and Advisory 403(b) Accounts and Advisory ERISA Accounts, including Advisory 401(k), and Advisory Qualified Plan	Federated Hermes Treasury Obligations Fund – Money Market Fund Sweep

FDIC Insurance on Deposits in Program Banks

Balances on deposit through the Bank Deposit Programs are eligible for FDIC insurance up to $250,000 at each Program Bank per depositor by category of legal ownership. For example, funds held by an individual and deposited at a Program Bank are insured up to $250,000 at that Program Bank and funds held jointly by two or more people and deposited at a Program Bank are insured up to $250,000 per joint owner. Once the insurable limit at a Program Bank is reached, additional amounts are deposited in other Program Banks until the applicable program limit is reached. Any money you hold at a Program Bank outside of the Bank Deposit Programs may impact the insurance coverage available. Additionally, deposits at Program Banks are not guaranteed by the Securities Investor Protection Corporation (SIPC), which provides investors with some protection from losses if their brokerage firm becomes insolvent. Balances in our Bank Deposit Programs in excess of applicable program limits will be deposited at Program Banks and may not be FDIC insured.

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More Information

For detailed information on FDIC insurance limits and the calculation of interest rates and fees, please see the applicable product disclosure, which you can obtain from your Financial Professional. A list of participating financial institutions, current rates and product disclosures are also available at the following product websites:

FlexInsured Account®: https://cetera.com/cetera-wealth-services/disclosures
Insured Deposit Sweep Account: https://cetera.com/cetera-wealth-services/disclosures

Money market funds are securities and are therefore eligible for SIPC protection. SIPC provides account protection when a SIPC member firm fails and is unable to meet obligations to securities customers, but it does not protect against losses from the rise and fall in the value of investments. Money market funds are securities that may increase or decrease in value. In general, money market funds are designed and managed with the objective of preservation of capital and maintenance of liquidity. Unlike bank deposits, an investment in a money market fund is not FDIC-insured or guaranteed by any other government agency. Although money market funds seek to preserve a net asset value of $1.00 per share, there is no guarantee that this will occur. It is possible to lose money by investing in a money market fund, including loss of principal.

More Information

For more complete information about any of the money market funds available under the Cash Sweep Program, carefully read the applicable prospectus. Please consider the investment objectives, risks, charges and expenses carefully before investing. The prospectus, which contains this and other information, can be obtained by contacting your Financial Professional. You may also obtain information with respect to the current yields available on the money market funds by contacting your Financial Professional.

12. ADDITIONAL INFORMATION ABOUT US

SEC and FINRA rules provide that certain types of legal and disciplinary matters involving broker-dealers and individuals associated with them must be reported through the Central Registration Depository (CRD) system. Both we and some of our Financial Professionals have legal and disciplinary disclosures. For additional information about us and our Financial Professionals, visit Investor.gov or BrokerCheck (BrokerCheck.Finra.org), review the Form ADV Part 2B for your Financial Professional, our website https://cetera.com/cetera-wealth-services/disclosures and your account agreement. For additional information on advisory services, see our Form ADV brochure on IARD, or on Investor.gov.

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Depending on various factors, your registered representative may be able to offer two primary types of services – commission-based and fee-based. These services may be offered by themselves or in combination, and you should consult with your registered representative to determine which are available to you. Either way, it is important to understand the differences.

COMMISSION-BASED BROKERAGE SERVICES

Brokerage services are commission based, meaning registered representatives and brokerage firms are paid a commission – and in some cases a trailing commission – for each transaction. The amount of that commission varies depending on the security or investment product. The sales charges for each product are described in the prospectus or other offering documents. The registered representative needs your permission to make each transaction and will present you with products that are suitable for your needs and financial situation.

ADVANTAGES

- Cost-effective solution for investment products that do not need active, ongoing management.
- Typically no minimum balance requirement for commission-based accounts.
- Commissions are paid as transactions occur.
- Straightforward transaction costs.
- Ideal if you plan to only make a one-time purchase of an investment.

TRADEOFFS

- Commissions are paid every time you buy or sell a security product along with trailing commissions (e.g. 12B-1s) from a fund company.
- You may not know about payment incentives a registered representative receives from a recommendation.
- Front-load sales charges reduce your net investable amount.
- Brokerage accounts use retail share classes that can translate into higher internal fund expenses.
- Your registered representative will not have discretion to actively manage your brokerage account – you must consent to each transaction, which may present challenges if you travel or when an investment reaches a pricing threshold.
- Commissions are not tax deductible (for more details, speak to your tax professional).

EXAMPLES

- Individual sales of securities, such as stocks
- Mutual funds and exchange-traded funds
- Fixed income instruments, such as bonds
- Insurance, such as annuities
- 529 plans

FEE-BASED ADVISORY SERVICES

In a fee-based or advisory relationship, you generally pay a fee that is a percentage of the account's value, or a fixed fee per service for personalized advice and guidance, instead of a commission for each trade. In this capacity, you typically receive the following services:

- Portfolio construction,
- Investment recommendations,
- Ongoing investment advice, and
- Financial planning tailored to your unique goals and timelines.

ADVANTAGES

- Fee-based services align the performance of your advisory accounts with the compensation received by your investment adviser representative since it is not tied to transaction charges or sales commissions.
- You can grant discretion, which allows proactive management of your account in real time according to your risk profile: if an investment reaches a pricing threshold, it can be traded without asking for your permission.

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- You and your investment adviser representative will meet as often as needed to ensure your investment policy is tracking toward its goals, and you will receive regular performance reports that document your progress.
- Advisory fees are either a fixed amount per service or a fixed percentage of your accounts' values, so the fees that you pay are directly proportional to the services provided and performance of your accounts and are listed in your performance reports.

TRADEOFFS

- Fee-based accounts generally require a higher investment minimum relative to a brokerage account.
- May not be cost effective if you want to buy and hold a small number of securities.
- Not ideal if you want to make a one-time purchase of a security (such as a stock or mutual fund) or only want occasional recommendations on investments.
- May not be favorable if you prefer to pay fees based on transactions.

EXAMPLES

- Advice on specific investment products
- Portfolio design and periodic rebalancing
- Active portfolio management
- Hands-on investment strategies for specific conditions, such as market volatility or changing legislative environments
- Sophisticated solutions for wealth transfer planning

THINGS TO CONSIDER: COMMISSION-BASED VS. FEE-BASED ACCOUNTS

	Commission-Based (Brokerage)	Fee-Based (Advisory)
Level of Contact	Less frequent contact, usually initiated by the client	High level of contact, usually initiated by the investment adviser representative
Compensation Structure	Commission paid on every transaction	Regularly paid fees, either as a flat fee or, more commonly, as a percentage of assets under management
Product and Services	Exchange-traded securities, such as stocks, mutual funds, bonds, etc.; some private placement products	A wide range of securities, products and services based on the advisory program selected; the client receives regular and ongoing investment advice
Client Involvement	Mid- to high-level client involvement, depending on amount of trading the client wants to pursue: a buy-and-hold client might have mid-level involvement, usually initiating occasional account reallocations; an actively-trading client might have a high level of involvement in stock selection and portfolio reallocations	Relatively high level of client involvement in order to develop a comprehensive financial strategy that provides ongoing advice as the financial markets and client's circumstances change over time

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FACTS	**WHAT DOES CETERA WEALTH SERVICES DO WITH YOUR CUSTOMER INFORMATION?**
Why?	Financial companies choose how they share your customer information. Federal law gives consumers the right to limit some, but not all, sharing. Federal law also requires us to tell you how we collect, share, and protect your customer information, which includes all nonpublic personal information about you, whether collected directly from you or received from other financial institutions or third-party sources. Please read this notice carefully to understand what we do.
What?	The types of customer information we collect and share depend on the product or service you have with us. This information can include: ▪ social security number and birth date ▪ income, assets, net worth and investment experience ▪ account balances and transaction history
How?	All financial companies need to share customers' information to run their everyday business. In the section below, we list the reasons financial companies can share their customers' information; the reasons Cetera Wealth Services chooses to share; and whether you can limit this sharing.

Reasons We May Share Your Customer Information	Does Cetera Wealth Services share?	Can you limit this sharing?
For our everyday business purposes – to process transactions and maintain your account(s), respond to court orders or legal investigations, or report to credit bureaus	Yes	No
For our marketing purposes – to offer our products and services to you	Yes	No
For joint marketing with other financial companies	Yes	No
For our affiliates' everyday business purposes – information about your transactions and experiences	Yes	No
For our affiliates' everyday business purposes – information about your creditworthiness	Yes	Yes
For our affiliates to market to you	Yes	Yes
For nonaffiliates to market to you If your account was opened at a financial institution and that institution enters a relationship with a new provider, we may share your information with the new provider. If your financial professional is not under a restrictive covenant and leaves Cetera Wealth Services to join another firm, we or your financial professional may disclose your customer information to the new firm or to a third-party vendor to facilitate the transition.	Yes	Yes

To limit our sharing	▪ Call 888-825-8950 – our menu will guide you through your choices Please note: If you are a *new* customer, we can begin sharing your information 30 days from the date we sent this notice. When you are *no longer* our customer, we continue to share your information as described in this notice. However, you can contact us at any time to limit sharing.
Questions?	Call 888-825-8950 or visit *www.cetera.com/cetera-wealth-services/disclosures*

Cetera Wealth Services LLC
2301 Rosecrans Ave., #5100, El Segundo, CA 90245

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Who We Are	
Who is providing this notice?	Cetera Wealth Services, LLC (formerly known as Cetera Advisor Networks LLC), Cetera Insurance Agency LLC, Cetera Advisor Networks Insurance Services LLC, Cetera Advisory Services LLC and Cetera Investment Advisers LLC
What We Do	
How does Cetera Wealth Services protect my customer information?	To protect your customer information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings. ▪ In addition to physical and electronic safeguards, we have implemented security standards and procedures to protect your information, including employee training, limited employee access and the use of confidentiality agreements.
How does Cetera Wealth Services collect my customer information?	We collect your customer information, for example, when you: ▪ open an account or deposit money ▪ direct us to buy or sell securities ▪ seek advice about your investments or enter into an investment advisory contract We also collect your customer information indirectly from other financial institutions or third-party sources.
Why can't I limit all sharing?	Federal law gives you the right to limit only: ▪ sharing for affiliates' everyday business purposes – information about your creditworthiness ▪ affiliates from using your information to market to you ▪ sharing for nonaffiliates to market to you **State laws and individual companies may give you additional rights to limit sharing. See below for more on your rights under state law.**
What happens when I limit sharing for an account I hold jointly with someone else?	Your choices will apply to everyone on your account.
Definitions	
Affiliates	Companies related by common ownership or control. They can be financial and nonfinancial companies. ▪ *Our affiliates include companies with a Cetera or Avantax name and The Retirement Planning Group.*
Nonaffiliates	Companies not related by common ownership or control. They can be financial and nonfinancial companies. ▪ *Our nonaffiliate partners include categories of companies such as financial institutions.*
Joint Marketing	A formal agreement between nonaffiliated financial companies that together market financial products or services to you. ▪ *Our joint marketing partners include categories of companies such as financial institutions.*

Other Important Information

- Accounts with a California, Vermont, Massachusetts, or North Dakota mailing address are automatically treated as if they have limited the sharing as described on page 1.
- California residents: We will not share your customer information with a financial company for joint marketing purposes except as required or permitted by law.
- Vermont residents: For joint marketing with other financial companies, we will disclose only your name, contact information, and information about your transactions, unless otherwise required or permitted by law.
- Nevada residents: Pursuant to Nevada law, you may request to be placed on our internal "Do Not Call" list at any time by calling 844-337-2215 or emailing us at donotcall@cetera.com. You may obtain further information by contacting the Nevada Attorney General, 555 E. Washington Ave., Suite 3900, Las Vegas, NV 89101; phone 702-486-3132; email bcpserv@ag.nv.gov.

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BUSINESS CONTINUITY PLAN SUMMARY

Cetera Wealth Services, LLC (Cetera Wealth Services) understands the importance of ensuring our customers have continued access to their funds and securities in the event our home office operations are impacted by a disaster. As a result, we have developed and maintain a business continuity plan that describes the means by which Cetera Wealth Services' home office operations in El Segundo, CA will respond to future significant business disruptions of varying degrees of severity.

Cetera Wealth Services' home office operations in El Segundo, CA are equipped for resumption of business in the event a significant business disruption affects the building, business district, city and/or the region. We will continue to conduct business during those disruptions and may choose to relocate key personnel and services to our designated backup facilities. Relocations of critical functions will be completed within four hours of the significant business disruption.

In the event of a significant business disruption resulting from a reduction in work force due to a pandemic situation, Cetera Wealth Services has developed a comprehensive pandemic response plan to minimize the exposure and spread of a virus in the workplace. The plan involves social distancing and other measures to avoid close physical proximity in the workplace. Social distancing includes, but is not limited to, requesting employees to work remotely, invoking swing shifts and may require suspension of some non-critical functions.

Cetera Wealth Services' data center is located in a different region of the country. In addition, several of our critical functions are performed in our affiliated offices located in Des Moines, IA and El Segundo, CA, and our brokerage business is operated by our clearing firm that is also located in a different region of the country. All of these providers—our affiliated offices in Des Moines, IA and in El Segundo, CA; our clearing firm; and our data center—have complete business continuity plans designed to allow them to continue operations in the event they experience a significant business disruption. Their plans include redundancies, alternate facilities and recovery time objectives that support our plan.

In the event of a significant business disruption at Cetera Wealth Services' main location in El Segundo, CA, customers may contact their Cetera Wealth Services financial professional directly, our home office at 888.406.5444, or refer to our public website at **https://cetera.com/cetera-wealth-services/disclosures.**

Please be advised that while we have detailed plans in place, we cannot guarantee we will be able to recover as quickly as outlined above under all possible circumstances. Our recovery time objective may be negatively impacted by the unavailability of third parties and/or other circumstances beyond our control.

Our business continuity plan is reviewed and tested throughout the year and is subject to modification. To obtain the most current version of this summary, you may refer to our website at **https://cetera.com/cetera-wealth-services/disclosures** or contact your Cetera Wealth Services financial professional to request an updated summary be delivered by mail.

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Cetera Wealth Services, LLC, through your registered representative, makes a wide variety of mutual funds and variable insurance products, including annuities, available to you. You pay either a sales charge when you purchase your investments (such as for Class A shares of a mutual fund), or the sales charge may be built into the expenses of the product and/or charged to you when you sell (such as for Class B or C shares of a mutual fund). Cetera Wealth Services is paid by the product issuer or its affiliates, and part of that payment goes to your registered representative.

Your sales charges and expenses, and the sales commissions paid to us and our representatives, differ from investment to investment, and may depend on the amount of money you invest. Some product issuers or their affiliates occasionally also offer "commission specials," which increase the sales commissions paid to us and our representatives. Sales charges, and information about expenses, are explained in the product's prospectus. Generally speaking, investors buying the same product for the same kind of investment account with the same investment amount pay the same sales charge. This is true regardless of the broker-dealer and registered representative through which the investment is purchased.

Our Strategic Partners. Although we make a large number of products available to you, we concentrate our marketing and training efforts on investments offered by a number of select companies (Strategic Partners). Strategic Partners are selected, in part, based on whether they offer competitive products, their technology, their customer service and their training capabilities.

Our Strategic Partners have more opportunities than other companies to provide our customers and our representatives with education on investments, the products they offer, industry trends, new investment ideas and other issues. They may attend or sponsor education and training meetings for our representatives. Our Strategic Partners also have the opportunity to receive input from our representatives on features of their products. As discussed below, our Strategic Partners pay additional amounts to Cetera Wealth Services to compensate us for these enhanced marketing and training opportunities.

What Strategic Partners Pay to Cetera Wealth Services. It is important to know that although Strategic Partners pay extra compensation to Cetera Wealth Services or its affiliates, you do not pay more to purchase Strategic Partner products through Cetera Wealth Services than you would pay to purchase those products through another broker-dealer. Nevertheless, the payment of this additional compensation to Cetera Wealth Services by our Strategic Partners may pose a financial incentive for us to promote those products over other products.

The additional amounts Strategic Partners pay Cetera Wealth Services vary from one Partner to another and from one product to another. For example, a significant portion of these payments can be calculated as a fixed amount, as a percentage of product sales (up to a maximum of 1/4 of 1%—which would be $25 on a $10,000 investment), as a percentage of our customers' assets invested in the products (up to a maximum of 1/10 of 1%—which would be $10 on a $10,000 investment), or as some combination of these. The prospectus and statement of additional information for each mutual fund or variable insurance product should have additional information about these payments.

Benefits to Cetera Wealth Services' Representatives. Your representative does not receive additional commissions for selling a Strategic Partner product, except when from time to time Cetera Wealth Services allows its representatives to participate in "commission specials" offered by Strategic Partners. To find out whether a product you are considering is part of a commission special, ask your representative or visit the product issuer's website.

Cetera Wealth Services' representatives do receive some additional benefits from our Strategic Partner program. In some cases the transaction clearing costs that would normally be paid by you or your representative may be reduced or eliminated on Strategic Partner products. Also, your representative indirectly benefits from Strategic Partner payments to Cetera Wealth Services when this money is used to support costs relating to product review, marketing or training.

Other Compensation and Reimbursements. Companies that are not Strategic Partners may at times send Cetera Wealth Services payments in recognition of our sales and marketing efforts, and may have additional opportunities to provide marketing services to our representatives. Also, both Strategic Partners and other companies may pay marketing allowances to Cetera Wealth Services in connection with the sale of insurance products. Both Strategic Partners and other companies may also reimburse up to 100% of the cost of training and education meetings for our representatives, as permitted by industry rules. Sales of any products by Cetera Wealth Services representatives may qualify representatives for additional cash and non-cash compensation that may include support for their business activities, attendance at seminars, conferences and entertainment. Additionally, some investments, whether they are issued by a Strategic Partner or not, may pay higher rates of compensation than others. Further, some of Cetera Wealth Services' home office management and certain other employees may receive a portion of their employment compensation based on sales of products of Strategic Partners.

Cetera Wealth Services does from time to time add or delete specific firms from its Strategic Partners Program. You can view the most up-to-date list of its Strategic Partners on Cetera Wealth Services' public website at **www.cetera.com/cetera-wealth-services**

If you have any questions, please ask your registered representative or call 800.879.8100.

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FLEXINSURED ACCOUNT DISCLOSURE STATEMENT

Cetera Wealth Services, LLC (Cetera) is pleased to welcome you to the FlexInsured Account, a bank deposit sweep option in our Cash Sweep Program. The FlexInsured Account is a sweep option that permits cash balances awaiting investment or reinvestment in eligible accounts to be automatically deposited (or swept) into interest-bearing accounts (Deposit Accounts) at designated program banks, (which may include The Bank of New York Mellon (BNYM) and BNY Mellon, National Association (BNY Mellon, N.A.), (collectively, Program Banks)). Funds in each Deposit Account held for the benefit of a single customer will generally be eligible for federal deposit insurance from the Federal Deposit Insurance Corporation (FDIC) up to $250,000 (the current Deposit Insurance Limit) per category of legal ownership as recognized by the FDIC (e.g., individual, corporate, trust, etc.) at each Program Bank. This insurance amount increases to $500,000 in principal and accrued interest for joint accounts. Please note that funds deposited through the FlexInsured Account are not protected by the Securities Investor Protection Corporation (SIPC). See "FDIC Insurance at Program Banks" below for additional information about the FDIC and how FDIC insurance works.

SUMMARY OF TERMS AND CONDITIONS

This summary of the FlexInsured Account is prepared for your convenience and must be read in conjunction with the detailed disclosure below.

Cetera has asked Pershing LLC (Pershing), our fully disclosed clearing agent, to assist us in operating the FlexInsured Account which, if you choose to participate, sweeps the uninvested cash balances in your Cetera brokerage account carried at Pershing (Cetera Account) into Deposit Accounts at Program Banks. Funds in Deposit Accounts will begin earning interest from the day they are received by the Program Bank. You may discontinue your participation in the FlexInsured Account at any time. BNYM is a NY state-chartered bank and BNY Mellon, N.A. is a national bank association. Both may participate in the FlexInsured Account by holding program funds in Deposit Accounts. Pershing, BNYM and BNY Mellon, N.A. are all affiliates and subsidiaries of The Bank of New York Mellon Corporation. By selecting the FlexInsured Account as the automatic sweep option in your Cetera Account, you agree to appoint Pershing, our fully disclosed clearing agent, as your authorized agent to establish and maintain Deposit Accounts at Program Banks, which may include BNYM and BNY Mellon, N.A., and to effect deposits to and withdrawals from such Program Banks pursuant to these terms and conditions.

Federal Deposit Insurance. Your funds are deposited into Deposit Accounts in a manner designed to provide up to $2,500,000 of FDIC insurance protection on your FlexInsured Account balance, subject to bank availability. This coverage protects your balance held in Deposit Accounts, up to allowable limits, in the event of the failure of a Program Bank. As your agent, Pershing has established a separate account for the benefit of FlexInsured Account participants at each Program Bank and intends to limit each customer's deposits at each Program Bank to $246,500 (98.6% of the Deposit Insurance Limit) to help ensure that principal amounts and accrued interest receive FDIC insurance coverage. Once this amount is reached, additional amounts are deposited in subsequent Program Banks in amounts not to exceed $246,500 at each Program Bank. Once the $2,500,000 program total has been deposited at Program Banks, or if Program Banks no longer have the capacity to accept additional deposits, any available cash in your account will be placed in Deposit Accounts at Program Banks chosen to serve as the "Overage Banks." **Your deposits at an Overage Bank in excess of the Deposit Insurance Limit will not be covered by FDIC Insurance.** Any money you hold at a Program Bank outside of the FlexInsured Account may impact the insurance coverage available. FDIC insurance coverage applies to the total amount of a depositor's balance in all eligible accounts held at an FDIC-insured financial institution in the same category of ownership, as recognized by the FDIC. Therefore, if you maintain funds at a Program Bank outside of the FlexInsured Account, this will negatively impact the amount of FDIC insurance for the total amount of your funds held within and outside your FlexInsured Account at that Program Bank. Balances in the FlexInsured Account are not protected by SIPC, which provides protection against risks to customers of member brokerage firms, like Cetera and Pershing, in the event of the failure of that member firm. Under certain economic conditions or for other reasons, it is possible for Program Banks to limit or reduce the amount of deposits they will accept through bank deposit sweep products, such as the FlexInsured Account, which will reduce the amount of FDIC insurance available for the cash balance in your Cetera Account. If Programs Banks, including the Overage Banks, cannot accept any additional deposits due to capacity constraints, then all available cash in your Cetera Account will be automatically invested in shares of the Federated Hermes Trust for U.S. Treasury Obligations Fund Cash Series Shares money market fund, ticker symbol TCSXX (Default MMF) or held as a free credit balance. See "FDIC Insurance for Deposits at Program Banks" and "Deposit Capacity at Program Banks" below for additional information.

Access to Funds. You may access your balance in the FlexInsured Account (i.e., the funds held in Deposit Accounts at Program Banks), by contacting your financial professional or using features of your Cetera Account that have the effect of transferring FlexInsured Account balances back into your Cetera Account. Your ownership in funds deposited at Program Bank accounts will be evidenced by book entry on the account records of Pershing. Your Cetera Account statements issued by our fully disclosed clearing agent, Pershing, will list the names of the Program Banks holding your swept funds and your balance in each Program Bank. Program Banks are permitted by federal regulation to impose a seven-day delay on any withdrawal request. In the event of a failure of a Program Bank, there may be a time period during which you may not be able to access all or part of your deposits in the FlexInsured Account.

FlexInsured Account Interest Rates. The interest rates payable in the FlexInsured Account are determined by the amount the Program Banks are willing to pay minus the fees paid to Cetera and other service providers, as discussed below. The interest rates on your FlexInsured Account balances are established periodically and fluctuate as frequently as daily without prior notice, based on market, economic and other business conditions. Current interest rates for the FlexInsured Account are available from your financial professional. You will generally receive a lower rate of return on cash deposited in the FlexInsured Account than if it were invested in money market mutual funds. See "Interest Rates" below for additional information.

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Program Banks. In order to facilitate the availability of the FlexInsured Account, certain FDIC-insured financial institutions have agreed to act as Program Banks. A separate FDIC-insured financial institution will act as an intermediary bank (Intermediary Bank) that routes deposits to, and withdrawals from, Program Banks. Certain large deposits or withdrawals in excess of FDIC limits may not be fully insured while being routed through the Intermediary Bank. In the event of a Program Bank failure, Pershing will not be obligated to credit your Cetera Account with funds in advance of any payment by the FDIC. When your FlexInsured Account balances are allocated to a Program Bank, including BNYM and BNY Mellon, N.A., it realizes an economic benefit from them. The Program Banks, including BNYM and BNY Mellon, N.A., do not have a duty to offer the highest rates available or rates that are comparable to money market mutual funds or those offered by other depository institutions. Balances held in the Deposit Accounts at Program Banks constitute a direct obligation of the respective Program Bank and are not directly or indirectly an obligation of Cetera, Pershing or your financial professional at Cetera. See "Information About Your Intermediary Bank" and "Program Banks" below for additional information.

Fees. Although no direct fees will be earned by your financial professional for your participation in the FlexInsured Account, Cetera and other service providers earn fees from Program Banks based on the amount of money on deposit from all FlexInsured Account participants. For each of their services to support the FlexInsured Account, Cetera and other service providers, such as Pershing and a third-party administrator, will receive compensation, as discussed further below. The fee retained by Cetera will be an annual rate of up to a maximum of 600 basis points as applied across all FlexInsured Account deposits. See "Administrative Fees" below for additional information. For information on fees related to negative interest rates, please see the "Negative Interest Rate Disclosure" below.

Risks of the Program. You will generally receive a lower rate of return on cash deposited into the FlexInsured Account than if it were invested in money market mutual funds. Program Banks are permitted by federal regulation to impose a seven-day delay on any withdrawal request. In the event of a failure of a Program Bank, there may be a time period during which you may not be able to access your balance in the FlexInsured Account. FDIC insurance coverage applies to the total amount of a depositor's balance in all eligible accounts held at a FDIC-insured financial institution. Therefore, if you have money at a Program Bank outside the FlexInsured Account, this will negatively impact the amount of FDIC insurance for the total amount of your funds held within and outside your FlexInsured Account at that Program Bank. Deposits made through the FlexInsured Account are not protected by SIPC, which provides protection against certain risks to customers of member brokerage firms, like Cetera and Pershing, in the event of the failure of that member firm. In the event that the U.S. adopts a policy resulting in negative interest rates, it is possible that Program Banks will begin to charge fees to maintain deposits held through bank deposit programs. This can result in you experiencing a negative overall return with respect to your deposits in the FlexInsured Account program. See "Negative Interest Rate Disclosure" below for additional information.

Conflicts of Interest. Cetera earns substantial fees from Program Banks based on your participation in the FlexInsured Account program, and this fee will be significantly higher to Cetera than if your funds were swept into a money market mutual fund or deposited in another product or depository institution. The fees that Cetera receives from your participation in the FlexInsured Account program defrays its costs of providing and administering the FlexInsured Account and is also a source of additional revenue which is further described below and detailed here: https://cetera.com/cetera-wealth-services/disclosures/flexInsured-account.

This compensation that Cetera receives presents a conflict of interest, because Cetera receives a greater financial benefit when cash is swept into the FlexInsured Account than it otherwise would if your cash balance is held in a money market mutual fund or other products, and the fees that Cetera receives reduces the amount of interest you receive in the FlexInsured Account. The interest that you receive and Cetera's fees are both paid from the total funds paid by the Program Banks on FlexInsured Accounts. Consequently, the greater the fees received by Cetera, the less funds are available to pay client interest on FlexInsured Account deposits. In addition, we continue to charge an investment advisory fee while your cash is held in the FlexInsured Account so the fees that we receive from the Program Banks are in addition to the advisory fees that you pay us and your financial professional. This means that we earn two layers of fees on the same cash balances in your FlexInsured account. If we were to reduce or eliminate our advisory fee for cash balances held in FlexInsured Accounts where such fee reduction is greater than the amount of compensation we receive on FlexInsured Account deposits, this would create a conflict of interest for us to avoid or minimize such cash holdings or to utilize alternative cash equivalent products, where available. Cetera therefore has an incentive for your funds to be swept into the FlexInsured Account program rather than a money market mutual fund or other alternative to the FlexInsured Account. The income we earn from Program Banks based on the balances in the FlexInsured Account program will in almost all circumstances be substantially greater than the amount of interest earned from those same balances. Cetera is ultimately responsible for setting its fees under the FlexInsured Account program. We receive a substantially higher percentage of the interest generated by deposit balances in the FlexInsured Account program than you receive. As a result, you will almost always receive a lower rate of return on cash deposited into the FlexInsured Account than could be obtained in money market mutual funds or certain bank products outside of the FlexInsured Account. The fees paid by Program Banks for your participation in the FlexInsured Account are retained by Cetera and are not shared with your financial professional. See "Administrative Fees" below for additional information on the fees received by Cetera for your participation in the FlexInsured Account program. If you wish to opt out of the FlexInsured Account, you may do so at any time by contacting your financial professional. See "Alternatives to the FlexInsured Account As a Sweep Option" below for additional information regarding your options.

Given the conflicts discussed above, each client should consider the importance of the FlexInsured Account program to us when evaluating our services, our total fees and compensation, and then decided whether to opt out of the FlexInsured Account. We mitigate these conflicts by disclosing them to you here and in Cetera's Form ADV, and by not sharing the revenue generated from client cash sweeps with our financial professionals.

DETAILED TERMS AND CONDITIONS

ACCOUNT ELIGIBILITY

The FlexInsured Account is generally available for individual, business, corporate, joint, and uniform gifts-to-minors accounts, as well as certain non-advisory retirement accounts. Trust accounts are eligible so long as all beneficiaries of the trust account are natural persons. 403(b) accounts, advisory IRA accounts, advisory ERISA accounts and other qualified retirement plan accounts are not eligible to participate. Cetera and Pershing reserve the right, in their sole discretion, to limit other types of accounts from participating in the FlexInsured Account.

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ALTERNATIVES TO THE FLEXINSURED ACCOUNT

The FlexInsured Account is one option for you to consider in choosing how you want to maintain your cash balances. If you are maintaining an eligible account, the FlexInsured Account is the only automatic "sweep option" available. Conversely, you may elect to turn off the automatic sweep option by contacting your financial professional. If you elect not to utilize an automatic sweep option on your Cetera Account, your financial professional can tell you about certain money market funds or other products available through Cetera that you may wish to consider as alternatives to maintaining cash deposits in your account. If you elect to turn off the automatic sweep option, the uninvested cash balance in your Cetera Account will be treated as a free credit balance. A free credit balance will not earn you interest or investment returns; however, SIPC protects the securities and cash in your investment account up to $500,000, which includes up to $250,000 protection for cash held as a free credit balance. For more information about SIPC coverage, please go to www.sipc.org.

Should you wish to move your free credit balance into a money market mutual fund or other product that Cetera makes available for purchase, such as a U.S. Treasuries or a brokered Certificate of Deposit, your financial professional can assist you. If you are invested in a wrap fee program, all transaction charges are included in the fees you pay for that program. We also offer a limited number of non-wrap fee programs which would require you to pay the transaction charge for purchasing such a product. If you are unsure of what type of program you are in, please discuss with your financial professional. You should consider your investment objectives, liquidity needs and risk tolerance in reviewing whether participation in the FlexInsured Account or another cash alternative is appropriate for you. If you desire to maintain a large cash position in your Cetera Account for other than an extended period of time, you should contact your financial professional to discuss your options.

DEPOSITS

By electing to utilize the FlexInsured Account as the sweep option in your Cetera Account, you consent to have excess cash balances pending investment in your Cetera Account automatically deposited into Deposit Accounts at Program Banks. Each business day, our fully disclosed clearing agent, Pershing, or its agent bank, utilizing the services of the third-party administrator or the Intermediary Bank, will deposit the excess cash balances in your Cetera Account into one or more omnibus Deposit Accounts maintained at the Program Banks held for the benefit of FlexInsured Account participants. Your insured deposit ownership will be evidenced by an entry on records maintained by Pershing and the third-party administrator, as Pershing's agent and record keeper, for each of the Program Banks at which your funds are on deposit. You will not be issued any evidence of ownership of an insured deposit account, such as a passbook or certificate. Your Cetera Account statement issued by Pershing will reflect all information regarding your balance in the FlexInsured Account, including all deposits, withdrawals, Program Bank deposit balance(s) and interest rate.

Funds intended for deposit into your FlexInsured Account must be placed through your Cetera Account and cannot be placed directly by you with the Intermediary Bank or any of the Program Banks. Only balances transferred by Pershing, acting as your agent, or the Intermediary Bank on behalf of Pershing, will be eligible for inclusion in the FlexInsured Account. Once you have selected the FlexInsured Account as the sweep option, excess cash balances in your Cetera Account on each business day will be transferred to your FlexInsured Account on the next business day.

If you decide to terminate your participation in the FlexInsured Account, you may establish a direct relationship with each Program Bank by making a request to the Program Bank to establish a deposit account in your name, subject to each Program Bank's rules with respect to establishing and maintaining deposit accounts. You would then contact your financial professional and request a transfer of the funds in the FlexInsured Account into your individual deposit account. Establishment of a deposit account directly in your name at a Program Bank will separate your balance in the FlexInsured Account from the Deposit Accounts used in the FlexInsured Account, which are reflected in your Cetera Account. As such, if you establish a direct depository relationship with a Program Bank, your FlexInsured Account balance and your balances held in the associated Deposit Accounts at that Program Bank will no longer be reflected in your FlexInsured Account balance or on your Cetera Account statement issued by Pershing and Cetera and Pershing will have no further responsibility concerning such Deposit Accounts.

WITHDRAWALS

By electing to utilize the FlexInsured Account as the sweep option in your Cetera Account, you consent (and direct) to have your money on deposit at the Program Bank automatically withdrawn from the Program Bank accounts in the event of a debit in your Cetera Account or, on settlement date, to pay for securities purchased in your Cetera Account. Each business day, as needed, Pershing, acting as your agent, or its agent, the third-party administrator, utilizing the services of the Intermediary Bank, will withdraw your cash from the omnibus Deposit Accounts maintained at the Program Banks held for the benefit of FlexInsured Account participants.

In the event of a debit in your Cetera Account, any funds necessary to satisfy such debits will be obtained first from free credit balances in your Cetera Account (if any) and then from withdrawals from your FlexInsured Account balance. A debit will be created, for example, when you purchase securities or request a withdrawal of funds from your Cetera Account, when you write a check on your Cetera Account, or use other withdrawal methods (such as through an ACH transaction or debit card transaction on the debit card provided with your Cetera Account, if applicable). Checks written on your Cetera Account are not drawn directly against the amounts deposited for you at any of the Program Banks, but the money is transferred back from the Program Banks to the Intermediary Bank and then to your Cetera Account to satisfy your debit.

Please note, that under federal regulations, Program Banks may reserve the right to require seven (7) days' notice before permitting a transfer of funds out of a deposit account, such as the Deposit Accounts at the Program Banks. While the Program Banks have not indicated their intention to implement such a policy, a Program Bank may, at any time, choose to do so.

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RELATIONSHIP WITH PERSHING

Cetera, a registered broker-dealer in securities and member organization of FINRA, introduces your account to our clearing firm Pershing, which carries your account in a fully disclosed manner. Pershing is acting as your agent in establishing and maintaining Deposit Accounts for your swept balances and in depositing your money to and withdrawing your money from the Deposit Accounts at the Program Banks. Having instructed your financial professional to enroll you in the FlexInsured Account, your first bank deposit will constitute your appointment of Pershing as your agent to effect deposits to and withdrawals from Program Bank Deposit Accounts in connection with the FlexInsured Account. Pershing, a wholly owned indirect subsidiary of The Bank of New York Mellon Corporation, is a registered broker-dealer and is a member organization of the New York Stock Exchange (NYSE), the Financial Industry Regulatory Authority (FINRA) and Securities Investor Protection Corporation (SIPC).

INFORMATION ABOUT THE INTERMEDIARY BANK

A designated settlement bank will act as the Intermediary Bank for the FlexInsured Account to route your deposit funds to various Program Banks in order to maximize the amount of FDIC insurance available on your FlexInsured Account balance. The Intermediary Bank is identified on the list of Program Banks available at www.cetera.com/cetera-wealth-services/clients/flexinsured-account. See "Program Banks" below for additional information.

PROGRAM BANKS

A current list of the Program Banks, as updated from time to time, is available at www.cetera.com/cetera-wealth-services/clients (refer to the "Investor Information and Disclosures" section, then click on the link for the FlexInsured Account or visit www.cetera.com/cetera-wealth-services/clients/flexinsured-account) or by contacting your financial professional. The Intermediary Bank and each Program Bank is a separate FDIC-insured depository institution duly chartered under the laws of the United States or a state thereof. As described below, Cetera reserves the right to modify the list of eligible Program Banks (meaning adding and removing) and priority from time to time. Such modified and updated lists will be reflected on the website prospectively. Cetera may also change the Intermediary Bank. **It shall be your responsibility to monitor changes to the list of the Program Banks.**

You may not designate the order in which Program Banks receive funds through the FlexInsured Account. You may, however, exclude one or more Program Banks from receiving your cash balances. You may exclude Program Banks at any time and for any reason by notifying your financial professional. If a Program Bank where you already have deposits outside of the FlexInsured Account is listed, we recommend you direct us to exclude that Program Bank from receiving any of your FlexInsured Account deposits. **It is your responsibility to monitor the insurable deposits that you may have with any Program Bank (including deposits outside of the FlexInsured Account).**

It may take several days following your Cetera Account's enrollment in the FlexInsured Account before we can process any requested Program Bank exclusions. In the event that your funds are allocated to a Program Bank that is designated by you or by us as an excluded Program Bank, but which is also a financial institution in which you maintain cash balances outside of your FlexInsured Account balance, deposits exceeding the maximum FDIC-insured amount at any such bank may not be protected by FDIC coverage until those exclusions are processed and the funds are reallocated to alternative Program Banks.

You may obtain available financial information concerning any of the Program Banks at https://www.ffiec.gov/NPW or by contacting the FDIC Public Information Center by mail at 801 17th Street, N.W., Room 100, Washington, DC 20434 or by phone at 1.878. ASK. FDIC (877.275.3342).

ALLOCATION OF DEPOSITS AMONG PROGRAM BANKS

Program Banks into which your funds may be deposited will appear on a "Priority List" available on our website at www.cetera.com/cetera-wealth-services/clients/flexinsured-account. Other clients may be assigned different Priority Lists. You can identify the Priority List applicable to you by state or, in the case of most corporate accounts, by account type. If your Account is not a corporate account, please refer to the state which you legally identify as your primary state of residence and which you provided to us as your primary address in your account application, which was subsequently used for the registration of your Cetera Account. Program Banks appear on the Priority List in the order in which the Deposit Accounts will be opened for you and your funds will be deposited. You should review the Priority List carefully. The Priority List will also include one or more Overage Banks that will accept your funds without limit and without regard to the $250,000 federal deposit insurance limit if all Programs Banks on the Priority List have received funds up to the applicable deposit limit. If all your funds are withdrawn from an Overage Bank, the next time your funds are deposited in an Overage Bank your funds may be deposited in a different Overage Bank.

You may not change the order of Program Banks on the Priority List. However, at any time, you may designate a Program Bank as ineligible to receive your funds. This will result in your funds being deposited into Deposit Accounts at the next Program Bank on the Priority List. In addition, you may at any time instruct us to remove your funds from a Program Bank and designate the Program Bank as ineligible to receive future deposits. Your funds from an ineligible Program Bank will be deposited at the first available Program Bank set forth on the Priority List. You may not designate all of the Overage Banks as ineligible to receive your funds. If you wish to designate a Program Bank as ineligible to receive your funds, please contact your financial professional. One or more of the Program Banks included on the Priority List may be replaced with a Program Bank not previously included on the Priority List. A Program Bank may be deleted from the Priority List or the order of Program Banks on the Priority List may change. The most current Priority List, as updated from time to time, will be maintained on our website at www.cetera.com/cetera-wealth-services/clients.

By enrolling in and utilizing the FlexInsured Account, you expressly agree to the terms and conditions of this disclosure statement and authorize **By enrolling in and utilizing the FlexInsured Account, you expressly agree to the terms and conditions of this disclosure statement and authorize** **Cetera and its third-party administrator to designate and approve Program Banks, subject to review by Pershing, and to appoint Pershing as your agent to deposit and withdraw your cash balances in accordance with this disclosure statement. You understand that it is your responsibility to review the list of Program Banks and to notify us if you wish to exclude any of them from receiving your FlexInsured Account deposits.**

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RELATIONSHIP BETWEEN CETERA AND CERTAIN PROGRAM BANKS

To participate as a Program Bank in the FlexInsured Account, a depository institution enters into an agreement with Pershing and the third-party administrator. While such depository institutions are not affiliated with Cetera, Cetera may maintain business relationships with certain depository institutions under which the depository institution may offer securities brokerage, investment advisory and/or insurance services through Cetera or its affiliates at one or more of their locations. Such depository institutions may be or may become Program Banks through agreements that the depository institutions enter into with Pershing and the third-party administrator. Client deposits from the FlexInsured Account program represent a significant amount of cash for Program Banks, and it is a relatively stable source of deposits for them. The Program Banks in turn use the deposited cash for their bank activities such as investments or lending, thus driving their revenue. As a result, the Program Banks have an incentive to pay a rate that is higher than the rate paid to you as described further in the Interest section below.

INTEREST RATE

Funds deposited through the FlexInsured Account to a Program Bank will begin earning interest from the day they are received by the Program Bank. Interest on funds in the FlexInsured Account will accrue up to, but not including, the day of withdrawal. The interest rates and tiers available through the FlexInsured Account are established periodically based on market, economic and other business conditions.

The interest rate applied to your FlexInsured Account deposits will be based on your assignment to an "Interest Rate Tier" as determined by your total deposit balance through the FlexInsured Account. The Interest Rate Tiers, and interest rates associated therewith, may be changed from time to time. In general, in a tiered rate system, accounts with higher deposit balances through the FlexInsured Account will receive a higher interest rate than accounts with lower deposit balances. Cetera and Pershing will calculate your program balances and determine your eligibility for Interest Rate Tiers on a monthly basis. Current interest rate information is available at www.cetera.com/cetera-wealth-services/clients/flexinsured-account or by contacting your financial professional.

Cetera is responsible for setting the fees which ultimately reduces the interest rates available on FlexInsured Account deposits. Our Cash Sweep Governance Committee meets periodically to review the rates paid to customers who participate in the FlexInsured Account program based on a number of factors including the rates paid by Program Banks, interest rates paid by our competitors who offer similar insured deposit programs, any expected changes in rates, and FlexInsured Account program expenses.

Your FlexInsured Account deposits will receive the same interest rate regardless of the Program Bank in which cash from your Cetera Account is deposited. The interest rate available through the FlexInsured Account will generally be lower than the interest rates available to depositors making deposits directly with the Program Bank or other depository institutions in comparable accounts and for money market mutual funds and other cash equivalent products available through Cetera. You should compare the terms, interest rates, required minimum amounts, and other features of the FlexInsured Account with other accounts and alternative products. Current interest rate information is available at www.cetera.com/cetera-wealth-services/clients/flexinsured-account or by contacting your financial professional.

The Program Banks will use the daily-balance method to calculate the interest that applies to your FlexInsured Account balances in the Deposit Accounts. This method applies a daily periodic rate to the principal balance in the FlexInsured Account each day. Interest on the FlexInsured Account principal balance will accrue daily and will be reinvested monthly. Each month, upon the reinvestment date, the total accrued interest will be automatically credited to your FlexInsured Account principal each month. Each year you will receive a 1099-INT form from Pershing indicating the total amount of FlexInsured Account interest paid to you during the calendar year.

The Program Banks, including BNYM and BNY Mellon, N.A., do not have a duty to offer the highest rates available or rates that are comparable to money market mutual funds. Money market mutual funds generally seek to achieve the highest rate of return consistent with their investment objectives, which can be found in their prospectuses. For this reason, and because the interest that you receive and Cetera's fees, which Cetera is ultimately responsible for setting, are both paid from the total funds paid by the Program Banks, the rates of interest paid on FlexInsured Account balances will generally be lower than the rate of return available from a money market mutual fund or the rate of interest available to depositors making deposits directly with a Program Bank or other depository institutions in comparable accounts. You should compare the terms, interest rates, required minimum amounts, charges and other features of the FlexInsured Account with other deposit and investment options when evaluating whether to select or maintain the FlexInsured Account as your sweep option. If you desire to maintain a large cash position in your Cetera Account for other than a short period of time, you should contact your financial professional to discuss your options. Additionally, if you are seeking to maximize the potential returns on your cash, the FlexInsured Account is not and should not be viewed as a long-term option as it will result in long-term underperformance. Please contact your financial professional to discuss other potential options for maximizing returns or yields greater than those available in the FlexInsured Account program.

ADMINISTRATIVE FEES

Each Program Bank will pay a fee calculated by applying a percentage to the average daily balance of total FlexInsured Account deposits held at their bank. Generally, the third-party administrator will collect the fees payable by the Program Banks and retain an administrative fee based primarily on a percentage applied to each bank's average daily balance of total FlexInsured Account deposits. The third-party administrator will then remit an administrative fee to Cetera and Pershing. The fee remitted to Cetera will be an annual rate of up to a maximum of 600 basis points as applied across all program deposits. Cetera may elect to waive some or all of its fees, which would have the effect of increasing the interest rate payable to customers, but has no obligation to do so. Cetera may elect to waive its fees differentially in order to create tiered rates of interest. Your financial professional does not receive any of the fees received by Cetera from Program Banks. The fees that Cetera receives from Program Banks will be greater than the fees Cetera receives from other money market fund sweep options.

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Other than the applicable advisory fees or other fees assessed by Pershing for maintaining your Cetera Account, and subject to the Negative Interest Rate Disclosure below, there will be no additional charges, fees or commissions imposed on your account with respect to the FlexInsured Account.

NEGATIVE INTEREST RATE DISCLOSURE

In response to certain extraordinary economic conditions, some foreign countries have occasionally implemented a negative interest rate policy to stabilize their economies. Under such a policy, a central bank charges banks a fee to hold reserves, and, as a result, the banks then charge depositors a fee to maintain their deposits. Historically, the U.S. has not adopted policies resulting in negative interest rates, and there is no indication that the Federal Reserve Board plans to adopt such a policy in the future. If, however, such a policy is adopted in the U.S., Program Banks may begin to charge fees to maintain deposits held through bank deposit sweep products, such as the FlexInsured Account. In such an event, Cetera will charge a fee to defray its costs for maintaining your deposits at Program Banks through its bank deposit products. This fee will be in addition to fees Cetera receives directly from Program Banks for their participation in the FlexInsured Account. Cetera will assess any fees related to negative interest rates to your FlexInsured Account on a monthly basis for the duration of the negative interest rate period. If applicable, this fee will appear on your periodic Cetera Account statement. In its discretion, Cetera will increase or decrease this fee periodically to reflect the costs incurred by Cetera to maintain your deposits at Program Banks. Cetera can eliminate the fee at any time. In the event that Cetera assesses fees as a result of negative interest rates, additional information regarding the fees will be available at https://www.cetera.com/cetera-wealth-services/disclosures/flexInsured-account or by contacting your financial professional.

DEPOSIT CAPACITY AT PROGRAM BANKS

Under certain economic conditions or for other reasons, it is possible for Program Banks to limit or reduce the amount of deposits they will accept through bank deposit sweep products, such as the FlexInsured Account. If Programs Banks, including the Overage Banks, cannot accept any additional deposits due to capacity constraints, then the FlexInsured Account product will be updated to automatically invest any additional available cash balances into shares of the Default MMF, a money market fund that Cetera makes available. If the Default MMF is not accepting excess funds, then those excess funds will be maintained in your Cetera Account as a free credit balance. The overall amount of available FDIC insurance protection will vary depending upon the number of Program Banks accepting deposits through the FlexInsured Account at any time and your total deposits held at Program Banks. If most or all the Program Banks have insufficient capacity to accept any additional balances, then the aggregate amount of FDIC insurance coverage available to you could be significantly reduced.

If Program Banks have insufficient capacity to accept new deposits but can maintain existing deposit levels, then Cetera may choose to maintain your existing cash balances at Program Banks and sweep all additional cash balances in your Cetera Account to Default MMF. If the Default MMF is unavailable to accept your cash balances, then such balances will be maintained in your Cetera Account as a free credit balance. Once deposit capacity at Program Banks is restored to levels that Cetera believes can support the then-current cash balances that were swept to the Default MMF and/or held as free credit balances as well as anticipated cash balances, the FlexInsured Account will resume normal operations and new cash balances will be allocated to Program Banks with available capacity. With advance notice to you, any amounts swept to the Default MMF will be converted to cash, at the then current market price, and then allocated to Program Banks on the Priority List. If your funds are being maintained as a free credit balance, then your cash balances will be reallocated to Program Banks. During times that you maintain sweep balances in a money market fund or a free credit balance, and you use cash in your account, such cash obligations will first be met by any free credit balances, then by redemptions from your money market funds, and finally by withdrawals from your FlexInsured Account balances, as applicable.

Money Market Mutual Fund Features and Disclosures

The Default MMF is currently the Federated Hermes Trust for U.S. Treasury Obligations Fund Cash Series Shares, ticker symbol TCSXX. The prospectus for the Default MMF is available at https://www.federatedinvestors.com/products/mutual-funds/trust-for-us-treasury-obligations/cs.do. Cash balances swept to a money market fund are not FDIC insured but are protected by SIPC up to applicable limits. SIPC's coverage protects the securities and cash in your investment account up to $500,000, which includes a $250,000 limit for free credit balances. For more information about SIPC coverage, please go to www.sipc.org. Cetera reserves the right to change the Default MMF from time to time.

Money market funds are securities that may increase or decrease in value. In general, money market funds are designed and managed with the objective *of preservation of capital and maintenance of liquidity. Although money market funds seek to preserve a net asset value of $1.00 per share, there is no guarantee that this will occur, and it is possible to lose money should the value per share of the money market fund fall.*

Cetera receives distribution assistance in the form of annual compensation up to 0.78% for assets held in the Default MMF. Therefore, Cetera has a financial benefit when cash is invested in the Default MMF as opposed to other cash sweep products. This compensation is retained by Cetera and is not shared with your financial professional.

ACCOUNT STATEMENTS

All activity with respect to your FlexInsured Account, including interest earned for the period covered and balances maintained at each Program Bank, will appear on the periodic Cetera Account statement issued by Pershing. You will not receive a separate statement from the Program Banks.

TAX INFORMATION

For most clients, interest earned on deposits in the FlexInsured Account will be taxed as ordinary income in the year it is received. A Form 1099-INT will be provided to you annually by Pershing showing the amount of interest income you have earned on deposits in your FlexInsured Account. Please consult with your tax advisor about how interest earned in the FlexInsured Account may affect you.

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NO SIPC COVERAGE FOR DEPOSITS HELD IN A FLEXINSURED ACCOUNT

SIPC provides investors some protection if their brokerage firm becomes insolvent or if cash or securities are missing from eligible customer accounts. The limit of SIPC protection for customer securities and cash is $500,000, which includes a $250,000 limit for free credit balances held by customers at member brokerage firms. SIPC, however, does not provide protection on bank deposits. Therefore, balances in the FlexInsured Account are not eligible for SIPC coverage. For more information about SIPC coverage, please go to www.sipc.org.

FDIC INSURANCE FOR DEPOSITS AT PROGRAM BANKS

Funds deposited on your behalf in a Deposit Account at a Program Bank are insured by the FDIC, an independent agency of the U.S. government, up to $250,000 (including principal and accrued interest) when aggregated with all other deposits held by you in the same insurable capacity at a particular Program Bank. In the event a Program Bank becomes insolvent, the FDIC provides insurance up to $250,000, including principal and accrued interest to the day the Program Bank is closed. These maximum amounts include, in addition to deposits held in your FlexInsured Account, all deposits held by you in the same insurable capacity at the same Program Bank, including, for example, CDs issued to you by a Program Bank.

The information below provides further information on federal deposit insurance limitations.

Individual Accounts. Deposit accounts at Program Banks held in the name of an agent or nominee of an individual (such as the balance from an individual's account in the Deposit Accounts held as part of the FlexInsured Account) are not treated as owned by the agent but are added to other deposits of such individual held in the same insurable capacity at that depository institution (including funds held in a sole proprietorship) and insured up to $250,000 in the aggregate.

Corporate and Partnership Accounts. Accounts established at a Program Bank and owned by the same corporation, partnership or unincorporated association that are designated for different purposes are not separately insured but, rather, are aggregated with all other deposit accounts of the corporation, partnership or unincorporated association at the same Program Bank and insured up to $250,000.

Custodial Accounts. Funds deposited into an account at a Program Bank that are established and held in the name of a custodian (for example, under the Uniform Gifts to Minors Act or the Uniform Transfer to Minors Act) will not be considered the property of the custodian, but are added to other deposits of the minor or other beneficiary held in the same insurable capacity and will be insured up to $250,000 in the aggregate.

Joint Accounts. An individual's interest in joint accounts held under any form of joint ownership valid under applicable state law may be insured up to $250,000 in the aggregate, meaning all accounts held at that bank held under any form of joint ownership. This would be separate and in addition to the $250,000 allowed on other non-retirement account deposits individually owned by any of the co-owners of such accounts. For example, a joint account owned by two persons would be eligible for insurance coverage of up to $500,000 ($250,000 for each person), subject to the aggregation of each owner's interests in other joint accounts at the same depository institution. Deposits into the FlexInsured Account from joint accounts are always allocated assuming two owners.

IRAs and other Self-Directed Retirement Accounts. Funds deposited into IRAs, self-directed Keogh accounts, and certain other self-directed retirement accounts at a Program Bank are insured up to $250,000 per owner and insured separately from other non-retirement funds an owner may have at the same Program Bank. For insurance purposes, the FDIC will aggregate such funds with other retirement funds owned by the same individual regardless of whether or not such funds are eligible for deposit through the FlexInsured Account.

Trusts, medical savings accounts, employee benefit plans and other types of accounts also are subject to certain limitations. Please consult the FDIC or your financial professional for more details. FlexInsured Account balances held in accounts with trust registrations are allocated at the account level and not at the trustee level.

Under certain circumstances, if you become the owner of deposits at a Program Bank because another depositor dies, beginning six months after the death of the depositor, the FDIC will calculate the applicable insurance limit by aggregating those deposits with any other deposits that you own in the same insurable capacity at the same Program Bank. Examples of accounts that may be subject to this FDIC policy include joint accounts, "transfer on death" accounts and certain trust accounts. The FDIC provides the six-month "grace period" to permit you to restructure your deposits to obtain the maximum amount of deposit insurance for which you are eligible. If deposits through your FlexInsured Account or otherwise at a Program Bank are assumed by another depository institution pursuant to a merger or consolidation, such deposits generally will continue to be separately insured from the deposits that you might have established with the acquirer until (i) the maturity date of the CDs or other time deposits that were assumed, or (ii) with respect to deposits that are not time deposits, the expiration of a six month period from the date of the acquisition. Thereafter, any assumed deposits will be aggregated with your existing deposits with the acquirer held in the same insurable capacity for purposes of federal deposit insurance. Any deposit opened at the depository institution after the acquisition will be aggregated with deposits established with the acquirer for purposes of federal deposit insurance.

Your funds deposited through the FlexInsured Account can be deposited at more than one Program Bank, increasing the amount of insurance available to you up to a maximum of $2,500,000 in FDIC insurance coverage, subject to bank availability (provided, however, the FlexInsured Account is designed to limit deposits to 98.6% of the coverage limits in each Program Bank, so the aggregate deposits that would be eligible for deposit insurance could be slightly less than this amount; FDIC insurance coverage available through the FlexInsured Account could also be reduced if you exclude one or more Program Banks from receiving your funds). Once $2,500,000 ($5 million for joint accounts) in total has been deposited at Program Banks, or once Program Banks no longer have capacity to accept additional insured deposits, your excess funds will be placed in Deposit Accounts at Program Banks chosen to serve as the "Overage Banks." **Your deposits at an Overage Bank in excess of the Deposit Insurance Limit will not be covered by FDIC Insurance or protected by SIPC coverage.** In the event that a Program Bank should become insolvent, the deposits made through the

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FlexInsured Account are insured up to the applicable Deposit Insurance Limit for principal and interest accrued through the day the Program Bank became insolvent. Interest is determined for insurance purposes in accordance with federal laws and regulations. In the event that federal deposit insurance payments should become necessary, any payments of principal plus unpaid and accrued interest through the date of insolvency made by the FDIC will be made to you. You may be required to provide certain documentation to the FDIC and others before insurance payments are made. **Cetera and Pershing are not be obligated to credit your account with funds in advance of their payment by the FDIC.**

FDIC INSURANCE FOR DEPOSITS IN TRANSIT

Your funds become eligible for FDIC insurance immediately upon placement in a Program Bank deposit account by Pershing, acting as your agent. While in transit from Pershing to the Program Banks and from the Program Banks to Pershing, the funds generally pass through the Intermediary Bank. While at the Intermediary Bank, funds are also eligible for FDIC insurance up to the Deposit Insurance Limit, depending on account type, when aggregated with any other deposits held by you in the same insurable capacity at the Intermediary Bank. It is possible that your funds in transit at the Intermediary Bank will exceed the maximum amount of FDIC coverage available through the Intermediary Bank as an individual bank until such funds are received by Program Banks or Pershing. Typically, funds will be moved from the Intermediary Bank to a Program Bank or Pershing within one business day.

If you have questions about basic FDIC insurance coverage, please contact your financial professional. You may also wish to seek advice from your own attorney if you have questions concerning FDIC insurance coverage of deposits held in more than one account or insurable capacity. You may also obtain additional information about the FDIC by contacting the FDIC, Office of Compliance and Consumer Affairs, by letter (550 17th Street, N.W., Washington, D.C. 20409), by phone (877.ASK-FDIC (877.275.3342) or 800.925.4618 (TDD)), by email (dcainternet@fdic.gov) or by accessing the FDIC Website at www.fdic.gov. In addition, you may obtain publicly available financial information concerning any or all of the Program Banks at https://www.ffiec.gov/NPW and more detail on FDIC insurance from www.fdic.gov/deposit/deposits/index.html or by contacting the FDIC Public Information Center by mail at 801 17th Street, N.W., Room 100, Washington, DC 20434. Neither Cetera nor Pershing guarantees the financial condition of any Program Bank or the accuracy of any publicly available financial information concerning a Program Bank.

ADDITIONAL INFORMATION ABOUT YOUR FLEXINSURED ACCOUNT

Cetera may modify the terms and conditions of the FlexInsured Account at any time upon notice to you. All activity with respect to your FlexInsured Account will appear on your periodic Cetera Account statements issued by Pershing, including the total of your opening and closing FlexInsured Account balances, the interest earned, and the interest rate for the reinvestment period. You should retain the Cetera Account statements for your records. As always, you should notify us immediately of any unauthorized activity in your FlexInsured Account or any concerns you may have with respect to the FlexInsured Account.

You may contact your financial professional during any business day to obtain the current interest rate, account balances, Program Banks and other information on your FlexInsured Account. If you have online access to your account, you may also view your FlexInsured Account information online. You may also find financial information on current interest rates on Cetera's website at https://www.cetera.com/cetera-wealth-services/disclosures/flexInsured-account.

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INSURED DEPOSIT SWEEP ACCO
DISCLOSURE STATEMENT

Cetera Wealth Services, LLC (Cetera) is pleased to welcome you to the Insured Deposit Sweep Account (IDSA), the bank deposit sweep option in our Cash Sweep Program for individual retirement accounts subject to Section 4975 of the Internal Revenue Code and enrolled in certain advisory programs. The IDSA is a sweep option that permits cash balances awaiting investment or reinvestment in eligible accounts to be automatically deposited (or swept) into interest-bearing accounts (Deposit Accounts) at designated program banks, (which may include The Bank of New York Mellon (BNYM) and BNY Mellon, National Association (BNY Mellon, N.A.), (collectively, Program Banks)). Funds in each Deposit Account held for the benefit of a single customer will generally be eligible for federal deposit insurance from the Federal Deposit Insurance Corporation (FDIC) up to $250,000 (the current Deposit Insurance Limit) per category of legal ownership as recognized by the FDIC (e.g., individual, corporate, trust, etc.) at each Program Bank. Please note that funds deposited through the IDSA are not protected by the Securities Investor Protection Corporation (SIPC). See "FDIC Insurance for Deposits at Program Banks" below for additional information about the FDIC and how FDIC insurance works.

SUMMARY OF TERMS AND CONDITIONS

This summary of the IDSA is prepared for your convenience and must be read in conjunction with the detailed disclosure below.

Cetera has asked Pershing LLC (Pershing), our fully disclosed clearing agent, to assist us in operating the IDSA, which, if you choose to participate, sweeps the uninvested cash balances in your Cetera brokerage account carried at Pershing (Cetera Account) into Deposit Accounts at Program Banks. Funds in Deposit Accounts will begin earning interest from the day they are received by the Program Bank. You may discontinue your participation in the IDSA at any time. BNYM is a NY state-chartered bank and BNY Mellon, N.A. is a national banking association. Both may participate in the IDSA by holding your funds in Deposit Accounts. Pershing, BNYM and BNY Mellon, N.A. are all affiliates and subsidiaries of The Bank of New York Mellon Corporation. By selecting the IDSA as the automatic sweep option in your Cetera Account, you agree to appoint Pershing, our fully disclosed clearing agent, as your authorized agent to establish and maintain Deposit Accounts at Program Banks, which may include BNYM and BNY Mellon, N.A., and to effect deposits to and withdrawals from such Program Banks pursuant to these terms and conditions.

Federal Deposit Insurance. Your funds are deposited into Deposit Accounts in a manner designed to provide up to $2,500,000 of FDIC insurance protection on your IDSA balance, subject to bank availability. This coverage protects your balance held in Deposit Accounts, up to allowable limits, in the event of the failure of a Program Bank. As your agent, Pershing has established a separate account for the benefit of IDSA participants at each Program Bank and intends to limit each customer's deposits at each Program Bank to $246,500 (98.6% of the Deposit Insurance Limit) to help ensure that principal amounts and accrued interest within the IDSA receive FDIC insurance coverage. Once this amount is reached, additional amounts are deposited in subsequent Program Banks in amounts not to exceed $246,500 at each Program Bank. Once $2,500,000 in total has been deposited at Program Banks, or once Program Banks no longer have capacity to accept additional insured deposits, your excess funds will be placed in Deposit Accounts at Program Banks chosen to serve as the "Overage Banks." **Your deposits at an Overage Bank in excess of the Deposit Insurance Limit will not be covered by FDIC Insurance.** Any money you hold at a Program Bank outside of the IDSA may impact the insurance coverage available. FDIC insurance coverage applies to the total amount of a depositor's balance in all eligible accounts held at an FDIC-insured financial institution in the same category of ownership, as recognized by the FDIC. Therefore, if you maintain funds at a Program Bank outside of the IDSA, this will negatively impact the amount of FDIC insurance for the total amount of your funds held within and outside your IDSA balance at that Program Bank. Balances in the IDSA are not protected by SIPC, which provides protection against risks to customers of member brokerage firms, like Cetera and Pershing, in the event of the failure of that member firm. Under certain economic conditions or for other reasons, it is possible for Program Banks to limit or reduce the amount of deposits they will accept through bank deposit sweep products, such as the IDSA, which will reduce the amount of FDIC insurance available for the cash balance in your Cetera Account. If the Programs Banks, including the Overage Banks, cannot accept any additional balances due to capacity constraints, then the IDSA will be updated so that any additional free credit balance in your Cetera Account will be automatically invested in shares of the Federated Hermes Treasury Obligations Fund Capital Shares money market fund, ticker symbol TOCXX, that Cetera has elected to use for the IDSA (Default Money Fund) or held as a free credit balance. See "FDIC Insurance for Deposits at Program Banks" and "Deposit Capacity at Program Banks" below for additional information.

Access to Funds. You may access your balance in the IDSA (i.e., the funds held in Deposit Accounts at Program Banks) by contacting your financial professional or using features of your Cetera Account that have the effect of transferring IDSA balances back into your Cetera Account. Your ownership in funds deposited at Program Bank accounts will be evidenced by book entry on the account records of Pershing. Your Cetera Account statements issued by our fully disclosed clearing agent Pershing will list the names of the Program Banks holding your swept funds and your balance in each Program Bank. Program Banks are permitted by federal regulation to impose a seven-day delay on any withdrawal request. In the event of a failure of a Program Bank, there may be a time period during which you may not be able to access all or part of your deposits in the IDSA. In the event of a failure of a Program Bank, the amount of your balance returned by the FDIC is also dependent upon the amount of your IDSA balance at that Program Bank that is covered by FDIC insurance.

IDSA Interest Rates. Interest rates will be established periodically and may fluctuate based on market, economic and other business conditions. The interest rates payable in the IDSA are determined by the amount the Program Banks are willing to pay minus the fees paid to Cetera, Pershing and a third-party administrator, as discussed below. The interest rates accruing on your IDSA balance are established periodically and fluctuate as frequently as daily without prior notice, based on market, economic and other business conditions. Current interest rates for the IDSA are available from your financial professional and at www.cetera.com/cetera-wealth-services/clients/insured-deposit-sweep-account. You will generally receive a lower rate of return on cash deposited in the IDSA than if it were held in money market mutual funds. See "Interest Rates" below for additional information.

Program Banks. Under the IDSA, certain FDIC-insured financial institutions have agreed to act as Program Banks. A separate FDIC-insured financial institution will act as an intermediary bank (Intermediary Bank) that routes deposits to, and withdrawals from, Program Banks. Certain large deposits or withdrawals in excess of FDIC limits may not be fully insured while being routed through the Intermediary Bank. In the event of a Program Bank

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failure, Pershing will not be obligated to credit your Cetera Account with funds in advance of any payment by the FDIC. When your IDSA balances are allocated to a Program Bank, including BNYM and BNY Mellon, N.A., it realizes an economic benefit from them. The Program Banks, including BNYM and BNY Mellon, N.A., do not have a duty to offer the highest rates available or rates that are comparable to money market mutual funds or those offered by other depository institutions. Balances held in the Deposit Accounts at Program Banks constitute a direct obligation of the respective Program Bank and are not directly or indirectly an obligation of Cetera, Pershing or your financial professional at Cetera. See "Information About Your Intermediary Bank" and "Program Banks" below for additional information.

Fees. For each of their services to support the IDSA product, Cetera, Pershing, and the third-party administrator will receive compensation, as discussed further below. The compensation will generally be paid from amounts paid by Program Banks. The compensation paid to Cetera for making the IDSA product available in your Cetera Account does not vary and is not affected by the amount actually deposited through the IDSA product or any particular Program Bank. See "Administrative Fees" below for additional information. For information on fees related to negative interest rates, please see the "Negative Interest Rate Disclosure" below.

Risks of the Program. You will generally receive a lower rate of return on cash deposited into the IDSA than if it were invested in money market mutual funds. Program Banks are permitted by federal regulation to impose a seven-day delay on any withdrawal request. In the event of a failure of a Program Bank, there may be a time period during which you may not be able to access your balance in the IDSA and the amount of your aggregate balance, both within and outside the IDSA, and FDIC insurance limits will determine the amount of your balance returned to you. FDIC insurance coverage applies to the total amount of a depositor's balance in all eligible accounts held at a FDIC-insured financial institution. Therefore, if you have money at a Program Bank outside the IDSA, this will negatively impact the amount of FDIC insurance for the total amount of your funds held within and outside the IDSA at that Program Bank. Deposits made through the IDSA are not protected by SIPC, which provides protection against certain risks to customers of member brokerage firms, like Cetera and Pershing, in the event of the failure of that member firm. In the event that the U.S. adopts a policy resulting in negative interest rates, it is possible that Program Banks will begin to charge fees to maintain deposits held through bank deposit programs. This can result in you experiencing a negative overall return with respect to your deposits in the IDSA. See "Negative Interest Rate Disclosure" below for additional information.

Conflicts of Interest. Cetera earns substantial fees from Program Banks based on your participation in the IDSA, and this fee will be significantly higher to Cetera than if your funds were swept tointo a money market mutual fund or deposited in another product or depository institution. The fees that Cetera receives from your participation in the IDSA defrays its costs of providing and administering the IDSA and is also a source of additional revenue, which is further described below.

This compensation that Cetera receives presents a conflict of interest because Cetera receives a greater financial benefit when cash is swept into the IDSA than it otherwise would if your cash balance was held in a money market mutual fund or other cash alternative, and the fees that Cetera receives reduces the amount of interest you receive in the IDSA. The interest that you receive and Cetera's fees are both paid from the total funds paid by the Program Banks on IDSA Accounts. Consequently, the greater the fees received by Cetera, the less funds are available to pay client interest on IDSA Account deposits. In addition, we continue to charge an investment advisory fee while your cash is held in the IDSA. If we were to reduce or eliminate our advisory fee for cash balances held in IDSAs where such fee reduction is greater than the amount of compensation we receive on IDSA deposits, this would create a conflict of interest for us to avoid or minimize such cash holdings or to utilize alternative cash equivalent investments, where available.

Cetera therefore has an incentive for your funds to be swept into the IDSA rather than a money market mutual fund or other alternative to the IDSA. The income we earn from Program Banks based on the balances in the IDSA Account program will in almost all circumstances be substantially greater than the amount of interest earned from those same balances. We receive a substantially higher percentage of the interest generated by deposit balances in the IDSA Account program than you receive. As a result, you will almost always receive a lower rate of return on cash deposited into the IDSA Account than could be obtained in money market mutual funds or certain bank products outside of the IDSA Account. The fees paid by Program Banks for your participation in the IDSA are retained by Cetera and are not shared with your financial professional. See "Administrative Fees" below for additional information on the fees received by Cetera for your participation in the IDSA program. If you wish to opt out of the IDSA, you may do so by contacting your financial professional at any time. See "Alternatives to the IDSA Account" below for additional information regarding your options.

Given the conflicts discussed above, each client should consider the importance of the IDSA program to us when evaluating our services, and the total fees and compensation we receive, and then decide whether to opt out of the IDSA. We mitigate these conflicts by disclosing them to you here and in Cetera's Form ADV and by not sharing the revenue generated from client cash sweeps with our financial professionals.

DETAILED TERMS AND CONDITIONS

ACCOUNT ELIGIBILITY

The IDSA is available only to accounts that are: (i) subject to Section 4975 of the Internal Revenue Code, but not subject to the fiduciary provisions of the Employee Retirement Income Security Act (ERISA) (such accounts, "IRAs"); (ii) enrolled in certain Cetera advisory programs; and (iii) custodied at Pershing. For the avoidance of doubt, IRAs may include traditional, rollover, Roth, and inherited individual retirement accounts, and Coverdell education savings accounts. 403(b) accounts, retirement plan accounts and IRAs that are subject to ERISA (including certain SEP and SIMPLE IRAs) are not eligible for participation in the IDSA. Cetera and Pershing reserve the right, in their sole discretion, to further limit the types of accounts participating in the IDSA.

ALTERNATIVES TO THE IDSA

The IDSA is one option for you to consider in choosing how you want to maintain your cash balances. If you are maintaining an eligible account, as detailed above, the IDSA is the only automatic "sweep option" available. Conversely, you may elect to turn off the automatic sweep option by contacting your financial professional. If you elect not to utilize an automatic sweep option on your Cetera Account, your financial professional can tell you about certain money market mutual funds or other products available through Cetera that you may wish to consider as alternatives to maintaining

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cash deposits in your account. If you elect to turn off the automatic sweep option, the uninvested cash balance in your Cetera Account will be treated as a free credit balance. A free credit balance will not earn you interest or investment returns; however, SIPC protects the securities and cash in your investment account up to $500,000, which includes up to $250,000 protection for cash held as a free credit balance. For more information about SIPC coverage, please go to www.sipc.org.

Should you wish to move your free credit balance into a money market mutual fund or other alternative to the IDSA that Cetera makes available for purchase, such as U.S. Treasuries or a brokered Certificate of Deposit, your financial professional can assist you. If you are invested in a wrap fee program, all transaction charges are included in the fees you pay for that program. We also offer a limited number of non-wrap fee programs, which would require you to pay the transaction charge for purchasing such a product. If you are unsure of what type of program you are in, please discuss with your financial professional. You should consider your investment objectives, liquidity needs and risk tolerance in reviewing whether participation in the IDSA or another cash alternative is appropriate for you. If you desire to maintain a large cash position in your Cetera Account for an extended period of time, you should contact your financial professional to discuss your options.

DEPOSITS

By electing to utilize the IDSA as the sweep option in your Cetera Account, you consent to have excess cash balances pending investment in your Cetera Account automatically deposited into Deposit Accounts at Program Banks. Each business day, our fully disclosed clearing agent, Pershing or its agent bank, utilizing the services of the third-party administrator or the Intermediary Bank, will deposit the excess cash balances in your Cetera Account into one or more Deposit Accounts maintained at the Program Banks held for the benefit of IDSA participants. Your insured deposit ownership will be evidenced by an entry on records maintained by Pershing and the third-party administrator, as Pershing's agent and record keeper, for each of the Program Banks at which your funds are on deposit. You will not be issued any evidence of ownership of an insured deposit account, such as a passbook or certificate. Your Cetera Account statement, issued by Pershing, will reflect all information regarding your balance in the IDSA, including all deposits, withdrawals, Program Bank deposit balance(s) and the applicable interest rate.

Funds intended for deposit into the IDSA must be placed through your Cetera Account and cannot be placed directly by you with the Intermediary Bank or any of the Program Banks. Only balances transferred by Pershing, acting as your agent, or the Intermediary Bank on behalf of Pershing, will be eligible for inclusion in the IDSA. Once you have selected IDSA as the sweep option, excess cash balances in your Cetera Account on each business day will be transferred to your IDSA on the next business day.

If you decide to terminate your participation in the IDSA, you may establish a direct relationship with each Program Bank by making a request to the Program Bank to establish a Deposit Account in your name, subject to each Program Bank's rules with respect to establishing and maintaining deposit accounts. You would then contact your financial professional and request a transfer of the funds in the IDSA into your individual deposit account. Establishment of a deposit account directly in your name at a Program Bank will separate your balance in the IDSA from the Deposit Accounts used in IDSA at that Program Bank, which is reflected in your Cetera Account. As such, if you establish a direct depository relationship with a Program Bank, your IDSA balance and your balances held in the associated Deposit Accounts at that Program Bank will no longer be reflected in your IDSA balance or on your Cetera Account statement issued by Pershing and Cetera and Pershing will have no further responsibility concerning such Deposit Accounts.

WITHDRAWALS

By electing to utilize the IDSA as the sweep option in your Cetera Account, you consent (and direct) to have your money on deposit at the Program Bank automatically withdrawn from the Program Bank accounts in the event of a debit in your Cetera Account or, on settlement date, to pay for securities purchased in your Cetera Account. Each business day, as needed, Pershing, acting as your agent, or its agent, the third-party administrator, utilizing the services of the Intermediary Bank, will withdraw your cash from the omnibus Deposit Accounts maintained at the Program Banks held for the benefit of IDSA participants.

In the event of a debit in your Cetera Account, any funds necessary to satisfy such debits will be obtained first from free credit balances in your Cetera Account (if any) and then from withdrawals from your IDSA balance. A debit will be created, for example, when you purchase securities or request a withdrawal of funds from your Cetera Account.

Please note, that under federal regulations, Program Banks may reserve the right to require seven (7) days' notice before permitting a transfer of funds out of a deposit account, such as the Deposit Accounts at the Program Banks. While the Program Banks have not indicated their intention to implement such a policy, a Program Bank may, at any time, choose to do so.

RELATIONSHIP WITH PERSHING

Cetera, a registered broker-dealer in securities and member organization of FINRA, introduces your account to our clearing firm Pershing, which carries your account in a fully disclosed manner. Pershing is acting as your agent in establishing and maintaining Deposit Accounts for your swept balances and in depositing your money to and withdrawing your money from the Deposit Accounts at the Program Banks. Having instructed your financial professional to enroll you in the IDSA, your first bank deposit will constitute your appointment of Pershing as your agent to effect deposits to and withdrawals from Program Bank Deposit Accounts in connection with the IDSA. Pershing, a wholly owned indirect subsidiary of The Bank of New York Mellon Corporation, is a registered broker-dealer and is a member organization of the New York Stock Exchange (NYSE), the Financial Industry Regulatory Authority (FINRA) and Securities Investor Protection Corporation (SIPC).

INFORMATION ABOUT THE INTERMEDIARY BANK

A designated settlement bank will act as the Intermediary Bank for the IDSA to route your deposit funds to various Program Banks in order to maximize the amount of FDIC insurance available on your IDSA balance. The Intermediary Bank is identified on the list of Program Banks that is made available at www.cetera.com/cetera-wealth-services/clients/insured-deposit-sweep-account. See "Program Banks" below for additional information.

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PROGRAM BANKS

A current list of the Program Banks, as updated from time to time, is available at www.cetera.com/cetera-wealth-services/clients (refer to the "Investor Information and Disclosures" section, then click on the link for the Insured Deposit Sweep Account or visit www.cetera.com/cetera-wealth-services/clients/insured-deposit-sweep-account) or by contacting your financial professional. The Intermediary Bank and each Program Bank is a separate FDIC-insured depository institution duly chartered under the laws of the United States or a state thereof. As described below, Cetera reserves the right to modify the list of eligible Program Banks (meaning adding and removing) and priority from time to time. Such modified and updated lists will be reflected on the website prospectively. Cetera may also change the Intermediary Bank. **It shall be your responsibility to monitor changes to the list of the Program Banks.**

You may not designate the order in which Program Banks receive funds through the IDSA. You may, however, exclude one or more Program Banks from receiving your cash balances. You may exclude Program Banks at any time and for any reason by notifying your financial professional. If a Program Bank where you already have deposits outside of the IDSA is listed, we recommend you direct us to exclude that Program Bank from receiving any of your IDSA deposits. **It is your responsibility to monitor the insurable deposits that you may have with any Program Bank (including deposits outside of the IDSA).**

It may take several days following your Cetera Account's enrollment in the IDSA before we can process any requested Program Bank exclusions. In the event that your funds are allocated to a Program Bank that is designated by you or by us as an excluded Program Bank, but which is also a financial institution in which you maintain cash balances outside of the IDSA, your deposits exceeding the maximum FDIC-insured amount at any such bank may not be protected by FDIC coverage until those exclusions are processed and your IDSA balance at that Program Bank is reallocated to alternative Program Banks.

You may obtain available financial information concerning any of the Program Banks at https://www.ffiec.gov/NPW or by contacting the FDIC Public Information Center by mail at 801 17th Street, N.W., Room 100, Washington, DC 20434 or by phone at 878. ASK. FDIC (877.275.3342).

ALLOCATION OF DEPOSITS AMONG PROGRAM BANKS

Program Banks into which your funds may be deposited will appear on a "Priority List" available on our website at www.cetera.com/cetera-wealth-services/clients/insured-deposit-sweep-account. Other clients may be assigned different Priority Lists. You can identify the Priority List applicable to you by state or, in the case of most corporate accounts, by account type. If your Account is not a corporate account, please refer to the state which you legally identify as your primary state of residence and which you provided to us as your primary address in your account application, which was subsequently used for the registration of your Cetera Account. Program Banks appear on the Priority List in the order in which the Deposit Accounts will be opened for you and your funds will be deposited. You should review the Priority List carefully. The Priority List will also include one or more Overage Banks that will accept your funds without limit and without regard to the $250,000 federal deposit insurance limit if all Programs Banks on the Priority List have received funds up to the applicable deposit limit. If all your funds are withdrawn from an Overage Bank, the next time your funds are deposited in an Overage Bank your funds may be deposited in a different Overage Bank.

You may not change the order of Program Banks on the Priority List. However, at any time, you may designate a Program Bank as ineligible to receive your funds. This will result in your funds being deposited into Deposit Accounts at the next Program Bank on the Priority List. In addition, you may at any time instruct us to remove your funds from a Program Bank and designate the Program Bank as ineligible to receive future deposits. Your funds from an ineligible Program Bank will be deposited at the first available Program Bank set forth on the Priority List. You may not designate all of the Overage Banks as ineligible to receive your funds. If you wish to designate a Program Bank as ineligible to receive your funds, please contact your financial professional. One or more of the Program Banks included on the Priority List may be replaced with a Program Bank not previously included on the Priority List. A Program Bank may be deleted from the Priority List or the order of Program Banks on the Priority List may change. The most current Priority List, as updated from time to time, will be maintained on our website at www.cetera.com/cetera-wealth-services/clients/insured-deposit-sweep-account. By enrolling in and utilizing the IDSA, you expressly agree to the terms and conditions of this disclosure statement and authorize Cetera and its third-party administrator to designate and approve Program Banks, subject to review by Pershing, and to appoint Pershing as your agent to deposit and withdraw your cash balances in accordance with this disclosure statement. You understand that it is your responsibility to review the list of Program Banks and to notify us if you wish to exclude any of them from receiving your IDSA deposits.

RELATIONSHIP BETWEEN CETERA AND CERTAIN PROGRAM BANKS

To participate as a Program Bank in the IDSA, a depository institution enters into an agreement with Pershing and the third-party administrator. While such depository institutions are not affiliated with Cetera, Cetera may maintain business relationships with certain depository institutions under which the depository institution may offer securities brokerage, investment advisory and/or insurance services through Cetera or its affiliates at one or more of their locations. Such depository institutions may be or may become Program Banks through agreements that the depository institutions enter into with Pershing and the third-party administrator. Client deposits from the IDSA Account program represent a significant amount of cash for Program Banks, and it is a relatively stable source of deposits for them. The Program Banks in turn use the deposited cash for their bank activities such as investments or lending, thus driving their revenue. As a result, the Program Banks have an incentive to pay a rate that is higher than the rate paid to you as described further in the Interest section below.

INTEREST RATE

Funds deposited through the IDSA to a Program Bank will begin earning interest from the day they are received by the Program Bank. Interest on funds in the IDSA will accrue up to, but not including, the day of withdrawal. The interest rate available through the IDSA will be established periodically based on market, economic and other business conditions. Your IDSA deposits will receive the same interest rate regardless of the Program Bank in which cash from your Cetera Account is deposited. The interest rates on the IDSA are determined by the rate the Program Banks are willing to pay on the amount allocated to them minus the fees paid to Cetera, Pershing, and the third-party administrator.

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The interest rates paid by Program Banks and also on your IDSA balance may change as frequently as daily without prior notice. The interest rates available through the IDSA will generally be lower than the interest rates available to depositors making deposits directly with the Program Bank or other depository institutions in comparable accounts and for investments in money market mutual funds and other cash equivalent investments available through Cetera. You should compare the terms, interest rates, required minimum amounts, and other features of the IDSA with other accounts and alternative investments. Current interest rate information is available at www.cetera.com/cetera-advisors/clients/insured-deposit-sweep-account or by contacting your financial professional.

The third-party administrator's fee is based on a target percentage of the average daily Deposit Account balances each month of all IDSA-eligible IRAs having funds swept to the IDSA. In any month in which the sum of the total interest on the Deposit Accounts and the fees to Cetera, Pershing and the third-party administrator exceeds the amount that Program Banks have agreed to pay with respect to the Deposit Accounts, such that the third-party administrator does not receive its entire target fee for that month, the interest rate on the Deposit Accounts will be lowered the following month to permit the third-party administrator to collect the full amount of its target fee. Similarly, in any month in which the third-party administrator is paid in excess of its target fee, the interest rate on the Deposit Accounts will be increased the following month. If there are any excesses or shortages with respect to the third-party administrator's fee that accumulate over time despite the adjustments described above, the interest rate on the Deposit Accounts will continue to be adjusted in subsequent months to account for such accumulated excesses or shortfalls.

The Program Banks will use the daily-balance method to calculate the interest that applies to your IDSA balances in the Deposit Accounts. This method applies a daily periodic rate to the principal balance each day. Interest earned on the IDSA principal balance will accrue daily and will be reinvested monthly. Each month, upon the reinvestment date, the total accrued interest will be automatically credited to your IDSA principal each month.

The Program Banks, including BNYM and BNY Mellon, N.A., do not have a duty to offer the highest rates available or rates that are comparable to money market mutual funds. Money market mutual funds generally seek to achieve the highest rate of return consistent with their investment objectives, which can be found in their prospectuses. As such, the rates of interest paid on IDSA balances will generally be lower than the rate of return available from a money market mutual fund or the rate of interest available to depositors making deposits directly with a Program Bank or other depository institutions in comparable accounts. You should compare the terms, interest rates, required minimum amounts, charges and other features of the IDSA with other deposit and investment options when evaluating whether to select or maintain the IDSA as your sweep option. If you desire to maintain a large cash position in your Cetera Account for an extended period of time, you should contact your financial professional to discuss your options. Additionally, if you are seeking to maximize the potential returns on your cash, the ISDA is not and should not be viewed as a long-term option as it will result in long-term underperformance. Please contact your financial professional to discuss other potential options for maximizing returns or yields greater than those available in the ISDA program.

ADMINISTRATIVE FEES

Each Program Bank will pay an amount equal to a percentage of the average aggregate daily balance of IDSA deposits held by each Program Bank. As described in more detail in this section, this amount includes fees payable to Cetera, Pershing, and the third-party administrator, as well as interest payable to participating accounts. The amount paid by each Program Bank may vary from Program Bank to Program Bank. You will have no rights to the amounts paid by the Program Banks, except for interest actually credited to your Deposit Account, as described above. However, amounts collected from the Program Banks during each period, less interest credited, will be allocated on a per dollar per account basis and used to offset your monthly Cetera account fee for providing the sweep services, as discussed more fully below. In addition, part of the payment by the Program Banks will be used to compensate Pershing and the third-party administrator for their services. Cetera financial professionals do not receive any of the fees received by Cetera on IDSA balances.

For its services to support the IDSA product, including making it available as a sweep option, Cetera receives a fixed per account fee each month from Program Banks. Within each month, the amount of compensation paid to Cetera by each Program Bank does not vary and is not affected by the amount actually deposited through the IDSA, including your IDSA deposits, but will vary from month to month based on the actual number of days in the particular month as well as average aggregate daily balance in the IDSA. As a result, from one month to the next, even in an increasing interest rate environment, and/or even if the assets in your account increase or remain the same (or decrease), the interest rate payment to you could decrease. Such a decrease in the amount you receive in the IDSA could result from the average aggregate daily balance in the IDSA decreasing. This structure presents a conflict of interest because the IDSA generates fixed compensation for Cetera even when the lower average aggregate daily balance decreases the amount of interest that clients receive. Beginning on or about November 7, 2022, Cetera's monthly per account fee, based on a 30-day month, will be based on the below fee schedule:

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Cetera's New Monthly Per Account Fee in IDSA Effective on or about August 1, 2024

Fed Funds Target Rate (bps)	Monthly Account Fee
0 – 25	$2.00
25 – 50	$4.25
50 – 75	$6.50
75 – 100	$8.75
100 – 125	$11.00
125 – 150	$13.25
150 – 175	$15.50
175 – 200	$17.75
200 – 225	$18.50
225 – 250	$20.00
250 – 275	$21.00
275 – 300	$22.50
300 – 325	$24.00
325 – 350	$25.25
350 – 375	$26.05
375 – 400	$27.65
400 – 425	$29.25
425 – 450	$30.85
450 – 475	$32.45
475 – 500	$34.05
500 – 525	$35.65
525 – 550	$37.25
550 – 575	$38.85
575 – 600	$40.45

The FFT rate is the rate or the range of rates as expressed in percentages most recently announced by the Federal Open Market Committee of the Federal Reserve System (FOMC) that is the FOMC's target for the rate charged by banks on unsecured loans of the banks' reserve balances at Federal Reserve Banks. Under the fee schedule, increases in the FFT rate will result in increased compensation for Cetera. Cetera can change the applicable fee schedule upon advance notice to you. Although it is generally anticipated that Cetera's fees for the IDSA will be offset by the amounts paid by the Program Banks, as discussed herein, and you hereby direct the third-party administrator to collect such fees from the Program Banks and remit such amounts over to Cetera, Cetera reserves the right to withdraw the monthly account fee, or portion thereof, from your Cetera Account in the event or to the extent that the amount received from the Program Banks and paid over to Cetera by the third-party administrator for the period is less than Cetera's fee for the same period. The monthly per account fee will not generally be seen on your statement due to the manner in which Cetera recoups its fee from the Program Bank payments, as discussed above.

As used under this Administrative Fees section, the term "month" means the applicable period for which fees are charged and paid, interest is accrued and paid, and calculations (as shown below) are based and computed. A month may be a calendar month or one of twelve generally equal time periods in each annual period.

The current FFT rate can be found at http://federalreserve.gov/monetarypolicy/openmarket.htm.

The formula used to calculate the monthly per account fee to Cetera is shown in the following examples:

Federal Funds Target Rate = 0.75 – 1.00 (or 75 to 100 in basis points):
Monthly fee for 31 day month = ($8.75 x 31)/30.4 = $8.923 (rounded to $8.92)
Monthly fee for 28 day month = ($8.75 x 28)/30.4 = $8.059 (rounded to $8.06)
Monthly fee for 30 day month = ($8.75 x 30)/30.4 = $8.635 (rounded to $8.64)

Federal Funds Target Rate = 1.00 – 1.25 (or 100 to 125 in basis points):
Monthly fee for 31 day month = ($11.00 x 31)/30.4 = $11.217 (rounded to $11.22)
Monthly fee for 28 day month = ($11.00 x 28)/30.4 = $10.132 (rounded to $10.13)
Monthly fee for 30 day month = ($11.00 x 30)/30.4 = $10.855 (rounded to $10.86)

For its services, including record keeping and other services with respect to amounts deposited through the IDSA, Pershing will receive a monthly fee. Each day within the applicable interest period, the fee paid as compensation to Pershing will be calculated as an asset-based fee as determined by the daily IDSA balances during each interest period. The fee paid to Pershing will be deducted from the aggregate amount paid by the Program Banks, as

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discussed above. Though it is anticipated that the amounts paid by the Program Banks will satisfy the Pershing fee, Cetera and Pershing reserve the right to debit the Pershing fee, or a portion thereof, from your IDSA balance or Cetera Account in the event or to the extent the Pershing fee is not offset by amounts paid by Program Banks for such interest period.

For its services, the third-party administrator will charge a monthly asset-based fee. This fee may vary period to period based on changes in prevailing interest rates and the average daily balance of accounts participating in the IDSA during the period. The fee will generally equal the aggregate amount payable by Program Banks during the applicable interest period, minus, the interest payable to IDSA participants, the administrative fee paid to Pershing, and Cetera's flat fee. Moreover, the third-party administrator may, from time to time, temporarily reduce its fees during certain periods, such as when necessary to help ensure that the interest rates paid by the Program Banks during the period equal the applicable disclosed rate for the period. Under such circumstances, the administrator is authorized to recover any such reduced fees, subject to its targeted compensation rate, from future periods. You authorize and direct the third-party administrator to deduct its fees for its services from the amounts paid by the Program Banks. Based on the calculation methods set forth above, the third-party administrator will calculate the fees due to Cetera and Pershing.

IDSA fees are higher than the fees that Cetera receives from other sweep investment options. Other than these stated fees, and subject to the Negative Interest Rate Disclosure below, there will be no charges, fees, or commissions imposed on your account with respect to the IDSA program.

NEGATIVE INTEREST RATE DISCLOSURE

In response to certain extraordinary economic conditions, some foreign countries have occasionally implemented a negative interest rate policy to stabilize their economies. Under such a policy, a central bank charges banks a fee to hold reserves, and, as a result, the banks then charge depositors a fee to maintain their deposits. Historically, the U.S. has not adopted policies resulting in negative interest rates, and there is no indication that the Federal Reserve Board plans to adopt such a policy in the future. If, however, such a policy is adopted in the U.S., Program Banks may begin to charge fees to maintain deposits held through bank deposit sweep products, such as the Insured Deposit Sweep Account. In such an event, Cetera will charge a fee to defray its costs for maintaining your deposits at Program Banks through its bank deposit products. This fee will be in addition to fees Cetera receives directly from Program Banks for their participation in the Insured Deposit Sweep Account. Cetera will assess any fees related to negative interest rates to your Insured Deposit Sweep Account on a monthly basis for the duration of the negative interest rate period. If applicable, this fee will appear on your periodic Cetera Account statement. In its discretion, Cetera will increase or decrease this fee periodically to reflect the costs incurred by Cetera to maintain your deposits at Program Banks. Cetera can eliminate the fee at any time. In the event that Cetera assesses fees as a result of negative interest rates, additional information regarding the fees will be available at www.cetera.com/cetera-wealth-services/clients/insured-deposit-sweep-account or by contacting your financial professional.

DEPOSIT CAPACITY AT PROGRAM BANKS

Under certain economic conditions or for other reasons, it is possible for Program Banks to limit or reduce the amount of deposits they will accept through bank deposit sweep products, such as the IDSA. If the Programs Banks, including the Overage Banks, cannot accept any additional balances due to capacity constraints, then the IDSA will be updated so that any additional free credit balance in your Cetera Account will be automatically invested in shares of the Default Money Fund, a money market fund that Cetera makes available. If the Default Money Fund is not accepting excess funds, then those excess funds will be maintained in your Cetera Account as a free credit balance. The overall amount of available FDIC insurance protection on your IDSA balance will vary depending upon the number of Program Banks accepting deposits through the IDSA at any time, as well as your total balances held at the Program Banks. If most or all the Program Banks have insufficient capacity to accept funds (or further funds), then the aggregate amount of FDIC insurance coverage available to you could be significantly reduced

If Program Banks have insufficient capacity to accept new deposits but can maintain existing deposit levels, then Cetera may choose to maintain your existing cash balances at Program Banks and sweep all additional available cash balances in your Cetera Account to the Default Money Fund. If the Default Money Fund is unavailable to accept your cash balances, then such available cash balances will be maintained in your Cetera Account as a free credit balance. Once deposit capacity at Program Banks is restored to levels that Cetera believes can support the then-current and anticipated cash balances swept to the Default Money Fund and/or held as free credit balances, the IDSA will resume normal operations and new cash balances will be allocated to Program Banks with available capacity. With advance notice to you, any amounts swept to the Default Money Fund will be converted to cash, at the then current market price, and then allocated to Program Banks on the Priority List. If your funds are being maintained as a free credit balance, then your cash balances will be reallocated to Program Banks. During times that you maintain sweep balances in a money market fund or a free credit balance, and you use cash in your account, such cash will first be deducted from any free credit balances, then redeemed from your money market fund investments, and finally withdrawn from your IDSA balances, as applicable.

Money Market Mutual Fund Features and Disclosures

The Default Money Fund is currently the Federated Hermes Treasury Obligations Fund Capital Shares, ticker symbol TOCXX. The prospectus is available at www.federatedinvestors.com/products/mutual-funds/treasury-obligations/cap.do. Cash balances swept to a money market fund are not FDIC insured but are protected by SIPC up to applicable limits. SIPC's coverage protects the securities and cash in your investment account up to $500,000, which includes a $250,000 limit for free credit balances. For more information about SIPC coverage, please go to www.sipc.org. Cetera reserves the right to change the Default Money Fund from time to time.

Money market funds are securities that may increase or decrease in value. In general, money market funds are designed and managed with the objective of preservation of capital and maintenance of liquidity. Although money market funds seek to preserve a net asset value of $1.00 per share, there is no guarantee that this will occur, and it is possible to lose money should the value per share of the money market fund fall.

ACCOUNT STATEMENTS

All activity with respect to your IDSA position, including interest earned for the period covered and balances maintained at each Program Bank, will appear on the periodic Cetera Account statement issued by Pershing. You will not receive a separate statement from the Program Banks.

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TAX INFORMATION

For most clients, interest earned on deposits in the Insured Deposit Sweep Account will generally not be taxed in the year earned when held in IRAs. Interest earned by IRAs is generally not taxed until distributed, and may not be subject to tax if the IRA is a Roth IRA, subject to certain conditions. When held in non-IRA taxable accounts, interest earned on deposits in the Insured Deposit Sweep Account will be taxed as ordinary income in the year it is received and a Form 1099-INT will be provided by Pershing showing the total amount of interest income earned. Please consult with your tax advisor about how interest earned in the IDSA program may affect you.

NO SIPC COVERAGE FOR FUNDS IN DEPOSIT ACCOUNTS

SIPC provides investors some protection if their brokerage firm becomes insolvent or if cash or securities are missing from eligible customer accounts. The limit of SIPC protection for customer securities and cash is $500,000, which includes a $250,000 limit for free credit balances held by customers at member brokerage firms. SIPC, however, does not provide protection on bank deposits. Therefore, balances in the Insured Deposit Sweep Account held in your Cetera Account are not eligible for SIPC coverage. For more information about SIPC coverage, please go to www.sipc.org.

FDIC INSURANCE FOR DEPOSITS AT PROGRAM BANKS

Funds deposited on your behalf in a Deposit Account at a Program Bank are insured by the FDIC, an independent agency of the U.S. government, up to $250,000 (including principal and accrued interest) when aggregated with all other deposits held by you in the same insurable capacity at a particular Program Bank. In the event a Program Bank becomes insolvent, the FDIC provides insurance up to $250,000, including principal and accrued interest to the day the Program Bank is closed. These maximum amounts include, in addition to deposits held in your Insured Deposit Sweep Account, all deposits held by you in the same insurable capacity at the same Program Bank, including, for example, CDs issued to you by a Program Bank.

The information below provides further information on federal deposit insurance limitations.

Individual Accounts. Deposit accounts at Program Banks held in the name of an agent or nominee of an individual (such as the balance from an individual's account in the Deposit Accounts held as part of the Insured Deposit Sweep Account) are not treated as owned by the agent but are added to other deposits of such individual held in the same insurable capacity at that depository institution (including funds held in a sole proprietorship) and insured up to $250,000 in the aggregate.

Corporate and Partnership Accounts. Accounts established at a Program Bank and owned by the same corporation, partnership or unincorporated association that are designated for different purposes are not separately insured, but rather, are aggregated with all other deposit accounts of the corporation, partnership or unincorporated association at the same Program Bank and insured up to $250,000.

Custodial Accounts. Funds deposited into an account at a Program Bank that are established and held in the name of a custodian (for example, under the Uniform Gifts to Minors Act or the Uniform Transfer to Minors Act) will not be considered the property of the custodian but are added to other deposits of the minor or other beneficiary held in the same insurable capacity and will be insured up to $250,000 in the aggregate.

Joint Accounts. An individual's interest in joint accounts held under any form of joint ownership valid under applicable state law may be insured up to $250,000 in the aggregate, meaning all accounts held at that bank held under any form of joint ownership. This would be separate and in addition to the $250,000 allowed on other non-retirement account deposits individually owned by any of the co-owners of such accounts. For example, a joint account owned by two persons would be eligible for insurance coverage of up to $500,000 ($250,000 for each person), subject to the aggregation of each owner's interests in other joint accounts at the same depository institution. Deposits into IDSA from joint accounts are always allocated assuming two owners.

IRAs and other Self-Directed Retirement Accounts. Funds deposited into IRAs, self-directed Keogh accounts and certain other self-directed retirement accounts at a Program Bank are insured up to $250,000 per owner and insured separately from other non-retirement funds an owner may have at the same Program Bank. For insurance purposes, the FDIC will aggregate such funds with other retirement funds owned by the same individual, regardless of whether or not such funds are eligible for deposit through the IDSA.

Trusts, medical savings accounts, employee benefit plans and other types of accounts also are subject to certain limitations. Please consult the FDIC or your financial professional for more details. IDSA balances held in accounts with trust registrations are allocated at the account level and not at the trustee level.

Under certain circumstances, if you become the owner of deposits at a Program Bank because another depositor dies, beginning six months after the death of the depositor, the FDIC will calculate the applicable insurance limit by aggregating those deposits with any other deposits that you own in the same insurable capacity at the same Program Bank. Examples of accounts that may be subject to this FDIC policy include joint accounts, "transfer on death" accounts and certain trust accounts. The FDIC provides the six-month "grace period" to permit you to restructure your deposits to obtain the maximum amount of deposit insurance for which you are eligible. If deposits through your IDSA or otherwise at a Program Bank are assumed by another depository institution pursuant to a merger or consolidation, such deposits generally will continue to be separately insured from the deposits that you might have established with the acquirer until (i) the maturity date of the CDs or other time deposits that were assumed; or (ii) with respect to deposits that are not time deposits, the expiration of a six month period from the date of the acquisition. Thereafter, any assumed deposits will be aggregated with your existing deposits with the acquirer held in the same insurable capacity for purposes of federal deposit insurance. Any deposit opened at the depository institution after the acquisition will be aggregated with deposits established with the acquirer for purposes of federal deposit insurance.

Your funds deposited through the IDSA can be deposited at more than one Program Bank, increasing the amount of insurance available to you up to a maximum of $2,500,000 in FDIC insurance coverage, subject to bank availability (provided, however, the IDSA is designed to limit deposits to 98.6% of the coverage limits in each Program Bank, so the aggregate deposits that would be eligible for deposit insurance could be slightly less than this amount; FDIC insurance coverage available through the IDSA could also be reduced if you exclude one or more Program Banks from receiving your funds). Once $2,500,000 in total has been deposited at Program Banks, or once Program Banks no longer have capacity to accept additional insured deposits, your excess funds will be placed in Deposit Accounts at Program Banks chosen to serve as the "Overage Banks." **Your deposits at an Overage Bank in excess of the Deposit Insurance Limit will not be covered by FDIC Insurance or protected by SIPC coverage.** In the event that a Program Bank should become insolvent, the deposits m[illegible]e IDSA are insured up to the applicable Deposit Insurance Limit for

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principal and interest accrued through the day the Program Bank became insolvent. Interest is determined for insurance purposes in accord federal laws and regulations. In the event that federal deposit insurance payments should become necessary, any payments of principal plus unpaid and accrued interest through the date of insolvency made by the FDIC will be made to you. You may be required to provide certain documentation to the FDIC and others before insurance payments are made. **Cetera and Pershing are not be obligated to credit your account with funds in advance of their payment by the FDIC.**

FDIC INSURANCE FOR DEPOSITS IN TRANSIT

Your funds become eligible for FDIC insurance immediately upon placement in a Program Bank deposit account by Pershing, acting as your agent. While in transit from Pershing to the Program Banks and from the Program Banks to Pershing, the funds generally pass through the Intermediary Bank. While at the Intermediary Bank, funds are also eligible for FDIC insurance up to the Deposit Insurance Limit, depending on account type, when aggregated with any other deposits held by you in the same insurable capacity at the Intermediary Bank. It is possible that your funds in transit at the Intermediary Bank will exceed the maximum amount of FDIC coverage available through the Intermediary Bank as an individual bank until such funds are received by Program Banks or Pershing. Typically, funds will be moved from the Intermediary Bank to a Program Bank or Pershing within one business day.

If you have questions about basic FDIC insurance coverage, please contact your financial professional. You may also wish to seek advice from your own attorney if you have questions concerning FDIC insurance coverage of deposits held in more than one account or insurable capacity. You may also obtain additional information about the FDIC by contacting the FDIC, Office of Compliance and Consumer Affairs, by letter (550 17th Street, N.W., Washington, D.C. 20409), by phone (877.ASK.FDIC (877.275.3342) or 800.925.4618 (TDD)), by email (dcainternet@fdic.gov) or by accessing the FDIC website at www.fdic.gov. In addition, you may obtain publicly available financial information concerning any or all of the Program Banks at https://www.ffiec.gov/NPW and more detail on FDIC insurance from www.fdic.gov/deposit/deposits/index.html or by contacting the FDIC Public Information Center by mail at 801 17th Street, N.W., Room 100, Washington, DC 20434. Neither Cetera nor Pershing guarantees the financial condition of any Program Bank or the accuracy of any publicly available financial information concerning a Program Bank.

ADDITIONAL INFORMATION ABOUT YOUR INSURED DEPOSIT SWEEP ACCOUNT

Cetera may modify the terms and conditions of the IDSA at any time upon notice to you. All activity with respect to your Insured Deposit Sweep Account will appear on your periodic Cetera Account statements issued by Pershing, including the total of your opening and closing Insured Deposit Sweep Account balances, the interest earned, and the interest rate for the reinvestment period. You should retain the Cetera Account statements for your records. As always, you should notify us immediately of any unauthorized activity in your Insured Deposit Sweep Account or any concerns you may have with respect to the Insured Deposit Sweep Account.

You may contact your financial professional during any business day to obtain the current interest rate, account balances, Program Banks and other information on your Insured Deposit Sweep Account. If you have online access to your account, you may also view your IDSA information online. You may also find financial information on current interest rates on Cetera's website at www.cetera.com/cetera-wealth-services/clients/insured-deposit-sweep-account.

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STAFF REPORT
January 28, 2026

TO: Honorable Mayor and City Council Members

FROM: Lincoln Bogard, Finance Director
Yolanda Lopez, Human Resources

SUBJECT: Resolution No. 2026-08 Approving a Contract with The Baldwin Group to Conduct a Fiduciary Review of the City's 457 Deferred Compensation Plan

STAFF RECOMMENDATION:

Staff recommends that the City Council approve Resolution 2026-08, authorizing the City Manager, or designee, to enter into an agreement with The Baldwin Group, a qualified fiduciary consulting firm, to conduct an independent review of the City's 457 deferred compensation plan. The results of this analysis will be presented to the City Council upon completion.

BACKGROUND:

The City offers employees a voluntary 457 deferred compensation plan as part of its comprehensive benefits package. The plan supports employees in building long-term retirement savings through tax-advantaged contributions and a variety of investment options. As fiduciary expectations and industry standards evolve—including best practices for governance, investment oversight, fee transparency, and participant communication—periodic independent review has become a widely recognized best practice for public agencies.

While the City and its plan administrator provide ongoing monitoring, partnering with The Baldwin Group will ensure the plan remains competitive, compliant, and aligned with the City's responsibility to act in the best interests of plan participants. The Baldwin Group specializes in fiduciary consulting for governmental retirement programs and brings expertise in plan benchmarking, fee assessment, and investment oversight.

DISCUSSION/ANALYSIS:

The Baldwin Group will perform an objective and comprehensive analysis of the City's 457 deferred compensation plan. Their scope of work includes:

- Plan Governance Review: Evaluation of administrative procedures, oversight processes, and fiduciary documentation.
- Investment Menu Evaluation: Review of investment performance, diversification, and benchmarking relative to industry standards.

- Fee and Cost Assessment: Analysis of provider fees, revenue-sharing practices, share classes, and overall fee transparency.
- Service and Vendor Review: Assessment of participant education, communication materials, technology tools, and service standards.
- Fiduciary Best Practices: Recommendations to strengthen plan governance, improve participant outcomes, and enhance long-term oversight.

This independent review will support the City's commitment to maintaining a high-quality, cost-effective retirement program for employees.

ALTERNATIVES:

1. Approve the action.
2. Do not approve the action.

FISCAL IMPACT:

There is no cost to the City for engaging The Baldwin Group. All consulting fees will be paid from the plan's existing fee structure and allocated proportionally across participant accounts.

Additionally, any expense savings or fee reductions identified through the review will be passed directly to plan participants, improving their long-term retirement outcomes and reducing their overall cost of participation.

Attachments:
Resolution 2026-08
Benefits of Engaging The Baldwin Group as Fiduciary Consultant for the City's 457 Deferred Compensation Plans
Sample Non-ERISA Plan Agreement

RESOLUTION NO. 2026-06

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF COACHELLA, CALIFORNIA, APPROVING A PROFESSIONAL SERVICES AGREEMENT WITH THE BALDWIN GROUP

WHEREAS, this Agreement is Between the City of Coachella and The Baldwin Group, a qualified fiduciary consulting firm, to conduct an independent review of the City's 457 deferred compensation plan; and

WHEREAS, the results of this analysis will be presented to the City Council upon completion; and

WHEREAS, the City offers employees a voluntary 457 deferred compensation plan as part of its comprehensive benefits package and the plan supports employees in building long-term retirement savings through tax-advantaged contributions and a variety of investment options; and

WHEREAS, as fiduciary expectations and industry standards evolve—including best practices for governance, investment oversight, fee transparency, and participant communication—periodic independent review has become a widely recognized best practice for public agencies; and

WHEREAS, partnering with The Baldwin Group will ensure the plan remains competitive, compliant, and aligned with the City's responsibility to act in the best interests of plan participants; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Coachella as follows:

Section 2. Adopt Resolution No. 2026-08 Approving a Contract with The Baldwin Group to Conduct a Fiduciary Review of the City's 457 Deferred Compensation Plan with no direct cost to the City.

Section 3. Authorize the City Manager to make any non-substantive changes to the contract as may be recommended by City Attorney and agreed to by The Baldwin Group.

PASSED, APPROVED and **ADOPTED** this 28th day of January 2026.

_____

Steven A. Hernandez
Mayor

ATTEST:

_____
Angela M. Zepeda
City Clerk

APPROVED AS TO FORM:

BEST, BEST & KRIEGER

_____
City Attorney

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF COACHELLA)

I HEREBY CERTIFY that the foregoing Resolution No. 2026-06 was duly adopted by the City Council of the City of Coachella at a regular meeting thereof, held on the 28th day of January 2026, by the following vote of Council:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
Delia Granados
Deputy City Clerk

Benefits of Engaging The Baldwin Group as Fiduciary Consultant for the City's 457 Deferred Compensation Plans

Engaging **The Baldwin Group** as an independent fiduciary consultant is expected to enhance oversight, improve plan governance, and strengthen participant outcomes across the City's 457 deferred compensation plans. As a fiduciary acting solely in the interest of plan participants, The Baldwin Group would provide objective analysis, industry benchmarking, and best-practice recommendations without conflicts tied to product sales or proprietary platforms.

Fee Oversight and Suppression

A primary benefit of fiduciary engagement is enhanced fee transparency and cost discipline. Currently, Nationwide's recordkeeping expenses range between approximately **0.95% and 0.70%**, depending on the investment option, while Mission Square's recordkeeping expense is approximately **0.80%**. The Baldwin Group's fiduciary review will include a comprehensive benchmarking of recordkeeping and investment-related fees relative to comparable public-sector plans. This independent analysis is expected to help identify opportunities to suppress overall plan expenses, promote fee reasonableness, and ensure participants are not paying more than necessary for administrative and investment services.

Improvement of Investment Selection and Oversight

The Baldwin Group will bring a third-party fiduciary perspective to the investment selection and monitoring process, which is intended to mitigate potential conflicts of interest that can arise when plans rely exclusively on provider-affiliated recommendations. At present, both plans utilize investment lineups comprised solely of proprietary funds, and there is no formalized, documented due diligence process governing fund selection or removal. A fiduciary review by The Baldwin Group is expected to introduce a structured evaluation framework, independent performance analysis, and documented decision-making practices designed to strengthen investment oversight and align the plans more closely with fiduciary best practices.

Enhanced and Coordinated Financial Education

Participant education is a critical component of plan success and long-term retirement readiness. Currently, financial education is delivered on an ad hoc, "at-will" basis rather than through a coordinated strategy aligned with participant needs and plan objectives. As fiduciary advisor, The Baldwin Group is expected to help evaluate current education efforts and recommend a more consistent, structured, and outcomes-focused approach. This may include aligning education with plan design, participation trends, and common participant challenges, with the goal of improving engagement and decision-making without promoting specific investment products.

Conclusion

While no specific outcomes can be guaranteed, adding The Baldwin Group as a fiduciary consultant is reasonably expected to improve fee oversight, investment governance, and participant education through independent analysis and best-practice guidance. Collectively, these enhancements support the City’s commitment to prudent plan management and to acting in the best interests of its employees participating in the 457 deferred compensation plans.

INVESTMENT FIDUCIARY & RETIREMENT PLAN CONSULTING AGREEMENT

NAME OF PLAN:	
NAME OF EMPLOYER/PLAN SPONSOR:	

This Investment Fiduciary & Retirement Plan Consulting Agreement (this "**Agreement**") is made by and between The Baldwin Group Wealth Advisors ("**Adviser**") and the Employer/Plan Sponsor ("**Sponsor**") of the above-referenced retirement plan for the benefit of the Plan further described in the attached profile at **Appendix A** (the "**Plan**"). The effective date of this Agreement is the date provided in Section 13 of this Agreement ("Effective Date"). All appendices attached to this Agreement are herein incorporated as of the Effective Date.

Sponsor is the sponsor of and maintains the Plan, which is subject to its governing documents (the "**Governing Documents**") and the following: (check all that apply)

Coverage under Title I of the Employee Retirement Income Security Act of 1974 ("ERISA"):	☐ Yes	☒ No
Investment Direction Provided By:	☐ Trustee(s)	☒ Participants
Established/Maintained as a Multiple Employer Plan ("MEP"):	☐ Yes	☒ No

1. SERVICES

Adviser will provide the Fiduciary Services and / or Consulting Services (both as defined below) selected below by Sponsor (collectively, the "**Services**") to assist Sponsor in meeting its requirements to prudently administer and manage the Plan and, if applicable, to educate the Plan's participants (the "**Participants**") to help them maximize their benefits through the Plan.

When providing any Non-discretionary Fiduciary Services, as selected below by Sponsor, Adviser will solely be making recommendations to Sponsor, and Sponsor retains full discretionary authority or control over assets of the Plan. When providing any Discretionary Fiduciary Services, Adviser will exercise discretionary authority over the Plan assets covered under each Discretionary Fiduciary Service selected below by Sponsor.

Adviser will provide the following investment fiduciary services (the "**Fiduciary Services**"): (check all that apply)

INVESTMENT FIDUCIARY SERVICES: PLAN-LEVEL ***(Select Services in Only One Column)***		
Non-discretionary Fiduciary Services		**Discretionary Fiduciary Services**
☒ **INVESTMENT POLICY STATEMENT (IPS):** Advisor will review with Sponsor the investment objectives, risk tolerance and goals of the Plan. If the Plan does not have an investment policy statement ("**IPS**"), Advisor will provide recommendations to Sponsor to assist with establishing an IPS. If the Plan has an existing IPS, Advisor will review it for consistency with the Plan's objectives. If the IPS does not represent the objectives of the Plan, Advisor will recommend to Sponsor revisions to align the IPS with the Plan's objectives.	**OR**	IPS provided upon commencement of Discretionary Fiduciary Services
☒ **INVESTMENT ADVICE:** Based on the Plan's IPS, Advisor will review the investment options available to the Plan and will make recommendations to assist Sponsor with selecting investments that meet the IPS criteria. Once Sponsor selects the investment(s), Advisor will, on a periodic basis and/or upon reasonable request, provide reports and information to assist Sponsor with monitoring the investment(s). If the IPS criteria require any investment(s) to be replaced, Advisor will provide recommendations to assist Sponsor with replacing the investment(s).	**OR**	☐ **INVESTMENT MANAGEMENT:** Advisor will review with Sponsor the investment objectives, risk tolerance and goals of the Plan and provide to Sponsor an IPS that contains criteria from which Advisor will select, monitor and replace the Plan's investments. Once approved by Sponsor, Advisor will review the investment options available to the Plan and will select the Plan's investments in accordance with the criteria set forth in the IPS. On a periodic basis, Advisor will monitor and evaluate the investments and replace any investment(s) that no longer meet the IPS criteria.

☒ **ADVICE RE THIRD-PARTY MANAGERS:**	OR	☐ **MANAGEMENT OF THIRD-PARTY MANAGERS:**
Based on the Plan's IPS or other investment guidelines established by the Plan, Advisor will review the third-party investment managers available to the Plan and will make recommendations to assist Sponsor with selecting a manager to manage some or all of the Plan's investments. Once Sponsor approves the manager(s), Advisor will provide reports, information and recommendations, on a periodic basis, designed to assist Sponsor with monitoring the managers. If the IPS criteria require any manager to be removed, Advisor will provide recommendations to assist Sponsor with evaluating replacement managers.		Advisor will review with Sponsor the investment objectives, risk tolerance and goals of the Plan and provide to Sponsor an IPS or other documentation that contains criteria from which Advisor will select, monitor and replace the Plan's third-party investment managers. Once the IPS is approved, Advisor will select appropriate managers to manage all or a portion of the Plan's investments. Advisor will monitor the manager(s) in accordance with the IPS and will replace any manager(s) that is no longer meeting the IPS criteria. Advisor must have a limited power of attorney in order to hire any managers on behalf of the Plan.

Adviser will provide the Plan consulting services (the "**Consulting Services**") identified below: (check all that apply)

RETIREMENT PLAN CONSULTING SERVICES
Administrative Support
☒ Assistance, as needed, with reviewing plan objectives and features available through the plan
☒ Review Plan committee structure and administrative policies/procedures
Oversight of Relationship with Service Provider
☒ Assist with process to select, monitor and replace service providers
☒ Review of service providers disclosures and fee benchmarking
☒ Provide reports and/or information designed to assist plan sponsor with monitoring service providers.
☒ Vendor transition support and coordination of Plan conversion
☒ Assist with preparation and review of Requests for Proposals (RFPs) and/or Information (RFI) upon request*
Investments
☒ Coordinate committee meetings to monitor investment performance
☒ Deliver updates to committee regarding market and economic conditions as necessary or upon request
☒ Review of investment objectives and/or IPS as needed or upon request
☒ Educate Plan committee members, as needed, regarding available investment options and strategies

* Additional Project-Based Fees may apply; please see Appendix B.

Excluded Items

Sponsor acknowledges and agrees that the only responsibility of Adviser is to render the Services hereunder. Adviser will not be responsible for any of the following:

a) providing any services to, any other plan other than the Plan unless delegated to and accepted in writing by Adviser under a separate agreement or the appendices hereto;

b) any Services other than in connection with a class of investments to the extent selected above and will not be responsible for providing recommendations or advice concerning other investments (e.g., employer securities, unallocated accounts, mutual fund windows or brokerage accounts, etc.);

c) arranging for the execution of securities transactions through a broker-dealer the Sponsor believes can provide best execution;

d) the administration of the Plan or for the interpretation of Plan documents, the determination of Participant eligibility, benefits, vesting, distribute notices to Participants, the approval of the distributions to be made by the Plan, or any other action with respect to the management, administration or any other aspect of the Plan;

e) Adviser does not provide the Services as a fiduciary to an investment contract, product or entity that holds the Plan' assets; nor does it perform recordkeeping or brokerage services to the Plan;

f) the duties of a trustee or plan administrator;

g) maintaining or restoring (as applicable) the compliance of the Plan with the Internal Revenue Code of 1986, as amended (the "Code), and other applicable law, or for other service providers' compliance with applicable law, including but not limited to the Code;

h) any obligation or authority to take any action or render any advice with respect to the voting of proxies solicited by or with respect to issuers of securities held by the Plan or with respect to any legal proceedings, including class action lawsuits or bankruptcies, it being understood that such responsibilities lie with either Sponsor or another party appointed by Sponsor—irrespective of the Plan's provisions;

i) providing legal or tax advice to Sponsor, the Plan or the Participants (and Sponsor agrees to seek the advice of its own legal and tax advisors as to all Plan matters).

2. FEES

2.1 Amount and Billing Mode

Sponsor agrees to pay Adviser a fee covering all charges for Services (the "**Fees**"). Sponsor agrees to pay Adviser for its Services rendered hereunder, in accordance with the fee schedule attached hereto as **Appendix B**. Adviser receives no direct or indirect compensation related to the assets of the Plan, which has not been disclosed in **Appendix B.**

2.2 Direct Debit of Fees

Unless Adviser agrees to invoice Sponsor directly for its Fees, as noted in this Section 2, Sponsor hereby authorizes Adviser to invoice the Plan's custodian for the Fee and directs and authorizes the custodian to deduct the Fee from the Plan's Account. Sponsor hereby directs and authorizes Adviser to instruct the custodian to send Sponsor a statement, at least quarterly, indicating all amounts disbursed from the Account including the Fee paid from the Account. Sponsor acknowledges that it is Sponsor's responsibility to verify the accuracy of the calculation of the Fee and that the custodian will not determine whether the Fee is accurate or properly calculated.

2.3 Additional Fees and Adjustments

The Plan may also incur certain charges imposed by unaffiliated third parties. Such charges include, but are not limited to, custodial fees, brokerage commissions, transaction fees, charges imposed directly by a mutual fund, index fund, or exchange traded fund purchased for the Plan, which shall be disclosed in the fund's prospectus (e.g., fund management fees and other fund expenses), certain deferred sales charges, odd-lot differentials, transfer taxes, wire transfer and electronic fund fees, and other fees and taxes on brokerage accounts and securities transactions.

Unless Adviser agrees otherwise, no adjustments or refunds will be made in respect of any period for (i) appreciation or depreciation in the value of the Account during that period or (ii) any partial withdrawal of assets from the Account during that period. If this Agreement is terminated by Adviser or by Sponsor, Adviser will refund certain Fees to Sponsor to the extent provided in Section 8 of this Agreement. Unless Adviser agrees otherwise, all Fees shall be based on the total value of the assets in the Account without regard to any debit balance.

2.4 Valuation

In determining the value of the Account for purposes of calculating any asset-based Fees, Adviser may rely upon the valuation of assets provided by Sponsor or the Plan's custodian or recordkeeper without independent verification. If, however, there are circumstances which, in the Adviser's judgment, render the custodian's valuation inappropriate, Adviser will value securities listed on any national securities exchange at the closing price on the principal exchange on which they are traded (unless there are circumstances which in Adviser's judgment render a different method of valuation more appropriate), and will value any other securities in a manner determined in good faith by Adviser to reflect fair market value. In all events, Sponsor acknowledges that any such valuation will not be any guarantee of the market value of any of the assets in the Plan.

3. NON-EXCLUSIVITY

Sponsor understands that Adviser may give advice or take actions for other clients that differ from the advice given or the timing or nature of any action taken for the Account. In addition, Adviser may, but is not obligated to, purchase or sell or recommend for purchase or sale any security, which Adviser may purchase or sell for their own accounts or the account of any other client. Adviser has no obligation to advise Sponsor in the same manner as it may advise any of its other clients.

4. CUSTODY OF ASSETS AND OTHER SERVICES

Custody of all Plan assets will be maintained with a third party custodian selected by Sponsor ("**Custodian**"), and Adviser will not have custody of any Plan assets. Plan recordkeeping will be provided by a third party recordkeeper selected by Sponsor, and Sponsor will be solely responsible for paying all fees or charges of the Custodian and recordkeeper. Adviser will not be responsible or liable for recommendations or services rendered by third party service providers ("other provider") or the other provider's compliance with applicable laws, including the Code and ERISA.

Adviser will not act as custodian for the Assets, but may issue such instructions to the Custodian as may be appropriate in connection with the performance and/or settlement of transactions authorized by the Sponsor under the terms of this Agreement. Instructions of the Sponsor to Adviser and/or Custodian shall be made in writing unless the Adviser, in its sole discretion, determines that an instruction may be given orally. Adviser reserves the right to require the Sponsor to confirm oral instructions via first class mail, e-mail or facsimile as soon as practical following receipt of oral instructions. Adviser shall instruct all brokers, dealers, investment companies, insurance companies, etc. executing orders on behalf of the Plan to forward to the Sponsor and/or Custodian copies of all confirmations promptly after execution of transactions.

5. REPRESENTATIONS, WARRANTIES AND COVENANTS OF SPONSOR

Sponsor represents, warrants and covenants with Adviser as follows:

a) Sponsor is solely responsible for determining whether or not to enter into any arrangement(s) in connection with the Plan (including this Agreement) that are deemed by Sponsor to be necessary for the management and operation of the Plan and for determining whether or not any such arrangement(s) are reasonable and appropriate with respect to compensation paid for and conflicts of interest(s) arising in connection with the Services and/or products provided. Sponsor acknowledges that it has received and read this Agreement and the Services and Fees disclosed herein prior to entering into, renewing or extending this Agreement and that it has made an independent determination that the fees payable pursuant to this Agreement are reasonable.

b) This Agreement is binding on Sponsor and does not violate any prior obligation or agreements, and the Governing Documents (and related custodial or annuity documents) permit payment of the Fees out of Plan assets.

c) Sponsor is solely responsible for the Plan's compliance (both in form and operation) with all applicable federal and state laws, rules and regulations, including Sponsor's obligation to obtain and maintain for the period of this Agreement any bond in the requisite amount which may be required and all federal and state privacy and information security laws governing the use, disclosure and safeguarding of nonpublic personal information which may apply to the Plan or the Sponsor.

d) Sponsor is solely responsible for monitoring whether any class action lawsuits have been filed pertaining to investment recommendations, investment purchases, or investment sales, in determining whether the Plan is eligible to participate and whether it is in the best interest of the Plan to participate in such class action lawsuits.

e) Sponsor will cooperate fully with Adviser in providing the Services. Sponsor authorizes Adviser to deliver documents and communicate with Plan and Participants or beneficiaries through the use of electronic means, including electronic mail and posting to a website. Sponsor, and not Adviser, is responsible for determining whether the use of such electronic communication complies with the applicable law.

f) Any individual signing this Agreement on behalf of the Sponsor represents that he/she: (i) is independent of and unrelated to Adviser or any of its affiliates; and (ii) has the power and authority under the Governing Documents to appoint investment advisors, managers and consultants under the terms of the Plan and to enter into contractual arrangements with third parties to assist in the discharge of these and related duties in accordance with applicable law.

g) Sponsor agrees to promptly provide Adviser with any amendments to the Plan's Governing Documents that are reasonably expected to alter or affect Adviser in the performance of Services under this Agreement in accordance with Section 10.

h) Sponsor acknowledges that investments fluctuate in value, and the value of investments when sold may be more or less than when purchased, and that past investment performance does not necessarily guarantee any level of future investment performance.

i) Sponsor acknowledges that Adviser may share the Plan's information among registered investment advisor affiliates which may have supervisory responsibilities over Adviser, only to the extent necessary.

j) If Sponsor has directed Adviser to use a certain broker-dealer, Adviser is not responsible to seek best execution for transactions in the Account and the Plan may pay higher brokerage fees than if Adviser were authorized to direct transactions to another broker-dealer that could provide best execution.

k) Sponsor understands that Adviser will have no responsibility for the diversification of all of the Plan's investments, and will have no duty, responsibility or liability for Plan assets that Adviser has not been engaged hereunder to provide Discretionary Fiduciary Services for.

l) With respect to any Discretionary Fiduciary Services, Sponsor has duly appointed Adviser in accordance with the applicable provisions of the **Governing D**ocuments to manage the assets of the Plan.

m) No person or entity other than Sponsor has, or will exercise, the discretionary authority to appoint or terminate Adviser or to negotiate this Agreement, and each individual who can exercise such authority is exclusively employed by or associated with Sponsor or its affiliates.

n) Neither Sponsor nor any subsidiary or affiliate of Sponsor is affiliated with any counterparty that could reasonably be expected to be involved with investment transactions for the Plan.

o) The Plan is offered only in conjunction with one or more third party administrators or other providers that have adequate operational capabilities.

6. REPRESENTATIONS OF ADVISER

Adviser represents as follows:

a) Adviser is registered as an investment adviser under the Investment Advisers Act of 1940, as amended (the "**Advisers Act**"), and will maintain such registration.

b) Adviser has the power and authority to enter into and perform this Agreement, and will obtain and/or maintain any authorizations, permits, certifications, licenses, filings, registrations, approvals or consents, which must be obtained by it from any third party, including any governmental authority, in connection with this Agreement.

c) Adviser agrees to comply with all applicable federal and state privacy and information security laws governing the use, disclosure and safeguarding of nonpublic personal information.

d) In providing IRA rollover educational information, Adviser may provide general information to Participants on retirement plan distributions. Any Services to Participants that include discussions about individual distributions or how to invest the proceeds of a distribution will be performed under a separate agreement with the Participant.

7. STANDARD OF CARE; INDEMNIFICATION; LIMITS ON LIABILITY; DATA DISCLOSURE

7.1 Standard of Care

The sole standard of care imposed on Adviser in performing any investment fiduciary service(s) is to act with the care, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of like character and with like aims, provided, however, that nothing in this Agreement will be deemed to limit any responsibility that Adviser may have to Sponsor to the extent such limitation would be inconsistent with applicable laws, including securities laws.

7.2 Indemnification

Sponsor agrees that the only responsibilities of Adviser hereunder are to render the Services specifically selected in Section 1 of this Agreement. Adviser agrees to indemnify and hold Sponsor harmless from any and all liabilities and claims, including damages, court costs, reasonable legal fees and costs of investigation, which arise directly from Adviser's intentional misconduct, gross negligence, breach of fiduciary duty with respect to the Services hereunder or representations by Adviser contained in Section 6 of this Agreement; provided, Adviser is not liable for any indirect, special, consequential or exemplary damages.

Sponsor agrees to defend, indemnify and hold Adviser harmless from any and all liabilities and claims, including damages, court costs, reasonable legal fees and costs of investigation which arise from: (i) directly or indirectly, any investment loss experienced by the Plan or Plan participants or beneficiaries; (ii) Adviser's reliance or any action taken by Adviser in reliance upon any instruction(s) and/or information received by Adviser from Sponsor; (iii) any breach of Sponsor's representations and warranties set forth in this Agreement; (iv) any cause of action brought by the Sponsor, Plan participant(s) or beneficiaries and/or the Plan's service providers with respect to the Services hereunder, provided that such losses or damages are not directly caused by Adviser's intentional misconduct, gross negligence or breach of fiduciary duty; (v) any cause of action brought by a third party related to any other employee benefit plans sponsored by Sponsor which is not covered by this Agreement; (vi) any cause of action brought by a third party related to the Plan or any plan which arose as a result of actions or conduct prior to the Effective Date of this Agreement; and (vii) any breach of data security or any breach by the Sponsor, its directors, officers, employees, agents and/or service providers with respect to confidentiality and/or data security obligations. Liabilities and claims to which the indemnification in this paragraph applies would include, by way of example but not limitation, investment losses suffered as a result of a general market decline, investment losses arising in situations in which Sponsor fails to follow Adviser's recommendation(s) or in which Sponsor or a third party fails to properly implement such recommendation(s), and Plan participant or beneficiary claims arising out of an alleged claim of breach of fiduciary duty on the part of Sponsor or other Plan fiduciaries.

If Adviser is required to provide documents or testimony in connection with a legal proceeding involving the Plan, Sponsor will pay Adviser's reasonable costs, including the costs of its personnel and counsel, unless Adviser is a party to such proceeding and is found to have engaged in intentional misconduct, gross negligence or breach of fiduciary duty.

If Sponsor stock is held by or offered as an investment option under the Plan, or if Participants may invest the assets in their accounts through individual brokerage accounts, a mutual fund window or other similar arrangement, Adviser shall have no responsibility or liability with respect thereto.

7.3 Limits on Liability

In no event shall Advisor be liable for special, indirect, punitive, incidental, or consequential damages of any kind whatsoever, including lost profits. Further, neither party shall be liable for damages of any nature whatsoever in excess of the total amount paid or due and payable by Sponsor under this Agreement.

7.4 Data Disclosure; Information from Sponsor and Third Parties

Sponsor will promptly notify Adviser of any errors in completeness in any of the data, analyses, opinions, or other information it provides to Adviser in connection with the rendering of Services hereunder. Adviser will not be responsible for any payment or contribution to the costs, fees, taxes, or penalties that the Sponsor, Participants or beneficiaries, or other Plan fiduciary incur as a result of any valuation or payment.

Adviser will use reasonable efforts to ensure that the data, analysis, opinion, and other information it provides in connection with the Services are correct. Although gathered from sources believed to be reliable, Sponsor acknowledges that Adviser cannot guarantee the accuracy of the information received by Sponsor or third parties used to provide the Services. The completeness and timeliness of all data and information used to provide the Services is dependent upon the sources of such data and information, which are outside of Adviser's control.

The Services provided by Adviser are based in part on information provided by Sponsor, Sponsor's representatives, and Sponsor's other service providers. Sponsor acknowledges that Adviser is entitled to rely upon all information necessary for it to carry out its duties under this Agreement that is provided by Sponsor's representatives or Sponsor's other service providers without independent verification by Adviser. Sponsor represents that all such information provided to Adviser is and shall be true, correct, timely and complete in all material respects. Sponsor agrees to promptly notify Adviser in writing of any material change in the information provided to Adviser and to promptly provide any such additional information as may be reasonably requested by Adviser.

Adviser is authorized by Sponsor to obtain all information from the Plan's other service providers, including recordkeepers, investment managers, the Plan's trustee and Plan's administrator as Adviser may reasonably require. Sponsor authorizes plan custodian, product vendor, trustee or any third party responsible for any aspect of plan operation to promptly release said information to Adviser immediately upon request.

8. TERM; TERMINATION

This Agreement and the authorizations provided herein are continuous and shall remain in full force and effect and be relied upon until either party terminates this Agreement. Either party may terminate this Agreement upon thirty (30) days prior written notice to the other party and Adviser will be entitled to a pro-rata amount of compensation. Any unearned fees paid in advance will be refunded. Such termination will not, however, affect the liabilities or obligations of the parties arising from transactions initiated prior to such termination, and such liabilities and obligations (together with the provisions of Sections 7, 11 and 10) will survive any expiration or termination of this Agreement. Upon termination, Adviser will have no further obligation under this Agreement to act or advise Sponsor with respect to the Services except as agreed to by the parties at the time of termination. Sponsor may cause the Agreement to terminate immediately if Sponsor does not implement Adviser's recommendations.

9. PROXIES; CLASS ACTION LAWSUITS

Sponsor acknowledges and agrees that Sponsor expressly retains the right and obligation to vote proxies, and agrees that Adviser is precluded from voting proxies for the Plan. Adviser will not be obligated to take action or render any advice involving legal action on behalf of Sponsor with respect to securities or other investments held by the Plan, or the issuers thereof, which become the subject of legal notices or proceedings, including bankruptcies. Sponsor is solely responsible for monitoring whether any class action lawsuits have been filed pertaining to investment recommendations, investment purchases, or investment sales, in determining whether the Plan is eligible to participate and whether it is in the best interest of the Plan to participate in such class action lawsuits. Sponsor further acknowledges that Adviser will not be responsible for prospectus delivery.

10. NOTICES

All written notices to any party under this Agreement shall be sent to such party by hand, first class mail, facsimile transmission, e-mail, or by certified mail, return receipt requested, at the address set forth on the signature page, or such other address as such party may designate in writing to the other, or by such other means as may be agreed to by the parties from time to time.

11. GOVERNING LAW

This Agreement shall be construed under the laws of the State of Florida, without regard to the conflicts of laws provisions thereof. Any disputes relating to this Agreement between the parties hereto shall be adjudicated in Hillsborough County, Florida.

12. ARBITRATION

All disputes, actions or controversies between Sponsor and Adviser or its affiliates, including any of Adviser's present or former officers, directors, agents or employees, which may arise out of or relate to any of the Services provided by Adviser under this Agreement, or the construction, performance or breach of this or any other agreement between Adviser or an affiliate and Sponsor, whether entered into prior to, on or subsequent to the date hereof, will be resolved by negotiation of the parties acting in good faith.

If the parties are unable to resolve their differences through negotiation, the parties will engage in non-binding mediation, using the services of an impartial, neutral mediator selected by mutual agreement of the parties. Mediation is voluntary once commenced, and either party may withdraw from the mediation process at its sole discretion at any time. The fees of the mediator will be shared equally by the parties.

If the parties are unable to agree on a single mediator or to resolve the issues through mediation, to the extent permitted by law, then the matter will be settled by binding arbitration under JAMS. Unless the parties can agree on a single arbitrator, the matter will be heard by a panel of three arbitrators, one selected by each party and the third selected by the two arbitrators selected by the parties. Judgment upon any award rendered by the arbitrator(s) will be final, and may be entered into any court having jurisdiction. In agreeing to binding arbitration, Sponsor is aware that:

a) Arbitration is final and binding on the parties.

b) The parties are waiving their right to seek remedies in court, including the right to jury trial, except to the extent the waiver would violate applicable law.

c) Pre-arbitration discovery is generally more limited than and potentially different in form and scope from court proceedings.

d) The arbitration award is not required to include factual findings or legal reasoning and any Party's right to appeal or to seek modification of rulings by the arbitrators is strictly limited.

e) The panel of arbitrators will typically include a minority of arbitrators who were or are affiliated with the securities industry.

Sponsor understands that this Agreement to arbitrate does not constitute a waiver of its right to seek a judicial forum where such waiver would be void under federal or applicable state securities laws.

13. ACKNOWLEDGEMENT

Sponsor acknowledges that before this Agreement was entered into, Advisor provided to Sponsor information regarding Services, compensation, fiduciary obligations and conflicts of interest, including Advisor's Form ADV Part 2, and any supplements required by law; Advisor's Privacy Policy (if applicable); and this Agreement. Sponsor acknowledges that it received such information sufficiently in advance of entering into this Agreement to make an informed decision in determining the Services to be: (i) necessary for the operation of the Plan; and (ii) reasonable and appropriate based upon the compensation to be paid for the Services.

The "Effective Date" of this Agreement shall be the date it is signed by the Sponsor below, unless a different date is specified:

☒ The Effective Date shall be: _____, _____.

14. MISCELLANEOUS PROVISIONS

15.1 Captions

Section headings are for convenience only and are not of substantive effect providing.

15.2 Severability

It is understood by the parties that if any provision, duty, obligation or undertaking herein contained is held by the courts to be unenforceable or illegal or in conflict with applicable law, the validity of the remaining portions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if such invalid or unenforceable provision was not contained herein.

15.3 Entire Agreement

This Agreement is the entire understanding between the parties and supersedes all prior oral or written statements dealing with this subject.

15.4 Assignability

No assignment of this Agreement shall be made without the express written consent of all parties in accordance with the Act.

15.5 Effect

This Agreement will be binding upon and will inure to the benefit of the parties and their respective heirs, successors, survivors, administrators and permitted assigns.

15.6 Modification

The Agreement may be modified, including without limitation the Services to be provided by Adviser or the Fees charged by Adviser: (i) by written agreement between Adviser and Sponsor; or (ii) the Adviser may propose to increase or otherwise change the Fees charged, to change the Services provided, to assign the Agreement or otherwise modify this Agreement by

giving Sponsor at least 60 days advance notice of the proposed change. The notice will be given in the manner described in Section 11 above. The notice will: (i) explain the proposed modification of the Fees, Services, assignment or other provisions; (ii) fully disclose any resulting changes in the Fees to be charged as a result of any proposed change in the Services or other changes to this Agreement; (iii) identify the effective date of the change; (iv) explain Sponsor's right to reject in writing the change or terminate this Agreement; and (v) state that pursuant to the provisions of this Agreement, if Sponsor fails to object to the proposed change(s) before the date on which the change(s) become effective Sponsor will be deemed to have consented to the proposed change(s).

If Sponsor rejects any change to this Agreement proposed by Adviser, then Adviser will not be authorized to make the proposed change. In that event Sponsor will have an additional 60 days from the proposed effective date (or such additional time beyond 60 days as may be agreed by Adviser) to locate a service provider in place and instead of Adviser. If at the end of such additional 60-day period (or such additional time period as agreed by Adviser), the parties have not reached agreement, this Agreement will automatically terminate.

15.7 Waiver of Limitation

Nothing in this Agreement will in any way constitute a waiver or limitation of any rights which the Sponsor or the Plan or any other party may have under federal or state securities laws.

IN WITNESS WHEREOF, Adviser and Sponsor hereby execute this Agreement:

ADVISOR	
By:	
Print Name:	Taylor Boyd
Title:	Senior Partner
Street Address 1:	2050 Main Street
Street Address 2:	Suite 510
City, State, Zip:	Irvine, CA 92614
Email Address:	Taylor.Boyd@baldwin.com
Date:	

SPONSOR	
By:	
Print Name:	
Title:	
Street Address 1:	
Street Address 2:	
City, State, Zip:	
Email Address:	
Date:	

ACCEPTANCE BY OFFICER OF ADVISOR	
By:	
Print Name:	Darin Gibson
Title:	Managing Director
Date:	

APPENDIX A: PLAN PROFILE	
Legal Name of Plan	
Company Tax ID #	
Company Name	
Company Address	
Plan Type	
Plan Inception Date	
Plan Sponsor	
Name of Plan Administrator(s)	
Address	
Primary Contact Phone	
Email	
Corporate Trustee	
Company Name	
Corporate Trustee Address	
Primary Contact Phone	
Email	

Appendix B: Fee Schedule

The Fees will be determined in one of the following ways for the Assets (and if applicable, for the DB Assets):

☒ **Assets Under Management**: Advisor will bill the Plan quarterly, in arrears (as applicable under the Billing Mode elected below), an asset-based fee for providing the Services. Sponsor agrees that the Fees will be based upon the value of assets held in custody by the Plan's custodian (such assets being referred to herein as the "Account") excluding the value of any assets invested in Plan participants' self-directed brokerage accounts, using closing prices at quarter end (or the asset value of a specified date, in the event Fees are calculated on a prorated basis), at one-quarter of the annual rates set forth below:

Amount: Advisor's Fee will represent a pro rata portion of an annual fee: (***check one of the following***)

☐ Equal to _____% of the value of the Account; or
☒ Determined according to the schedule below.

Plan Assets	Fees
$0 to $1,000,000	$7,500
$1,000,001 to $3,000,000	75 basis points
$3,000,001 to $10,000,000	50 basis points
$10,000,001 to $20,000,000	35 basis points
$20,000,001 to $40,000,000	25 basis points
$40,000,001 to $75,000,000	15 basis points
$75,000,001 to $150,000,000	10 basis points
$150,000,001 +	negotiable

Fees will be payable in full within thirty (30) days in accordance with the elected billing mode. The above schedule, if applicable, will provide for the Fee to be the stated amount or percentage corresponding to the total Account value (such that all of the Account assets are subject to the lowest annual fee corresponding to the Account value), unless the Sponsor makes the following election for the Fee to be:

☐ blended, such that each tier of assets is subjected to the indicated Fee rate and such rates are blended to determine a percentage of the Account value.

Billing Mode:

☐ Fees will be charged quarterly in advance;

☐ Fees will be charged quarterly in arrears; or

☒ Determined according to Recordkeeper policies.

☐ **Flat Fee**: $_____ per year flat annual fee, payable quarterly, in advance/arrears (as applicable under the Billing Mode elected above) of the period for which Services are to be rendered. The stated annual fee may be increased each year with a cost of living adjustment.

☐ **Project-Based Fee:** If applicable, Advisor will charge as a one-time, Project-Based Fee to provide one or more of the above-referenced Services or, alternatively, for:
_____ as follows:

Amount Due Date Due

$ _____ _____ or ☐ Payable upon delivery.

Advisor has received, or expects to receive, the following non-cash compensation in connection with Adviser's rendering of the Services (include nature, value and source, if applicable):

☐ _____

☒ None

Sponsor authorizes Advisor to bill all invoices for Services under this Agreement by: (check one of the following)

☒ Invoice third-party directly. (Must complete third-party's required form)

☐ Invoice Sponsor directly. (invoice will be sent to address noted in Sponsor's signature below unless notice is provided otherwise)

Sponsor agrees and acknowledges that billing invoices to a third-party will be for the convenience of the parties to this Agreement and will not relieve Sponsor of its full responsibility for the payment of all amounts due to Advisor under this Agreement. Sponsor further agrees to pay all billed amounts that are not paid on Sponsor's behalf in a timely manner. Sponsor is urged to review all invoices and to verify the accuracy of the calculation of all amounts billed and paid under this Agreement.

In the event that Sponsor instructs Advisor to bill the Plan directly, but the Plan fails to pay any invoice within thirty (30) days of the date thereof, Sponsor authorizes Advisor to bill the Plan's custodian with respect to that invoice in the manner set forth herein. The fees set forth herein do not cover any execution, custody, clearing or settlement services provided by Advisor or Advisor's affiliates or investment management fees of investment managers retained by Sponsor.

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Andrew Simmons, P.E., Public Works Director/City Engineer

SUBJECT: Award Amendment #1 to the maintenance agreement with BRC Construction for As Needed Block Wall and Wrought Iron Fence Repairs for the Landscape and Lighting Maintenance Districts Project No. 081122B.

STAFF RECOMMENDATION:

Award Amendment #1 to the maintenance agreement with BRC Construction for As Needed Block Wall and Wrought Iron Fence Repairs for the Landscape and Lighting Maintenance Districts Project No. 081122B.

EXECUTIVE SUMMARY:

The City published a Request for Proposals (RFP) for As Needed Block Wall and Wrought Iron Fence Repairs for the Landscape and Lighting Maintenance Districts Project No. 081122B. This RFP closed on September 14, 2022 at 2pm and the City received one response.

The RFP was published to obtain a general contractor that can complete fence and masonry wall repairs throughout the LLMDs; these repairs are required from time to time due to traffic collisions that affect these improvements, vandalism or age of improvement. City Council authorized a maintenance agreement with BRC Construction on October 12, 2022 for a term from October 15, 2022 – October 14, 2025 for a not-to-exceed amount of $450,000. City staff recommends awarding Amendment #1 for a two-year term for a not-to-exceed amount of $300,000.

FISCAL IMPACT:

The recommended action will not have a negative impact on the budget. The award amount is allocated in the LLMD Budget.

ATTACHMENTS:

1. Amendment #1

FIRST AMENDMENT TO THE AS NEEDED BLOCK WALL AND WROUGHT IRON FENCE REPAIRS FOR THE LANDSCAPE AND LIGHTING DISTRICTS AGREEMENT BETWEEN THE CITY OF COACHELLA AND BRC CONSTRUCTION

THIS FIRST AMENDMENT ("Amendment") is made and entered into as of January 28, 2026 by and between the City of Coachella ("City") and BRC Construction ("Contractor"). In consideration of the mutual covenants and conditions set forth herein, the parties agree as follows:

1. **RECITALS.** This Amendment is made with the respect to the following facts and purposes:

   a. On or about October 12, 2022 the City and Contractor entered into that certain agreement entitled "As Needed Block Wall and Wrought Iron Fence Repairs for the Landscape and Lighting Maintenance Districts City of Coachella Maintenance Services Agreement" between the City and Contractor to provide as needed block wall and wrought iron fencing repair in the amount of $450,000.

   b. The parties now desire to amend the Agreement as set forth in this Amendment.

2. **AMENDMENT.**

3.1.2 Term. Section 3.1.2 of the Agreement is hereby amended to go into effect on October 15, 2025 contingent upon approval by City, and Consultant shall commence work after notification to proceed by City's Agreement Administrator. The Agreement shall end on October 14, 2027, unless extended by Agreement Amendment.

3.3 Allowable Costs and Payments. Section 3.3.1 of the Agreement is hereby amended to increase the compensation, including authorized reimbursements, for all services rendered under this Agreement as set forth in EXHIBIT "B" attached hereto and incorporated herein by reference.

The method of payment in Sections 3.3.1.A and B of the Agreement are hereby amended to actual cost plus a ten percent (10%) fixed fee. City will reimburse Contractor for actual costs (including labor costs, employee benefits, travel, equipment rental costs, overhead and other direct costs; plus ten percent fixed fee) incurred by Consultant in performance of the work. The total authorized compensation for the Amendment No. 1 is in the amount not to exceed Three Hundred Thousand Dollars and no Cents ($300,000).

The amended total compensation shall not exceed **Seven Hundred Fifty Thousand Dollars and no Cents ($750,000.00)** without written approval of the City's representative. Extra Work may be authorized, as described below, and if authorized, will

be compensated at the rates and manner set forth in this agreement.

3.4 Continuing Effect of Agreement. Except as amended by this Amendment, all provisions of the Agreement shall remain unchanged and in full force and effect. From and after the date of this Amendment, whenever the term "Agreement" appears in the Agreement, it shall mean the Agreement as amended by this Amendment.

3.5 Adequate Consideration. The parties hereto irrevocably stipulate and agree that they have each received adequate and independent consideration for the performance of the obligations they have undertaken pursuant to this Amendment.

3.6 Counterparts. This Amendment may be executed in duplicate originals, each of which is deemed to be an original, but when taken together shall constitute but one and the same instrument.

IN WITNESS THEREOF, the parties have executed this Amendment as of the day and year first set forth above, which date shall be considered by the parties to be the effective date of this Amendment.

CITY OF COACHELLA

Approved by:

_____

William B. Pattison Jr.
City Manager

Approved as to Form:

BEST, BEST & KRIEGER

_____

City Attorney

Attest:

_____

Angela M. Zepeda
City Clerk

BRC CONSTRUCTION

_____

Branden Rickard
Owner

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Andrew Simmons, P.E., Public Works Director/City Engineer

SUBJECT: Award Amendment #1 to the maintenance agreement with BRC Construction for As Needed Miscellaneous Repair Work for the Landscape and Lighting Maintenance Districts Project No. 081122.

STAFF RECOMMENDATION:

Award maintenance agreement to BRC Construction for As Needed Miscellaneous Repair Work for the Landscape and Lighting Maintenance Districts Project No. 081122.

EXECUTIVE SUMMARY:

The City published a Request for Proposals (RFP) for As Needed Miscellaneous Repair Work for the Landscape and Lighting Maintenance Districts Project No. 081122. This RFP closed on September 14, 2022 and the City received one response.

The RFP was published to obtain a general contractor that can complete minor jobs as needed throughout the LLMDs; examples of work assignments include: cleanup of disposed items, sign repair, playground equipment repair/replacement. City Council authorized a maintenance agreement with BRC Construction on October 12, 2022 for a term from October 15, 2022 – October 14, 2025 for a not-to-exceed amount of $450,000. City staff recommends awarding Amendment #1 for a two-year term for a not-to-exceed amount of $300,000.

FISCAL IMPACT:

The recommended action will not have a negative impact on the budget. The award amount is allocated in the LLMD Budget.

ATTACHMENTS:

1. Amendment #1

FIRST AMENDMENT TO THE AS NEEDED MISCELLANEOUS REPAIR WORK FOR THE LANDSCAPE AND LIGHTING DISTRICTS AGREEMENT BETWEEN THE CITY OF COACHELLA AND BRC CONSTRUCTION

THIS FIRST AMENDMENT ("Amendment") is made and entered into as of January 28, 2026 by and between the City of Coachella ("City") and BRC Construction ("Contractor"). In consideration of the mutual covenants and conditions set forth herein, the parties agree as follows:

1. **RECITALS.** This Amendment is made with the respect to the following facts and purposes:

   a. On or about October 12, 2022 the City and Contractor entered into that certain agreement entitled "As Needed Miscellaneous Repair Work for the Landscape and Lighting Maintenance Districts City of Coachella Maintenance Services Agreement" between the City and Contractor to provide as needed block wall and wrought iron fencing repair in the amount of $450,000.

   b. The parties now desire to amend the Agreement as set forth in this Amendment.

2. **AMENDMENT.**

3.1.2 Term. Section 3.1.2 of the Agreement is hereby amended to go into effect on October 15, 2025 contingent upon approval by City, and Consultant shall commence work after notification to proceed by City's Agreement Administrator. The Agreement shall end on October 14, 2027, unless extended by Agreement Amendment.

3.3 Allowable Costs and Payments. Section 3.3.1 of the Agreement is hereby amended to increase the compensation, including authorized reimbursements, for all services rendered under this Agreement as set forth in EXHIBIT "B" attached hereto and incorporated herein by reference.

The method of payment in Sections 3.3.1.A and B of the Agreement are hereby amended to actual cost plus a ten percent (10%) fixed fee. City will reimburse Contractor for actual costs (including labor costs, employee benefits, travel, equipment rental costs, overhead and other direct costs; plus ten percent fixed fee) incurred by Consultant in performance of the work. The total authorized compensation for the Amendment No. 1 is in the amount not to exceed Three Hundred Thousand Dollars and no Cents ($300,000).

The amended total compensation shall not exceed **Seven Hundred Fifty Thousand Dollars and no Cents ($750,000.00)** without written approval of the City's representative. Extra Work may be authorized, as described below, and if authorized, will

be compensated at the rates and manner set forth in this agreement.

3.4 Continuing Effect of Agreement. Except as amended by this Amendment, all provisions of the Agreement shall remain unchanged and in full force and effect. From and after the date of this Amendment, whenever the term "Agreement" appears in the Agreement, it shall mean the Agreement as amended by this Amendment.

3.5 Adequate Consideration. The parties hereto irrevocably stipulate and agree that they have each received adequate and independent consideration for the performance of the obligations they have undertaken pursuant to this Amendment.

3.6 Counterparts. This Amendment may be executed in duplicate originals, each of which is deemed to be an original, but when taken together shall constitute but one and the same instrument.

IN WITNESS THEREOF, the parties have executed this Amendment as of the day and year first set forth above, which date shall be considered by the parties to be the effective date of this Amendment.

CITY OF COACHELLA

Approved by:

_____

William B. Pattison Jr.
City Manager

Approved as to Form:

BEST, BEST & KRIEGER

_____

City Attorney

Attest:

_____

Angela M. Zepeda
City Clerk

BRC CONSTRUCTION

_____

Branden Rickard
Owner

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Cástulo R. Estrada, Utilities Director

SUBJECT: Authorize the City Manager to Approve a Professional Services Agreement with Aspen Rentals Inc., in the Amount not to Exceed $125,000.00 for the Rental of a Belt-Press Dewatering Unit.

STAFF RECOMMENDATION:

Authorize the City Manager to Approve a Professional Services Agreement with Aspen Rentals Inc., in the Amount not to Exceed $125,000.00 for the Rental of a Belt-Press Dewatering Unit.

BACKGROUND:

The City of Coachella sewer system also known as the Coachella Sanitary District consists of sewers that collect local flows generated from the City's residential, commercial, and industrial areas and other areas outside the city limits and discharge to the City's wastewater treatment plant on Avenue 54 with a capacity of 4.5 million gallons per day.

DISCUSSION/ANALYSIS:

There are a total of twenty-two (22) sludge drying beds at the wastewater treatment plant. The sludge drying beds are part of a dewatering process that removes water from sludge through a combination of drainage and evaporation. The process involves spreading a layer of sludge over the drying beds, allowing the liquid to percolate through a porous media, while the solids remain on top to dry out over time.

Fourteen (14) drying beds were installed in 2007 and eight (8) additional beds were added in 2011. The drying bed efficiency has declined over time. These conditions worsen during wet and cold months. Staff recommends performing maintenance and rehabilitation of the drainage systems at the drying beds to improve drying efficiencies.

The rental of a portable sludge-handling unit is required to set sludge drying beds offline while staff conducts maintenance and rehabilitation activities including cleaning, inspection, flushing of drain lines, and replacement of sand, gravel, and filter fabric media at drain trenches.

Staff solicited proposals from three vendors. Based on the proposals received, staff recommends an agreement with Aspen Rentals.

VENDOR	MONTHLY RATE
Aspen Rentals	$16,000
Sebright Product	$17,800
Ferrum Process Systems	$20,000

FISCAL IMPACT:

$100,000.00 has been approved in the FY25/26 Operations Budget. An additional $25,000.00 is requested from undesignated reserves in the Sanitary Operations Fund (Machinery & Equipment).

ATTACHMENTS:

1. Draft Aspen Rental PSA

CITY OF COACHELLA
PROFESSIONAL SERVICES AGREEMENT

1. PARTIES AND DATE.

This Agreement is made and entered into this _____ day of _____, 2026, by and between the City of Coachella, a municipal corporation organized under the laws of the State of California with its principal place of business at 53462 Enterprise Way, Coachella, CA 92236 County of Riverside, State of California ("City") and Aspen Rentals, Inc. an incorporated company, with its principal place of business at 23603 N. Hwy 288, Angleton, TX 77515 ("Consultant"). City and Consultant are sometimes individually referred to herein as "Party" and collectively as "Parties."

2. RECITALS.

2.1 Consultant.

Consultant desires to perform and assume responsibility for the provision of certain professional services required by the City on the terms and conditions set forth in this Agreement. Consultant represents that it is experienced in providing engineering services to public clients, is licensed in the State of California, and is familiar with the plans of City.

2.2 Project.

City desires to engage Consultant to render such professional services for a Belt-press Sludge Handling Equipment Unit at the Coachella Sanitary District Wastewater Treatment Plant ("Project") as set forth in this Agreement.

3. TERMS.

3.1 Scope of Services and Term.

3.1.1 General Scope of Services. Consultant promises and agrees to furnish to the City all labor, materials, tools, equipment, services, and incidental and customary work necessary to fully and adequately supply the professional engineering consulting services necessary for the Project ("Services"). The Services are more particularly described in Exhibit "A" attached hereto and incorporated herein by reference. All Services shall be subject to, and performed in accordance with, this Agreement, the exhibits attached hereto and incorporated herein by reference, and all applicable local, state and federal laws, rules and regulations.

3.1.2 Term. The term of this Agreement shall be from March 1, 2026 to March 1, 2027, unless earlier terminated as provided herein. Consultant shall complete the Services within the term of this Agreement, and shall meet any other established schedules and deadlines. The Parties may, by mutual, written consent, extend the term of this Agreement if necessary to complete the Services.

3.2 Compensation.

3.2.1 Compensation. Consultant shall receive compensation, including authorized reimbursements, for all Services rendered under this Agreement at the rates set forth

in Exhibit "C" attached hereto and incorporated herein by reference. The total compensation shall not exceed **One Hundred Twenty-Five Thousand Dollars and No Cents ($125,000.00)** without written approval of the City Council or City Manager, as applicable. Extra Work may be authorized, as described below, and if authorized, will be compensated at the rates and manner set forth in this Agreement.

3.2.2 Payment of Compensation. Consultant shall submit to City a monthly invoice which indicates work completed and hours of Services rendered by Consultant. The invoice shall describe the amount of Services provided since the initial commencement date, or since the start of the subsequent billing periods, as appropriate, through the date of the invoice. City shall, within 30 days of receiving such invoice, review the invoice and pay all non-disputed and approved charges. If the City disputes any of Consultant's fees, the City shall give written notice to Consultant within thirty (30) days of receipt of an invoice of any disputed fees set forth therein. Payment shall not constitute acceptance of any Services completed by Consultant. The making of final payment shall not constitute a waiver of any claims by the City for any reason whatsoever.

3.2.3 Reimbursement for Expenses. Consultant shall not be reimbursed for any expenses unless authorized in writing by City, or included in Exhibit "C" of this Agreement.

3.2.4 Extra Work. At any time during the term of this Agreement, City may request that Consultant perform Extra Work. As used herein, "Extra Work" means any work which is determined by City to be necessary for the proper completion of the Project, but which the Parties did not reasonably anticipate would be necessary at the execution of this Agreement. Consultant shall not perform, nor be compensated for, Extra Work without written authorization from the City.

3.3 Responsibilities of Consultant.

3.3.1 Independent Contractor; Control and Payment of Subordinates. The Services shall be performed by Consultant or under its supervision. Consultant will determine the means, methods and details of performing the Services subject to the requirements of this Agreement. City retains Consultant on an independent contractor basis and not as an employee. Any personnel performing the Services on behalf of Consultant shall not be employees of City and shall at all times be under Consultant's exclusive direction and control. Neither City, or any of its officials, officers, directors, employees or agents shall have control over the conduct of Consultant or any of Consultants officers, employees or agents, except as set forth in this Agreement. Consultant shall pay all wages, salaries, and other amounts due such personnel in connection with their performance of Services under this Agreement and as required by law. Consultant shall be responsible for all reports and obligations respecting such additional personnel, including, but not limited to: social security taxes, income tax withholding, unemployment insurance, disability insurance, and workers' compensation insurance.

3.3.2 Schedule of Services. Consultant shall perform the Services in a prompt and timely manner and in accordance with the Schedule of Services set forth in Exhibit "B" attached hereto and incorporated herein by reference. Consultant represents that it has the professional and technical personnel required to perform the Services expeditiously. Upon request of City, Consultant shall provide a more detailed schedule of anticipated performance to meet the Schedule of Services.

3.3.3 Conformance to Applicable Requirements. All work prepared by Consultant shall be subject to the approval of City.

3.3.4 Substitution of Key Personnel. Consultant has represented to City that certain key personnel will perform and coordinate the Services under this Agreement. Should one or more of such personnel become unavailable, Consultant may substitute other personnel of at least equal competence upon written approval of City. In the event that City and Consultant cannot agree as to the substitution of key personnel, City shall be entitled to terminate this Agreement for cause. The key personnel for performance of this Agreement are as follows: Christian Martinez and Brandon Booth.

3.3.5 City's Representative. The City hereby designates the Cástulo Estrada, or his/her designee, to act as its representative in all matters pertaining to the administration and performance of this Agreement ("City's Representative"). City's Representative shall have the power to act on behalf of the City for review and approval of all products submitted by Consultant but not the authority to enlarge the Scope of Services or change the total compensation due to Consultant under this Agreement. The City Manager shall be authorized to act on City's behalf and to execute all necessary documents which enlarge the Scope of Services or change the Consultant's total compensation subject to the provisions contained in this Agreement. Consultant shall not accept direction or orders from any person other than the Cástulo Estrada, City's Representative or his/her designee.

3.3.6 Consultant's Representative. Consultant hereby designates, or his/her designee, to act as its representative for the performance of this Agreement ("Consultant's Representative"). Consultant's Representative shall have full authority to represent and act on behalf of the Consultant for all purposes under this Agreement. The Consultant's Representative shall supervise and direct the Services, using his/her best skill and attention, and shall be responsible for all means, methods, techniques, sequences, and procedures and for the satisfactory coordination of all portions of the Services under this Agreement.

3.3.7 Coordination of Services. Consultant agrees to work closely with City staff in the performance of Services and shall be available to City's staff, consultants and other staff at all reasonable times.

3.3.8 Standard of Care; Performance of Employees. Consultant shall perform all Services under this Agreement in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California. Consultant represents and maintains that it is skilled in the professional calling necessary to perform the Services. Consultant warrants that all employees and subconsultants shall have sufficient skill and experience to perform the Services assigned to them. Consultant represents that it, its employees and subconsultants have all licenses, permits, qualifications and approvals of whatever nature that are legally required to perform the Services, and that such licenses and approvals shall be maintained throughout the term of this Agreement. Consultant shall perform, at its own cost and expense and without reimbursement from the City, any services necessary to correct errors or omissions which are caused by the Consultant's failure to comply with the standard of care provided for herein. Any employee of the Consultant or its subconsultants who is determined by the City to be uncooperative, incompetent, a threat to the adequate or timely completion of the Project, a threat to the safety of persons or property, or any employee who fails or refuses to perform the Services in a manner acceptable to the City, shall be promptly removed from the Project by the Consultant and shall not be re-employed to perform

any of the Services or to work on the Project.

3.3.9 Period of Performance.

3.3.9.1 Consultant shall perform and complete all Services under this Agreement within the term set forth in Section 3.1.2 above ("Performance Time"). Consultant shall also perform the Services in strict accordance with any completion schedule or Project milestones described in Exhibits "A" or "B" attached hereto, or which may be separately agreed upon in writing by the City and Consultant ("Performance Milestones"). Consultant agrees that if the Services are not completed within the aforementioned Performance Time and/or pursuant to any such Performance Milestones developed pursuant to provisions of this Agreement, it is understood, acknowledged and agreed that the City will suffer damage.

3.3.9.2 Neither City nor Consultant shall be considered in default of this Agreement for delays in performance caused by circumstances beyond the reasonable control of the non-performing Party. For purposes of this Agreement, such circumstances include a Force Majeure Event. A Force Majeure Event shall mean an event that materially affects a Party's performance and is one or more of the following: (1) Acts of God or other natural disasters; (2) terrorism or other acts of a public enemy; (3) orders of governmental authorities (including, without limitation, unreasonable and unforeseeable delay in the issuance of permits or approvals by governmental authorities that are required for the services); (4) strikes and other organized labor action occurring at the site and the effects thereof on the services, only to the extent such strikes and other organized labor action are beyond the control of Consultant and its subcontractors, and to the extent the effects thereof cannot be avoided by use of replacement workers; and (5) pandemics, epidemics or quarantine restrictions. For purposes of this section, "orders of governmental authorities," includes ordinances, emergency proclamations and orders, rules to protect the public health, welfare and safety, and other actions of a public agency applicable to the services and Agreement.

3.3.9.3 Should a Force Majeure Event occur, the non-performing Party shall, within a reasonable time of being prevented from performing, give written notice to the other Party describing the circumstances preventing continued performance and the efforts being made to resume performance of this Agreement. Force Majeure Events and/or delays, regardless of the Party responsible for the delay, shall not entitle Consultant to any additional compensation. Notwithstanding the foregoing in this section, the City may still terminate this Agreement in accordance with the termination provisions of this Agreement.

3.3.10 Laws and Regulations; Employee/Labor Certification.

3.3.10.1 Compliance with Laws. Consultant shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of the Project or the Services, including all Cal/OSHA requirements, and shall give all notices required by law. Consultant shall be liable for all violations of such laws and regulations in connection with the Services and this Agreement. All violations of such laws and regulations shall be grounds for the City to terminate the Agreement for cause.

3.3.10.2 Employment Eligibility; Consultant. Consultant certifies that it fully complies with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time and shall require all subconsultants

and sub-subconsultants to comply with the same. Consultant certifies that it has not committed a violation of any such law within the five (5) years immediately preceding the date of execution of this Agreement, and shall not violate any such law at any time during the term of the Agreement.

3.3.10.3 Equal Opportunity Employment. Consultant represents that it is an equal opportunity employer and it shall not discriminate against any subconsultant, employee or applicant for employment because of race, religion, color, national origin, handicap, ancestry, sex or age. Such non-discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination. Consultant shall also comply with all relevant provisions of City's Minority Business Enterprise program, Affirmative Action Plan or other related programs or guidelines currently in effect or hereinafter enacted.

3.3.10.4 Air Quality. To the extent applicable, Consultant must fully comply with all applicable laws, rules and regulations in furnishing or using equipment and/or providing services, including, but not limited to, emissions limits and permitting requirements imposed by the South Coast Air Quality Management District (SCAQMD) and/or California Air Resources Board (CARB). Consultant shall indemnify City against any fines or penalties imposed by SCAQMD, CARB, or any other governmental or regulatory agency for violations of applicable laws, rules and/or regulations by Consultant, its subconsultants, or others for whom Consultant is responsible under its indemnity obligations provided for in this Agreement.

3.3.10.5 Water Quality Management and Compliance. Consultant shall keep itself and all subcontractors, staff, and employees fully informed of and in compliance with all local, state and federal laws, rules and regulations that may impact, or be implicated by the performance of the Services including, without limitation, all applicable provisions of the City's ordinances regulating water quality and storm water; the Federal Water Pollution Control Act (33 U.S.C. § 1251, *et seq.*); the California Porter-Cologne Water Quality Control Act (Water Code § 13000 *et seq*.); and any and all regulations, policies, or permits issued pursuant to any such authority. Consultant must additionally comply with the lawful requirements of the City, and any other municipality, drainage district, or other local agency with jurisdiction over the location where the Services are to be conducted, regulating water quality and storm water discharges. City may seek damages from Consultant for delay in completing the Services caused by Consultant's failure to comply with the laws, regulations and policies described in this Section, or any other relevant water quality law, regulation, or policy.

3.3.10.6 Safety. Consultant shall execute and maintain its work so as to avoid injury or damage to any person or property. In carrying out its Services, the Consultant shall at all times be in compliance with all applicable local, state and federal laws, rules and regulations, and shall exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed.

3.3.11 Insurance.

3.3.11.1 Time for Compliance. Consultant shall not commence work under this Agreement until it has provided evidence satisfactory to the City that it has secured all insurance required under this section. In addition, Consultant shall not allow any subconsultant to commence work on any subcontract until it has provided evidence satisfactory to the City that the subconsultant has secured all insurance required under this section. Failure to provide and maintain all required insurance shall be grounds for the City to terminate this Agreement for cause.

3.3.11.2 Types of Insurance Required. As a condition precedent to the effectiveness of this Agreement for work to be performed hereunder, and without limiting the indemnity provisions of the Agreement, the Consultant, in partial performance of its obligations under such Agreement, shall procure and maintain in full force and effect during the term of the Agreement the following policies of insurance. If the existing policies do not meet the insurance requirements set forth herein, Consultant agrees to amend, supplement or endorse the policies to do so.

(A) Commercial General Liability: Commercial General Liability Insurance which affords coverage at least as broad as Insurance Services Office "occurrence" form CG 00 01, or the exact equivalent, with limits of not less than $1,000,000 per occurrence and no less than $2,000,000 in the general aggregate. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions (1) limiting coverage for contractual liability; (2) excluding coverage for claims or suits by one insured against another (cross-liability); (3) products/completed operations liability; or (4) containing any other exclusion(s) contrary to the terms or purposes of this Agreement.

(B) Automobile Liability Insurance: Automobile Liability Insurance with coverage at least as broad as Insurance Services Office Form CA 00 01 covering "Any Auto" (Symbol 1), or the exact equivalent, covering bodily injury and property damage for all activities with limits of not less than $1,000,000 combined limit for each occurrence.

(C) Workers' Compensation: Workers' Compensation Insurance, as required by the State of California and Employer's Liability Insurance with a limit of not less than $1,000,000 per accident for bodily injury and disease.

(D) Professional Liability (Errors & Omissions): Professional Liability insurance or Errors & Omissions insurance appropriate to Consultant's profession with limits of not less than $1,000,000. Covered professional services shall specifically include all work to be performed under the Agreement and delete any exclusions that may potentially affect the work to be performed (for example, any exclusions relating to lead, asbestos, pollution, testing, underground storage tanks, laboratory analysis, soil work, etc.). If coverage is written on a claims-made basis, the retroactive date shall precede the effective date of the initial Agreement and continuous coverage will be maintained or an extended reporting period will be exercised for a period of at least five (5) years from termination or expiration of this Agreement.

3.3.11.3 Insurance Endorsements. Required insurance policies shall contain the following provisions, or Consultant shall provide endorsements on forms approved by the City to add the following provisions to the insurance policies:

(A) Commercial General Liability: (1) Additional Insured: The City, its officials, officers, employees, agents, and volunteers shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the Agreement. Additional Insured Endorsements shall not (1) be restricted to "ongoing operations"; (2) exclude "contractual liability"; (3) restrict coverage to "sole" liability of Consultant; or (4) contain any other exclusions contrary to the terms or purposes of this Agreement. For all policies of Commercial General Liability insurance, Consultant shall provide endorsements in the form of ISO CG 20 10 10 01 and 20 37 10 01 (or endorsements providing the exact same coverage) to effectuate this requirement. (2) Cancellation: Required insurance policies shall not be canceled or the coverage

reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(B) Automobile Liability. (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(C) Professional Liability (Errors & Omissions): (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium. (2) Contractual Liability Exclusion Deleted: This insurance shall include contractual liability applicable to this Agreement. The policy must "pay on behalf of" the insured and include a provision establishing the insurer's duty to defend.

(D) Workers' Compensation: (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium. (2) Waiver of Subrogation: A waiver of subrogation stating that the insurer waives all rights of subrogation against the City, its officials, officers, employees, agents, and volunteers.

3.3.11.4 Primary and Non-Contributing Insurance. All policies of Commercial General Liability and Automobile Liability insurance shall be primary and any other insurance, deductible, or self-insurance maintained by the City, its officials, officers, employees, agents, or volunteers shall not contribute with this primary insurance. Policies shall contain or be endorsed to contain such provisions.

3.3.11.5 Waiver of Subrogation. All required insurance coverages, except for the professional liability coverage, shall contain or be endorsed to waiver of subrogation in favor of the City, its officials, officers, employees, agents, and volunteers or shall specifically allow Consultant or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. Consultant hereby waives its own right of recovery against City, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

3.3.11.6 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be approved in writing by the City and shall protect the City, its officials, officers, employees, agents, and volunteers in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention.

3.3.11.7 Evidence of Insurance. The Consultant, concurrently with the execution of the Agreement, and as a condition precedent to the effectiveness thereof, shall deliver either certified copies of the required policies, or original certificates on forms approved by the City, together with all endorsements affecting each policy. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for approval. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. At least fifteen (15 days) prior to the expiration of any such policy, evidence of insurance showing that

such insurance coverage has been renewed or extended shall be filed with the City. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Consultant shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the City evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies.

3.3.11.8 Acceptability of Insurers. Each such policy shall be from a company or companies with a current A.M. Best's rating of no less than A:VII and authorized to transact business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law.

3.3.11.9 Enforcement of Agreement Provisions (non estoppel). Consultant acknowledges and agrees that actual or alleged failure on the part of the City to inform Consultant of non-compliance with any requirement imposes no additional obligation on the City nor does it waive any rights hereunder.

3.3.11.10 Requirements Not Limiting. Requirement of specific coverage or minimum limits contained in this Section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance.

3.3.11.11 Additional Insurance Provisions

(A) The foregoing requirements as to the types and limits of insurance coverage to be maintained by Consultant, and any approval of said insurance by the City, is not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Consultant pursuant to this Agreement, including but not limited to, the provisions concerning indemnification.

(B) If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, City has the right but not the duty to obtain the insurance it deems necessary and any premium paid by City will be promptly reimbursed by Consultant or City will withhold amounts sufficient to pay premium from Consultant payments. In the alternative, City may cancel this Agreement.

(C) The City may require the Consultant to provide complete copies of all insurance policies in effect for the duration of the Project.

(D) Neither the City nor any of its officials, officers, employees, agents or volunteers shall be personally responsible for any liability arising under or by virtue of this Agreement.

(E) The limits set forth herein shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Consultant from liability in excess of such coverage, nor shall it limit the Consultant's indemnification obligations to the City and shall not preclude the City from taking such other actions available to the City under other provisions of the Agreement or law.

(F) Consultant shall report to the City, in addition to Consultant's insurer, any and all insurance claims submitted by Consultant in connection with the Services under this Agreement.

3.3.11.12 Insurance for Subconsultants. Consultant shall include all subconsultants engaged in any work for Consultant relating to this Agreement as additional insureds under the Consultant's policies, or the Consultant shall be responsible for causing subconsultants to purchase the appropriate insurance in compliance with the terms of these Insurance Requirements, including adding the City, its officials, officers, employees, agents, and volunteers as additional insureds to the subconsultant's policies. All policies of Commercial General Liability insurance provided by Consultant's subconsultants performing work relating to this Agreement shall be endorsed to name the City, its officials, officers, employees, agents and volunteers as additional insureds using endorsement form ISO CG 20 38 04 13 or an endorsement providing equivalent coverage. Consultant shall not allow any subconsultant to commence work on any subcontract relating to this Agreement until it has received satisfactory evidence of subconsultant's compliance with all insurance requirements under this Agreement, to the extent applicable. The Consultant shall provide satisfactory evidence of compliance with this section upon request of the City.

3.4 Labor Code Requirements.

3.4.1 Prevailing Wages. Consultant is aware of the requirements of California Labor Code Section 1720, et seq., and 1770, et seq., as well as California Code of Regulations, Title 8, Section 16000, et seq., ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on "public works" and "maintenance" projects. If the Services are being performed as part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and if the total compensation is $1,000 or more, Consultant agrees to fully comply with such Prevailing Wage Laws. City shall provide Consultant with a copy of the prevailing rates of per diem wages in effect at the commencement of this Agreement. Consultant shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to execute the Services available to interested parties upon request, and shall post copies at the Consultant's principal place of business and at the project site. It is the intent of the parties to effectuate the requirements of sections 1771, 1774, 1775, 1776, 1777.5, 1813, and 1815 of the Labor Code within this Agreement, and Consultant shall therefore comply with such Labor Code sections to the fullest extent required by law. Consultant shall defend, indemnify and hold the City, its officials, officers, employees, agents, and volunteers free and harmless from any claim or liability arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

3.4.2 Registration/DIR Compliance. If the Services are being performed on a public works project of over $25,000 when the project is for construction, alteration, demolition, installation, or repair work, or a public works project of over $15,000 when the project is for maintenance work, in addition to the foregoing, then pursuant to Labor Code sections 1725.5 and 1771.1, the Consultant and all subconsultants must be registered with the Department of Industrial Relations ("DIR"). Consultant shall maintain registration for the duration of the Project and require the same of any subconsultants.

3.4.3 Compliance Monitoring. This Project may also be subject to compliance monitoring and enforcement by the DIR. It shall be Consultant's sole responsibility to comply with all applicable registration and labor compliance requirements, including the submission of payroll

records directly to the DIR. Any stop orders issued by the DIR against Consultant or any subconsultant that affect Consultant's performance of services, including any delay, shall be Consultant's sole responsibility. Any delay arising out of or resulting from such stop orders shall be considered Consultant caused delay and shall not be compensable by the City. Consultant shall defend, indemnify and hold the City, its officials, officers, employees and agents free and harmless from any claim or liability arising out of stop orders issued by the DIR against Consultant or any subconsultant.

3.4.4 Labor Certification. By its signature hereunder, Consultant certifies that it is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of that Code, and agrees to comply with such provisions before commencing the performance of the Services.

3.5 Termination of Agreement.

3.5.1.1 Grounds for Termination. City may, by written notice to Consultant, terminate the whole or any part of this Agreement at any time and without cause by giving written notice to Consultant of such termination, and specifying the effective date thereof, at least seven (7) days before the effective date of such termination. Upon termination, Consultant shall be compensated only for those Services which have been adequately rendered to City, and Consultant shall be entitled to no further compensation. Consultant may not terminate this Agreement except for cause. The rights and remedies of the City provided in this section shall not be exclusive and are in addition to any other rights and remedies provided by law, equity or under this Agreement.

3.5.1.2 Effect of Termination. If this Agreement is terminated as provided herein, City may require Consultant to provide all finished or unfinished Documents and Data and other information of any kind prepared by Consultant in connection with the performance of Services under this Agreement. Consultant shall be required to provide such document and other information within fifteen (15) days of the request.

3.5.1.3 Additional Services. In the event this Agreement is terminated in whole or in part as provided herein, City may procure, upon such terms and in such manner as it may determine appropriate, services similar to those terminated.

3.6 Indemnification.

3.6.1 To the fullest extent permitted by law, Consultant shall defend (with counsel of City's choosing), indemnify and hold the City, its officials, officers, employees, volunteers, and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury of any kind, in law or equity, to property or persons, including wrongful death, in any manner arising out of, pertaining to, or incident to any acts, errors or omissions, or willful misconduct of Consultant, its officials, officers, employees, subcontractors, consultants or agents in connection with the performance of the Consultant's Services, the Project or this Agreement, including without limitation the payment of all damages, expert witness fees and attorney's fees and other related costs and expenses except such loss or damage caused by the sole negligence or willful misconduct of the City. Consultant's obligation to indemnify shall survive expiration or termination of this Agreement and shall not be restricted to insurance proceeds, if any, received by Consultant, the City, its officials, officers, employees, agents, or

volunteers.

3.6.2 If Consultant's obligation to defend, indemnify, and/or hold harmless arises out of Consultant's performance as a "design professional" (as that term is defined under Civil Code section 2782.8), then, and only to the extent required by Civil Code section 2782.8, which is fully incorporated herein, Consultant's indemnification obligation shall be limited to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant, and, upon Consultant obtaining a final adjudication by a court of competent jurisdiction, Consultant's liability for such claim, including the cost to defend, shall not exceed the Consultant's proportionate percentage of fault.

3.7 General Provisions.

3.7.1 Accounting Records. Consultant shall maintain complete and accurate records with respect to all costs and expenses incurred under this Agreement. All such records shall be clearly identifiable. Consultant shall allow a representative of City during normal business hours to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement. Consultant shall allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

3.7.2 Independent Contractors and Subcontracting.

3.7.2.1 Use of Consultants. Consultant is aware of statutory and case law regarding classification of workers as independent contractors, including California Labor Code Section 2750.3 and Dynamex Operations West, Inc. v. Superior Court, 4 Cal. 5th 903 (2018). To ensure that Consultant is in compliance with the California Labor Code, Consultant shall only utilize its employees to provide the Services. Consultant may not provide the services through any independent contractor, subcontractor or subconsultant ("Subcontractor(s)") unless approved by the City as set forth in Section 3.7.2.2 below. Consultant represents and warrants that all personnel who perform the Services on Consultant's behalf are Consultant's employees, and that Consultant complies with all applicable laws, rules and regulations governing its employees, including, but not limited to, the California Labor Code, Unemployment Insurance Code and all applicable Industrial Welfare Commission Wage Orders.

3.7.2.2 Prior Approval Required. Consultant shall not use any Subcontractor to provide the Services, or any portion of the work required by this Agreement, without prior written approval of City. In the event that City authorizes Consultant to use a Subcontractor, Consultant shall enter into a written agreement with the Subcontractor, which must include all provisions of the Agreement, including a restriction on the Subcontractor's use of further independent contractors, subcontractors or subconsultants without the City's prior written consent.

3.7.3 Delivery of Notices. All notices permitted or required under this Agreement shall be given to the respective parties at the following address, or at such other address as the respective parties may provide in writing for this purpose:

Consultant: Aspen Rentals, Inc.
23603 N. Hwy. 288
Angleton, TX 77515 ATTN: Christian Martinez

City: City of Coachella
53462 Enterprise Way
Coachella, CA 92236
ATTN: Castulo Estrada

Such notice shall be deemed made when personally delivered or when mailed, forty-eight (48) hours after deposit in the U.S. Mail, first class postage prepaid and addressed to the party at its applicable address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

3.7.4 Ownership of Materials and Confidentiality.

3.7.4.1 Documents & Data; Licensing of Intellectual Property. This Agreement creates a non-exclusive and perpetual license for City to copy, use, modify, reuse, or sublicense any and all copyrights, designs, and other intellectual property embodied in plans, specifications, studies, drawings, estimates, and other documents or works of authorship fixed in any tangible medium of expression, including but not limited to, physical drawings or data magnetically or otherwise recorded on computer diskettes, which are prepared or caused to be prepared by Consultant under this Agreement ("Documents & Data"). All Documents & Data shall be and remain the property of City, and shall not be used in whole or in substantial part by Consultant on other projects without the City's express written permission. Within thirty (30) days following the completion, suspension, abandonment or termination of this Agreement, Consultant shall provide to City reproducible copies of all Documents & Data, in a form and amount required by City. City reserves the right to select the method of document reproduction and to establish where the reproduction will be accomplished. The reproduction expense shall be borne by City at the actual cost of duplication. In the event of a dispute regarding the amount of compensation to which the Consultant is entitled under the termination provisions of this Agreement, Consultant shall provide all Documents & Data to City upon payment of the undisputed amount. Consultant shall have no right to retain or fail to provide to City any such documents pending resolution of the dispute. In addition, Consultant shall retain copies of all Documents & Data on file for a minimum of fifteen (15) years following completion of the Project, and shall make copies available to City upon the payment of actual reasonable duplication costs. Before destroying the Documents & Data following this retention period, Consultant shall make a reasonable effort to notify City and provide City with the opportunity to obtain the documents.

3.7.4.2 Subconsultants. Consultant shall require all subconsultants to agree in writing that City is granted a non-exclusive and perpetual license for any Documents & Data the subconsultant prepares under this Agreement. Consultant represents and warrants that Consultant has the legal right to license any and all Documents & Data. Consultant makes no such representation and warranty in regard to Documents & Data which were prepared by design professionals other than Consultant or its subconsultants, or those provided to Consultant by the City.

3.7.4.3 Right to Use. City shall not be limited in any way in its use or reuse of the Documents and Data or any part of them at any time for purposes of this Project or another project, provided that any such use not within the purposes intended by this Agreement or on a project other than this Project without employing the services of Consultant shall be at City's sole risk. If City uses or reuses the Documents & Data on any project other than this Project, it shall remove the Consultant's seal from the Documents & Data and indemnify and hold harmless Consultant and its officers, directors, agents and employees from claims arising out of the negligent use or re-use of the Documents & Data on such other project. Consultant shall be

responsible and liable for its Documents & Data, pursuant to the terms of this Agreement, only with respect to the condition of the Documents & Data at the time they are provided to the City upon completion, suspension, abandonment or termination. Consultant shall not be responsible or liable for any revisions to the Documents & Data made by any party other than Consultant, a party for whom the Consultant is legally responsible or liable, or anyone approved by the Consultant.

3.7.4.4 Indemnification. Consultant shall defend, indemnify and hold the City, its directors, officials, officers, employees, volunteers and agents free and harmless, pursuant to the indemnification provisions of this Agreement, for any alleged infringement of any patent, copyright, trade secret, trade name, trademark, or any other proprietary right of any person or entity in consequence of the use on the Project by City of the Documents & Data, including any method, process, product, or concept specified or depicted.

3.7.4.5 Confidentiality. All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written information, and other Documents & Data either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant. Such materials shall not, without the prior written consent of City, be used by Consultant for any purposes other than the performance of the Services. Nor shall such materials be disclosed to any person or entity not connected with the performance of the Services or the Project. Nothing furnished to Consultant which is otherwise known to Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use City's name or insignia, photographs of the Project, or any publicity pertaining to the Services or the Project in any magazine, trade paper, newspaper, television or radio production or other similar medium without the prior written consent of City.

3.7.4.6 Confidential Information. The City shall refrain from releasing Consultant’s proprietary information ("Proprietary Information") unless the City's legal counsel determines that the release of the Proprietary Information is required by the California Public Records Act or other applicable state or federal law, or order of a court of competent jurisdiction, in which case the City shall notify Consultant of its intention to release Proprietary Information. Consultant shall have five (5) working days after receipt of the release notice to give City written notice of Consultant's objection to the City's release of Proprietary Information. Consultant shall indemnify, defend and hold harmless the City, and its officers, directors, employees, and agents from and against all liability, loss, cost or expense (including attorney’s fees) arising out of a legal action brought to compel the release of Proprietary Information. City shall not release the Proprietary Information after receipt of an objection notice unless either: (1) Consultant fails to fully indemnify, defend (with City's choice of legal counsel), and hold City harmless from any legal action brought to compel such release; and/or (2) a final and non-appealable order by a court of competent jurisdiction requires that City release such information.

3.7.5 Cooperation; Further Acts. The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Agreement.

3.7.6 Entire Agreement. This Agreement contains the entire agreement of the Parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements.

3.7.7 Attorneys' Fees. If either party commences an action against the other party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorneys' fees and all costs of such action.

3.7.8 Governing Law. This Agreement shall be governed by the laws of the State of California. Venue shall be in Riverside County. In addition to any and all contract requirements pertaining to notices of and requests for compensation or payment for extra work, disputed work, claims and/or changed conditions, Consultant must comply with the claim procedures set forth in Government Code sections 900 et seq. prior to filing any lawsuit against the City. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra work, disputed work, claims, and/or changed conditions have been followed by Consultant. If no such Government Code claim is submitted, or if any prerequisite contractual requirements are not otherwise satisfied as specified herein, Consultant shall be barred from bringing and maintaining a valid lawsuit against the City.

3.7.9 Time of Essence. Time is of the essence for each and every provision of this Agreement.

3.7.10 City's Right to Employ Other Consultants. City reserves right to employ other consultants in connection with this Project.

3.7.11 Successors and Assigns. This Agreement shall be binding on the successors and assigns of the parties.

3.7.12 Assignment or Transfer. Consultant shall not assign, sublet, or transfer this Agreement or any rights under or interest in this Agreement without the written consent of the City, which may be withheld for any reason. Any attempt to so assign or so transfer without such consent shall be void and without legal effect and shall constitute grounds for termination. Consultant shall not subcontract any portion of the Services required by this Agreement, except as expressly stated herein, without prior written approval of City. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

3.7.13 Construction; References; Captions. Since the Parties or their agents have participated fully in the preparation of this Agreement, the language of this Agreement shall be construed simply, according to its fair meaning, and not strictly for or against any Party. Any term referencing time, days or period for performance shall be deemed calendar days and not work days. All references to Consultant include all personnel, employees, agents, and subconsultants of Consultant, except as otherwise specified in this Agreement. All references to City include its elected officials, officers, employees, agents, and volunteers except as otherwise specified in this Agreement. The captions of the various articles and paragraphs are for convenience and ease of reference only, and do not define, limit, augment, or describe the scope, content, or intent of this Agreement.

3.7.14 Amendment; Modification. No supplement, modification, or amendment of this Agreement shall be binding unless executed in writing and signed by both Parties.

3.7.15 Waiver. No waiver of any default shall constitute a waiver of any other default or breach, whether of the same or other covenant or condition. No waiver, benefit,

privilege, or service voluntarily given or performed by a Party shall give the other Party any contractual rights by custom, estoppel, or otherwise.

3.7.16 No Third-Party Beneficiaries. There are no intended third party beneficiaries of any right or obligation assumed by the Parties.

3.7.17 Invalidity; Severability. If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

3.7.18 Prohibited Interests. Consultant maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Consultant warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. Consultant further agrees to file, or shall cause its employees or subconsultants to file, a Statement of Economic Interest with the City's Filing Officer as required under state law in the performance of the Services. For breach or violation of this warranty, City shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of City, during the term of his or her service with City, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

3.7.19 Authority to Enter Agreement. Consultant has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

3.7.20 Counterparts. This Agreement may be signed in counterparts, each of which shall constitute an original.

3.7.21 Survival. All rights and obligations hereunder that by their nature are to continue after any expiration or termination of this Agreement, including, but not limited to, the indemnification obligations, shall survive any such expiration or termination.

3.8 Federal Provisions. With respect to any conflict between such Federal Requirements and the terms of this Agreement and/or the provisions of state law, the more stringent requirement shall control.

[SIGNATURES ON NEXT PAGE]

SIGNATURE PAGE TO PROFESSIONAL SERVICES AGREEMENT BETWEEN THE CITY OF COACHELLA AND ASPEN RENTALS, INC.

IN WITNESS WHEREOF, each of the Parties has caused this Agreement to be executed on the day and year first above written.

CITY OF COACHELLA

Approved By:

_____
William B. Pattison Jr.
City Manager

Approved as to Form:

BEST BEST & KRIEGER

_____
City Attorney

Attest:

_____
Angela M. Zepeda
City Clerk

Aspen Rentals, Inc.

By: _____

Its: Sales Engineer

Printed Name: Christian Martinez

By: _____

Its: _____

Printed Name: _____

EXHIBIT "A"
SCOPE OF SERVICES

Contract #: 25-1120-001
Date: 11/20/25

RENTAL AGREEMENT

Section 1: PARTIES OF THIS AGREEMENT

This Equipment Rental Agreement ("Agreement") is entered into by and between **Aspen Rentals, Inc.,** a Texas corporation with its principal place of business located at 23603 N. Highway 288, Angleton, Texas 77515 ("Lessor"), and **The City of Coachella**, with a principal address at _____ ("Lessee").

Section 2: GENERAL RENTAL TERMS

This Agreement shall commence on the date the equipment departs from the Lessor's facility in Angleton, Texas (the "Commencement Date"), which is anticipated to be on or about **[XX/XX/2026]**, and shall terminate on or about **[XX/XX/2026]** (the "Expiration Date"), unless earlier terminated in accordance with the provisions of this Agreement.

Lessee may request an extension or renewal of the rental term by providing Lessor with verbal or written notice no less than **ten (10) calendar days** prior to the Expiration Date. If Lessor consents to such extension, rental charges shall continue on a daily, weekly, or long-term prorated basis, calculated by dividing the applicable monthly rental rate by thirty (30), unless otherwise agreed in writing.

Payment terms under this Agreement are as follows:

- **Rental equipment and labor charges:** Net thirty (30) days from the invoice date. Labor is billed on a bi-weekly basis.
- **Transport and mobilization charges:** Net ten (10) days from the invoice date.

Section 3: NOTICES AND CONTACTS

Any notice, payment, or document required or permitted to be delivered there under, except for the notice of payment required to pursuant to the terms hereof, shall be deemed to be delivered whether actually received or not when deposited in the United States Mail, postage prepaid, Certified Mail, addressed to the parties hereto at:

LESSOR:

Mail
Aspen Rentals, Inc.
23603 N. Hwy. 288
Angleton, TX. 77515

Sales Engineer
Christian Martinez
cmartinez@aspenchemicals.com
(713) 447-1487 – Mobile

Transportation and Logistics
Christian Martinez
cmartinez@aspenchemicals.com
(713) 447-1487 – Mobile

Operations Manager – for all aspects of a project once they are contracted.
Brandon Booth
brandonbooth@aspen-rentals.com
(979) 201-1329 – mobile

Billing Questions
Robi Booth – V.P.
robi@aspen-rentals.com
(979) 201-9515 – mobile

Robin Bryant Controller-AP/HR Director
rbryant@aspen-rentals.com
(979) 201-3748 - Mobile

LESSEE:

Billing Address:	Shipping Address:

AP Contact: _____ Phone: _____
Email: _____

Section 4: RENTAL EQUIPMENT

Unless otherwise agreed in writing, the following terms and conditions shall apply to all equipment rented under this Agreement:

- **Payment Terms:** Payment for rental equipment and labor shall be due **Net thirty (30) days** from the date of invoice. Labor is billed **bi-weekly**. Charges for transportation and mobilization services are due **Net ten (10) days** from the date of invoice.
- **Rental Period and Rates:** Standard rental rates are based on a **30-day billing cycle,** unless otherwise specified in writing. Rent is billed in advance and payable in accordance with the terms stated above.
- **Technician Rates:** Field technicians will be invoiced bi-weekly for work performed during the previous two-week period. A **minimum daily labor charge** of **$1,400** applies. Any technician time exceeding **twelve (12) hours per day** shall be billed at **$135.00 per additional hour.**
- **Belt Damage:** In the event any belts are damaged or contaminated to the extent that they are rendered unusable, **Lessee shall be responsible for payment of $5,800.00 per set.**
- **Emergency Belt Sets (if applicable):** Each emergency belt set is billed at $5,800.00. If unopened and unused, belts may be returned for a refund, less a 20% restocking fee. Refunds are subject to inspection and approval by Aspen Rentals.
- **Specialty Belts:** Charges for non-standard or specialty belt types will be determined and invoiced on a **case-by-case basis**, depending on usage and availability.
- **Cleaning Charges:** A cleaning fee of up to **$2,500.00 per press** may be invoiced if the equipment is returned in a condition that requires post-rental cleaning by Aspen Rentals personnel.

****** Please see following tables for agreed upon equipment requested and pricing that was agreed upon***

"Equipment Rates"

***** Prices are per month, per unit** ** Rental Prices are billed Portal to Portal***

Pricing for Rental Unit For 12 hour/Day	Units	Select	Market Price per unit
Belt Press(es)	1	☒	$16,000
Centrifuge(s)	0	☐	$14,500
GBT(s)	0	☐	$12,000
Optional Ancillary Equipment	**Units**	**Select**	**Price**
4" Skid Mounted Filtrate Pump w/VFD	0	☐	$2,560
4" Positive Displacement Pump	0	☐	$3,870
6" Skid Mounted Filtrate Pump w/VFD	0	☐	$2,900
Submersible Electric Pump	0	☐	$2,560
40' Belt Conveyor w/Stand and Electrical Controls	0	☐	$3,175
Automated Emulsion Polymer Make Down System	0	☐	$2,070
Polymer Tank and Mixer Make Down System	0	☐	$2,070
15 GPM Polymer Dosing Pump w/VFD and Stand	0	☐	$1,800
50 GPM Polymer Dosing Pump w/VFD and Stand	0	☐	$2,070
In Line Grinder w/VFD Skid	0	☐	$3,175
4" Camlock, 25'Hose (4 hoses come w/each rental)	0	☐	$120
2" Camlock, 25'Hose (2 hoses come w/each rental)	0	☐	$95
¾" Camlock, 25'Hose	0	☐	$60
Total Monthly Charges	**$16,000**		

"Technician Rates"

Technicians	
Daily Rate – 12 hours	$1,400/man/day
Holiday Rate – 12 hours	Double time
Additional hours over 12	$135/hr
Shop Rate	$91.66/hr
Prevailing wages	To be determined by location
Standby Rate	To be determined by job
Technicians swap out rate	$2,500 (One Time Charge per Event)
	** Technician times are billed Portal to Portal

"Transportation Rates"

Mobilization/Demobilization Rate	
Mobilization to jobsite	Based on rate +20% at time of move
Demobilization from jobsite	Based on rate +20% at time of move

****Lessee has option to waive Aspen Rentals transport and schedule transportation at their own cost*

Aspen Rentals to arrange transportation ☒ ***Lessee will arrange transportation*** ☐

ACCEPTED BY:

Printed Name and Title:

_____

Signature_____ Date: _____

****** Purchase Order shall be issued by lessee for each job based on these accepted rates.***

P.O. # assigned _____



Or similar unit (Trailer or Skid mounted) to be determined

ASH-2008 2.2 M Ashbrook (Skid Press)

- Stainless Steel Catwalks
- Standard Gravity Zone
- Pumps and press have electronic VFD controls.
- Automated emulsion Polymer make down system.
- 4″ Sludge Feed pump
- 12′ extension for Conveyor cake discharge (20′ overall)
- Comes with its own step deck trailer for low profile or trailer mounted applications.
- 11′ 11″ Wide x 48′ Long x 13′ Height
- Weight: 49,000 lbs.
- BP-4400 Trailer: Year-1999, Make/Model-TALB
- VIN#-40FL04821X1018728
- License Plate-121C305
- Note: Belts will be in good condition.
- Aspen will provide a minimum of 50’ of SO cord.
- Aspen will provide (4) 4” Hoses, 25’ Long Each (100’ Total) for sludge feed.
- Aspen will provide (2) 2” Hoses, 25’ Long Each (50’ Total) for water.

Section 5: EXECUTION OF CONTRACT AGREEMENT

By executing this Agreement, the undersigned acknowledges that they have read, understood, and agreed to be bound by all terms and conditions set forth herein, including those contained in the attached Standard Terms and Conditions and the “Entire Agreement” section appearing on the final page of this document.

Lessee:

Please Sign:

Please Print:

Title:

Date: / /

Lessor: Aspen Rentals, Inc.

Please Sign:

Please Print: Christian Martinez

Title: Sales Engineer

Date: / /

Please submit the following items with the executed contract:

- Proof of Insurance
- Tax Certificate (if applicable)

STANDARD TERMS

1. This Agreement shall commence on the date the unit departs from Lessor's facility in Angleton, Texas, **subject to Lessor's written or expressed approval** (the "Commencement Date"), and shall expire upon return and acceptance of the unit at Lessor's facility in Angleton, Texas (the "Expiration Date").

2. Lessee may request a renewal or extension of the rental term by notifying Lessor at least **ten (10) calendar days** prior to the Expiration Date. Any such renewal shall be subject to Lessor's sole discretion. If granted, all terms and conditions of this Agreement shall remain in full force and effect, and rental charges shall continue to accrue on a **daily or weekly prorated basis**, calculated by dividing the applicable monthly rate by thirty (30), unless otherwise agreed in writing.

3. In the event of any renewal or extension, Lessee agrees to promptly pay all sums invoiced by Lessor in accordance with the extended term and reaffirms that all provisions of this Agreement shall remain binding and enforceable without the need for further execution or amendment.

DELIVERY AND INSTALLATION

Upon the Commencement Date, **Lessee shall be solely responsible**, at its own cost and risk, for transporting the unit to the project site. Lessee shall likewise be responsible, at its sole expense, for returning the unit to Lessor's designated facility in Angleton, Texas **no later than the Expiration Date or the final day of any approved extension period**.

Unless otherwise agreed in writing, Lessor shall not be responsible for installation, removal, or transport of the unit. Any delays, damages, or additional charges arising from Lessee's failure to timely return the unit may result in additional fees as set forth herein or invoiced separately.

RENTAL RATES, LATE CHARGES, AND COSTS

1. **Rental Commencement and Billing**
   Lessee agrees to remit payment to Lessor for the rental of the unit and any ancillary equipment selected in this Agreement (collectively referred to herein as the "Equipment"). Rental shall commence on the date the unit departs from Aspen Rentals' facility and shall continue until the unit is returned to and accepted by Aspen Rentals at its Angleton, Texas facility, following completion of inspection. Inspections shall be performed promptly upon return. The **first month's rent and all mobilization charges are due prior to shipment.** The **second month's rent shall be invoiced upon shipment of the unit.**
2. **Method of Payment**
   All payments shall be made by Lessee in the form of certified funds or electronic payment. **ACH transfer is the preferred method of payment.**
3. **Late Charges and Enforcement Rights**
   a) Lessee expressly authorizes Lessor to (i) assess interest on any past due balances at the rate of **twelve percent (12%) per annum**, or the maximum rate allowed by applicable law, whichever is less; (ii) contact Lessee's bank(s) and trade references to obtain credit information; and (iii) rely upon Lessee's acceptance of Lessor's terms and conditions as binding.
   b) All outstanding amounts due to Lessor must be paid in full **prior to pickup of the unit** for return.
   c) In the event of damage charges exceeding any deposit or prepaid amount, **rental charges shall continue to accrue** until all outstanding balances are paid in full.
   d) Lessor retains the right to enter any project site where its unit or Equipment is in use for the purpose of shutting down operations due to **unsafe conditions**, **late payment**, or **non-payment**, without liability, provided such access is conducted in a safe and commercially reasonable manner.
4. **Technician Training Requirement**
   Lessee agrees that any technician engaged to operate the unit shall be properly and thoroughly trained in its operation and safe use. Lessor shall not be liable for any damages, losses, or injuries arising from operator error or inadequate training provided by Lessee.
5. **Sales Tax Exemption**
   If Lessee asserts exemption from sales tax, Lessee must furnish a valid exemption certificate at the time of contract execution. **Failure to provide such documentation shall result in Lessee being fully liable for all applicable state and local sales taxes.**
6. **Unit Selection**
   Lessee shall refer to **Section 4** of this Agreement for a list of selected Equipment. Only the Equipment specifically selected and listed shall be included in the rental. **All other items are deemed optional and are available upon separate request and approval.**

OPTIONAL SERVICES

7. **Optional – Belt Press Technician Services**
   If requested, Aspen Rentals provides field technicians at the following rates and terms:

   - A **minimum daily rate per technician, per shift** applies. A "shift" is defined as any period up to **twelve (12) hours**. A 24-hour period constitutes two shifts.
   - Technician time is calculated **port-to-port**, beginning when the technician departs from Aspen Rentals and ending upon return.
   - Services are charged **seven (7) days per week**, per technician, per shift.
   - **Holiday shifts** are billed at **double the standard daily rate**. Recognized holidays include all **U.S. federal holidays**.
   - The daily rate includes all time spent on-site, in transit, on standby, and covers lodging, meals, vehicle use, and per diem.
   - **Airfare, if required, is billed at cost plus 20%.**
   - Technicians are provided **subject to availability**.
   - Technicians will arrive equipped with standard personal protective equipment (PPE), including hard hats, steel-toe boots, high-visibility vests, and safety glasses. **Any additional safety gear, certifications, training, or insurance requirements will be billed to Lessee at cost plus 20%.**

8. **Optional – Transportation Services**
   a) **Mobilization and demobilization services** are available through Aspen Rentals using third-party carriers. These services are billed at **cost plus a 20% markup**.
   b) Lessee may elect to coordinate transportation independently using a carrier with **verified and acceptable insurance coverage** to avoid the 20% markup.
   c) Lessee must provide **ten (10) days' written notice** of demobilization to avoid additional rental charges caused by delay or holiday-related transport constraints.
   d) **Mobilization and demobilization charges are due Net 30** from the date of the respective invoice.
   e) Transportation quotes remain valid for **fourteen (14) calendar days** from the date of this Agreement.

If Lessee elects to handle demobilization independently, Lessee assumes full responsibility for all associated costs and liabilities, including but not limited to:

- Tire damage or replacement
- Permits and regulatory compliance
- DOT violations or citations
- Fines, tickets, and demurrage fees
- Crane rental fees (if required)

TILE TO "EQUIPMENT"

1. **Ownership of Equipment**
    - Lessee acknowledges and agrees that the unit and all ancillary equipment provided under this Agreement (collectively, the "Equipment") shall at all times remain the sole and exclusive property of Lessor. Nothing in this Agreement shall be construed as conveying to Lessee any right, title, or interest in or to the Equipment, except for the limited right of use expressly granted herein and subject to the terms and conditions of this Agreement.
2. **Waiver of Liens and Claims**
    - By executing this Agreement, Lessee expressly acknowledges Lessor's full ownership of and title to the Equipment, and hereby waives, releases, and disclaims any and all lien rights, encumbrances, or other claims or interests of any nature in or to the Equipment, whether arising by statute, contract, or otherwise
3. **Authority to Rent**
    - Lessor represents and warrants that it holds all rights, titles, and interests necessary to lease the Equipment to Lessee pursuant to the terms and conditions of this Agreement, and that such lease will not infringe upon or violate any third-party rights

REMOVAL, INSPECTION, AND RETURN

1. **Restrictions on Relocation and Inspection Rights**
   The unit and all ancillary Equipment shall not be removed from the initial installation location without the prior written consent of Lessor. Lessee shall grant Lessor, its agents, and representatives reasonable access to the project site and to all rented Equipment at any time for the purpose of inspection, examination, or assessment of the Equipment's condition or use.
2. **Right to Remove and Shut Down Equipment**
   Lessor reserves the right to **shut down or remove** any Equipment from Lessee's site under the following circumstances:
    - More than **ten (10) calendar days** have passed since Lessee was provided written notice of late payment;
    - The contractual **Expiration Date**, or any approved extension thereof, has lapsed and the Equipment has not been returned; or
    - Lessee is in **default** under any term of this Agreement.

In such cases, Lessor may, without further notice or liability, access the project site to **safely deactivate and retrieve the Equipment**. Lessee shall remain liable for all **accrued rent, late charges, and per diem charges** until the Equipment is returned or recovered. While in Lessee's possession, Lessee shall maintain the Equipment in a **safe and operable condition** pending return or removal

3. **Cleaning and Decontamination Requirements**

Lessee shall be solely responsible for **fully decontaminating and cleaning the Equipment** prior to its return to Lessor. All cleaning and decontamination must comply with all applicable **U.S. Department of Transportation (DOT)** and **Environmental Protection Agency (EPA)** regulations concerning the transport and cleanliness of industrial equipment and waste-handling trailers.

4. **Return Condition and Damage Assessment**
   Prior to returning the Equipment, Lessor shall have the right to inspect the Equipment for proper decontamination, cleaning, and damage. **If Equipment is damaged, other than routine wear is found, Lessee shall immediately be financially liable to Lessor for all parts and labor necessary to restore the Equipment to its pre-rent condition.** The listed price of the belts above is set for the term of this contract. There will be an adjustment to this price (in writing) if the specifications for the type of belt or material changes during the term of this contract. The existence and extent of damage and the necessity of repair and/or replacement of the Equipment and belts shall be at Lessor's sole discretion.

INDEMNITY AND LIMITATION OF LIABILITY

1. **Lessee Indemnity**
   To the fullest extent permitted by law, **Lessee shall defend, indemnify, and hold harmless Lessor**, its officers, directors, employees, agents, and affiliates, from and against any and all claims, demands, causes of action, damages, losses, liabilities, costs, and expenses (including reasonable attorneys' fees and court costs) arising out of or related to:

   - Lessee's use, operation, or possession of the unit or Equipment;
   - Lessee's presence and activities at the project site; or
   - Any negligent act or omission of Lessee, its employees, subcontractors, or agents; except to the extent caused by the **negligence or willful misconduct** of Lessor.

2. **Lessor Indemnity**
   To the extent permitted by law, **Lessor shall defend, indemnify, and hold harmless Lessee**, its officers, directors, employees, agents, and affiliates, from and against any claims, demands, damages, or liabilities arising out of bodily injury or property damage **caused solely by the negligence or willful misconduct of Lessor**, and not contributed to by any act or omission of Lessee or its representatives.

3. **Limitation of Liability**
   Notwithstanding anything to the contrary in this Agreement, **in no event shall either Party be liable to the other for any incidental, consequential, punitive, special, or exemplary damages**, including but not limited to loss of profits, business interruption, or loss of use, whether arising in contract, tort, strict liability, or otherwise—even if such damages were foreseeable or either Party was advised of the possibility thereof.
   Each Party's total liability under this Agreement shall be limited to **actual direct damages**, and in the case of Lessee, shall not exceed the replacement or repair cost of

the damaged unit or Equipment.
To the extent permitted by law, any statutory remedies inconsistent with the terms of this section are hereby expressly waived.

4. **Regulatory Compliance – Onsite Equipment**
Where any **skid-mounted belt press or Equipment is maintained or operated on a trailer at the project site**, Lessee assumes full responsibility for ensuring that the use, access, and maintenance of such Equipment complies with all applicable **Occupational Safety and Health Administration (OSHA)** and **Mine Safety and Health Administration (MSHA)** regulations.
This includes, without limitation, compliance with safety requirements related to:

   - Guardrails and fall protection;
   - Enclosures and access points;
   - Electrical safety and grounding;
   - Proper tie-off and fall arrest systems.

   Lessor shall have no obligation to inspect or monitor regulatory compliance at the project site, and any failure by Lessee to adhere to such standards shall constitute a material breach of this Agreement.

OPERATION, MAINTENANCE, AND REPAIR

1. Lessee shall comply with and conform to all Municipal, State, and Federal laws, including without limitation all environmental laws, relating to maintenance, operation, and repair of the Equipment. Lessee shall maintain the Equipment in good condition and running order at all times during the term of this Agreement and any extensions thereof but shall not be responsible for normal wear and tear, save and except filter belts and damage caused by Lessee's operations, for which Lessee shall be responsible.
2. Routine maintenance of this unit is the sole responsibility of Lessee. Specifically, Lessee shall be responsible for washdowns, lubrication, and operational inspections.
    a. Following the first 72 hours of operational run time of units Lessee will fill out a Customer Belt Press Acceptance Checklist (Page 16 of this Rental Agreement) outlining any issues with the press. Aspen will then address those issues. This form will be returned to Sales@apen-rentals.com. If no form is sent within 72 hours of runtime it will be understood that there are no issues.
    b. Following the initial 72 hour run time period all maintenance and parts will be the responsibility of the Lessee.
3. If damage is caused by Lessee, Lessee will be responsible for repair costs. Examples of possible damage by Lessee would include electrical spike, overloading and stretching belts, not performing greasing of bearings as directed.
4. All additions, attachments, accessories, and repair parts at any time placed in or on the Equipment shall be purchased by Lessee from Lessor and shipped the next day to Lessee's location for immediate repair to facilitate limited downtime for repairs.
5. Lessee agrees and understands that the Equipment shall only be used on non-hazardous sludge. Lessee further acknowledges and confirms that Lessee is responsible for damage to the filters or rollers if damaged by overloading.

RISK OF LOSS AND INSURANCE

1. All risk or loss or damage of the Equipment shall be borne by Lessee from and including the arrival date of this Equipment on Lessee's property through and including the exiting Lessee's property.
2. In the event that the Lessee arranges, contracts and/or provides transportation for the listed Equipment, it will be the Lessee's responsibility to ensure that all suitable insurance, as defined by attached rider specifications, is in place from the date the Equipment leaves Lessor's property to the time that it is returned to the Lessor's property at the end of the term of this contract.
3. At all times upon arrival of the Equipment at the project location, Lessee shall have and maintain insurance with respect to the Equipment against risks of casualty, for (including so-called extended coverage), theft, and all other insurable risks, in the amounts specified Exhibit "A" attached hereto and incorporated herein by reference. All such policies shall name the Lessor as an additional insured as respects liability arising for work or operations performed by or on behalf of Lessee (excluding Workers' Compensation/Employer's Liability coverage), but only to the extent losses are caused by: (1) operations performed by or on behalf of the named insured, and (2) Lessee's negligence or willful act or

omission. Lessee shall deliver to Lessor a certificate of insurance, the policies themselves, or other evidence of insurance satisfactory to Lessor on or before the Commencement Date. Lessee covenants and warrants not permitting such insurance to lapse and, should such a lapse occur, to promptly notify Lessor and reinstate such insurance coverage.

DAMAGE, DESTRUCTION, OR THEFT

If Equipment is damaged by acts of God, vandalism, or theft while on the project site; Lessee will file insurance claim and Lessee agrees to continue to pay the amounts set forth in Section 6. In every such instance, Lessor will reimburse Lessee for the cost of repair to the extent Lessor recovers any insurance proceeds covering such damage. In the event the Equipment is destroyed, stolen, or damaged beyond repair, Lessee shall forthwith pay to Lessor the agreed upon replacement value for the Equipment less (a) the salvage value, if any, of the Equipment, and (b) any insurance proceeds received but Lessor. The parties hereto agree that the replacement value of the Equipment during the term of this Agreement and any extension or renewal period that is specified in Section 18, Article #2 of this contract.

ASSIGNMENT AND SUBRENT BY LESSEE

Lessee may not assign the Agreement or sub rent the Equipment without the prior written consent of Lessor. In the event Lessor consents to any such assignment or subletting, such assignment or subletting shall not relieve Lessee of its obligation under this Agreement unless otherwise agreed to by Lessor in writing.

ASSIGNMENT BY LESSOR; RIGHTS OF ASSIGNEE

The Lessor shall have the right to sell or assign this Rental Agreement, including its rights, title, and interest to the Equipment and the rent and other charges reserved herein, without notice to or the consent of Lessee. In the event of any such assignment by the Lessor, the Lessee acknowledges that the assignee shall there upon acquire all of the rights and remedies possessed by or available to the Lessor. Upon receiving written notice of any such assignment, the Lessee shall thereafter make rental payments as therein directed.

EVENTS OF DEFAULT AND REMEDIES

1. The following events shall be deemed to be events of default by the Lessee under this Agreement:
   a) Lessee shall fail to pay any installment of the rent or any of the other amounts owing under Section 6 when due and payable, and such failure shall continue for a period of thirty (30) days.
   b) Lessee fails to comply with any other term, provision, or covenant of this Rent Agreement and does not cure such failure within thirty (30) days after receipt of written notice thereof by the Lessor.
   c) A change of control within Lessee occurs. For purposes hereof, the term "Change in Control" shall be deemed to occur if (1) there shall be any sale, lease, exchange, or other transfer (in one transaction or a series of related transactions) of all, or substantially all, of the assets of the Lessee, or (2) the directors or partners of any entity of the Lessee shall approve any plan or proposal for liquidation or dissolution of the Lessee, or (3) any person shall become the beneficial owner of 51% or more of the outstanding interests of any entity of the Lessee other than those persons who are, as of the date of this Agreement, beneficial owners of any entity of the Lessee.
   d) Lessee becomes insolvent or unable to meet its obligations as they mature, make a general assignment for the benefit of creditors, or consent to the appointment of a trustee or a receiver, or admit in writing its ability to pay its debts as they mature.
   e) The appointment of a trustee or receiver for the Lessee or for a substantial part of the properties of the Lessee without the consent of the Lessee.
   f) The commencement of bankruptcy, reorganization, arrangement, insolvency, or liquidation proceedings by or against the Lessee and, if instituted against it, the same being consented to by the Lessee or remaining undismissed for a period of ninety (90) days.
2. Under the occurrence of any event(s) of default, the Lessor shall have the right to declare the balance of the rental and other charges payable hereunder to be immediately due and payable and shall have the immediate right to retake and retain the Equipment. Lessor shall further have any and all other rights afforded to it by law or at equity. Lessee and each surety, endorser, and guarantor, if any, waive all demand for payment, notice of intention to accelerate maturity, notice of acceleration of maturity, protest, and notice of protest, to the extent permitted by law. In the event a lawsuit is necessary to enforce and protect Lessor's rights and interest under his Agreement, Lessee agrees to pay Lessor's attorneys' fees and legal costs.

SUCCESSORS, HEIRS, AND ASSIGNS

The terms, provisions, covenants, and conditions contained in this Rent Agreement shall apply to, inure to the benefit of, and be binding upon the parties hereto and upon their respective heirs, representatives, successors, and permitted assigns except as otherwise expressly provided.

CHOICE OF LAW AND JURISDICTION

In the event of a dispute regarding the terms, provisions, construction, or enforcement of this Agreement, the parties agree that Texas law shall apply, and Lessee hereby submits itself to the sole jurisdiction of courts in Comal County, Texas, for purposes of resolving such a dispute.

ASPEN RENTALS INSURANCE REQUIREMENTS FOR LESSEE

1. **Comprehensive General Liability**
    a. With limits not less than:
        - Bodily injury
            - $1,000,000.00 any one occurrence
            - $1,000,000.00 aggregate
        - Property damage
            - $1,000,000.00 aggregate
    b. Including the following:
        - Contractual liability applying to the liability assumed by the Lessee under this contract.
        - Projects/Completed Operations Coverage
        - Lessee's Protective Liability, insuring work sub-let.
        - Personal Injury.
        - Lessor shall be included as an additional insured.
2. **Property Equipment Coverage for the unit and conveyor**
        - Coverage for the rental "Equipment" of $550,000.00 (per unit) for primary Equipment.
        - Coverage for the rental "Equipment" of $25,000.00 (per unit) for portable pumps.
        - Coverage for the rental "Equipment" of $25,000.00 (per unit) for polymer systems.
        - Coverage for the rental "Equipment" of $35,000.00 (per unit) for stacking conveyor.
3. **Workers' Compensation**
    a. Statutory requirement for State in which work is performed.

Employer's Liability with $100,000.00 limits.

ENTIRE AGREEMENT

This instrument contains the entire Agreement between the parties. This Agreement may not be amended, altered, or changed except by an instrument in writing signed by both parties hereto.

Per OPERATION, MAINTENANCE, AND REPAIR (Section 2a on Page 12) This document must be signed and returned to Sales@Aspen-rentals.com once the unit has been run for 72 hours once startup operation has begun.

Customer Belt Press Acceptance Checklist

This checklist is provided for our customers to inspect the belt press for all items that were shipped with the belt press. You will have 72 hours from delivery of belt press to your project site to inspect the press to determine that all items shipped were actually received. Failure to return this form within 72 hours will constitute acceptance on your behalf that all items that were shipped with the belt press, were received, and accounted for on delivery.

Customer: _____ Location: _____
Unit - _____ Employee:_____
Date: _____ Signature: _____

Checklist:

- ☐ 100’ of 4” Hose #_____
- ☐ 50’ of 2” Hose #____
- ☐ Belts in good repair
- ☐ Sludge Pump operational
- ☐ Boost water Pump operational
- ☐ Paddles Tied (Remove them)
- ☐ Tire Pressure (All tires checked)
- ☐ Landing Gear operational
- ☐ Auger Assembly operational
- ☐ Auger extension received
- ☐ Polymer System operational
- ☐ Handrails # _____
- ☐ Catwalks operational.
- ☐ Belt Motor operational.
- ☐ Visibly Inspected Tires & Hubs
- ☐ Control Panel operational

Any additional Equipment sent with Unit:

_____

_____

_____

Comments:_____

_____

_____

EXHIBIT "B"
SCHEDULE OF SERVICES

March 1, 2026 – March 1, 2027

EXHIBIT "C"
COMPENSATION

Not to Exceed One Hundred Twenty-Five Thousand Dollars and No Cents ($125,000.00)

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Andrew Simmons, P.E., Public Works Director/City Engineer

SUBJECT: Award Amendment No. 3 to Vintage Associates, Inc for Landscape Maintenance Services for Grapefruit Blvd Medians and Parkway Project No. 121421; increasing term of agreement by one-year and compensation by $73,934.12.

STAFF RECOMMENDATION:

Award Amendment No. 3 to Vintage Associates, Inc for Landscape Maintenance Services for Grapefruit Blvd Medians and Parkway Project No. 121421; increasing term of agreement by one year and compensation by $73,934.12.

EXECUTIVE SUMMARY:

The City published a Request for Proposals ("RFP") for Landscape Maintenance Services for Grapefruit Blvd Medians and Parkway. This RFP closed on January 12, 2022 and in February 2022 was awarded to Vintage Associates, Inc. The original award was for a two-year term for $135,240.00 and allowed for two additional one-year terms with annual increases based on Consumer Price Index (CPI). On June 12, 2024, Council awarded Vintage Associates, Inc Amendment No. 1 increasing their term for one additional year. On March 12, 2025, Council authorized Amendment No. 2 increasing their term for one additional year through February 2026.

Staff recommends to award Amendment No. 3 extending the term of the agreement for the second one-year term extension; CPI from January 2025-January 2026 was 3%. This additional one-year term extension would increase the contract amount by $73,934.12 (includes a 3% CPI increase); the new total compensation for the five year contract would now reflect a total not to exceed amount of $348,574.82.

FISCAL IMPACT:

The recommended action will not have a fiscal impact as it is budgeted in the existing budget.

ATTACHMENTS:

1. Amendment No. 3

Amendment No. 3 to the Maintenance Services Agreement Between the City of Coachella and Vintage Landscape Project No. 121421

1. Parties And Date.

This Amendment No. 3 to the Maintenance Services Agreement ("Amendment No.3") is made and entered into this 28th day of January, 2026 by and between the City of Coachella ("City") and Vintage Landscape, ("Contractor"). City and Contractor are sometimes individually referred to as "Party" and collectively as "Parties" in this Amendment No.3.

2. Recitals.

2.1 Agreement. City and Contractor entered into that certain Agreement for Landscape Maintenance Service for Grapefruit Blvd Median and Parkway Project No. 121421 ("Agreement"), entered into on February 9, 2022 and Amended for the first time on June 12, 2024.

2.2 Amendment. On or about March 12, 2025, the City and Contractor entered into Amendment No. 2.

2.3 Amendment. City and Contractor desire to amend the Agreement for the third time to amend the term of the Agreement as set forth in this Amendment No. 3.

3. Amendments.

3.1. Compensation. Section 3.1.2 and 3.3.1, of the Agreement are hereby deleted in their entirety and replaced with the following:

> 3.1.2 Term. The term of the Agreement shall be from February 14, 2022 to February 13, 2027, unless earlier terminated as provided herein. The City shall have the unilateral option. Contractor shall complete the Services within the term of the Agreement, and shall meet any other established schedules and deadlines. The Parties may be mutual written consent extend the term of this Agreement if necessary to complete the Services
>
> 3.3.1 Compensation. Contractor shall receive compensation, including authorized reimbursements, for all Services rendered under this Agreement at the rates set forth in Exhibit "C" attached hereto and incorporated herein by reference. The total compensation shall not exceed **Three Hundred Forty-Eight Thousand Five Hundred Seventy-Four Dollars and Eighty-two cents ($348,574.82) without written approval of City's City Council**. Extra Work may be authorized, as described below, and if authorized, will be compensated at the rates and manner set forth in this Agreement.

3.2 Exhibit C. Exhibit C are hereby deleted and replaced with a revised Exhibit C attached hereto.

3.3 Continuing Effect of Agreement. Except as amended by this Amendment No.3, all

provisions of the Agreement shall remain unchanged and in full force and effect. From and after the date of this Amendment No.3, whenever the term "Agreement" appears in the Agreement, it shall mean the Agreement as amended by this Amendment No.3.

3.4 Adequate Consideration. The Parties hereto irrevocably stipulate and agree that they have each received adequate and independent consideration for the performance of the obligations they have undertaken pursuant to this Amendment No.3.

3.5 Counterparts. This Amendment No.3 may be executed in duplicate originals, each of which is deemed to be an original, but when taken together shall constitute but one and the same instrument.

IN WITNESS WHEREOF, the parties have executed this Amendment. No. 3 as of the date first written above.

THE CITY OF COACHELLA

By:
_____
William B. Pattison, Jr.
City Manager

Attest:

_____
City Clerk

Approved as to Form:

_____
BB&K, City Attorney

VINTAGE LANDSCAPE

By:_____

EXHIBIT "C"

COMPENSATION

- Monthly = $5,357.55
- Annual = $64,290.54 + 15% contingency = NTE $73,934.12
- Five Year Term NTE = $348,574.82

CITY OF COACHELLA, CA
COMMUNITY BASED GRANT PROGRAM
APPLICATION FOR FUNDS REQUEST

Please Type Information and Print
Information entered in the provided spaces cannot be saved.

(Attach additional pages as needed, however applicants are encouraged to be brief.)

1. **Application Funding Cycle:** **Date:** 1/13/2026

   July 1, 2025 **- June 30, 20**25

2. **Total Amount Requested:** **$** 1,000

   If requesting waiver of City fees or charges, please indicate the City service for which the waiver is being requested. None

3. **Proposed Program/Service of Funding Request:**

   Coachella little Arabs funding for program

4. **Agency/Organization:**
   Coachella Little Arabs
5. **Mailing Address:**
   85190 Avenida Reforma
   City: Coachel **Zip:** 92236
6. **Telephone:** (760) 641-2386

   Fax:

7. **Official Contact Person:**
   Name: Adan rodriguez

   Title: President

   Telephone: (760) 641-2386

   Fax:

   E-mail: Coachellayouth2025@gmail.com

8. **Does this organization have a non-profit status with the Internal Revenue Service (IRS)?**
   Yes ☐ No ☐ (Attach documentation)

9. **How long has this organization been in existence?**
   Program has been around for over 15 years now

10. **Has the organization previously received funding from the City of Coachella?**
    ☐ Yes ☐ No
    If yes, please identify the program/service, total prior grant allocation, and the fiscal year in which the funds were received.
    I believe we got a sponsorship for $1,500 in 2024

11. **Is this request for a ☐ New or ☐ Existing program/service within the City?**

12. **What is the anticipated time frame to provide the proposed program/service and the expenditure of the requested funds?**
    Our season went from the month of June all the way to the month of December with one of our teams, competing in nationals in Florida

13. **Describe briefly how the requested funds will be used.**
    Sponsorship will be used for also potentially sponsoring kids who will be needing help this year Field equipment refurbishing of Helmets.

14. **Will the program/service require additional funding sources? If so, identify all funding sources and provide the steps taken to acquire funding.**
    Are fees and fundraising will help with cause for the remaining season

15. **If the program/service is planned to continue beyond the period provided by this grant, what funding plans are there to sustain the program/service?**
    We will be fundraising throughout the season to keep up with expenses, if season is extended, we will need more fundraising

16. **How will the proposed program/service serve City of Coachella residents? Will the proposed program/service also serve non-Coachella residents? Please describe.**
    Our football program is committed to the City Of Coachella and we always try to recruit kids within our area. Like all middle school schools in Coachella all elementary schools

17. **Describe the characteristics of the clients the proposed program/service anticipates to serve (i.e. age group, gender, income level, ethnicity, etc.)**
    Our troops are from the age of nine to the age of 13 middle class income, mostly Hispanic families that live in the eastern side of the valley

18. **Attach a proposed budget for requested funds.**

Authorized Official: Adan Rodriguez **Title:** President

Signature: Adan Rodriguez **Date:** 01/12/2026

Department of the Treasury
Internal Revenue Service
Tax Exempt and Government Entities
P.O. Box 2508
Cincinnati, OH 45201

Date:
05/20/2025
Employer ID number:
33-3632545
Person to contact:
Name: Mrs. Harbin
ID number: 0777240
Telephone: 877-829-5500
Accounting period ending:
December 31
Public charity status:
170(b)(1)(A)(vi)
Form 990 / 990-EZ / 990-N required:
Yes
Effective date of exemption:
February 24,2025
Contribution deductibility:
Yes
Addendum applies:
No
DLN:
26053485006925

COACHELLA LITTLE ARABS
C/O ADAN RODRIGUEZ
85190 AVENIDA REFORMA
COACHELLA, CA 92236

Dear Applicant:

We're pleased to tell you we determined you're exempt from federal income tax under Internal Revenue Code (IRC) Section 501(c)(3). Donors can deduct contributions they make to you under IRC Section 170. You're also qualified to receive tax deductible bequests, devises, transfers or gifts under Section 2055, 2106, or 2522. This letter could help resolve questions on your exempt status. Please keep it for your records.

Organizations exempt under IRC Section 501(c)(3) are further classified as either public charities or private foundations. We determined you're a public charity under the IRC Section listed at the top of this letter.

If we indicated at the top of this letter that you're required to file Form 990/990-EZ/990-N, our records show you're required to file an annual information return (Form 990 or Form 990-EZ) or electronic notice (Form 990-N, the e-Postcard). If you don't file a required return or notice for three consecutive years, your exempt status will be automatically revoked.

If we indicated at the top of this letter that an addendum applies, the enclosed addendum is an integral part of this letter.

For important information about your responsibilities as a tax-exempt organization, go to www.irs.gov/charities. Enter "4221-PC" in the search bar to view Publication 4221-PC, Compliance Guide for 501(c)(3) Public Charities, which describes your recordkeeping, reporting, and disclosure requirements.

Sincerely,

Stephen A. Martin
Director, Exempt Organizations
Rulings and Agreements

Coachella Little Arabs

C/O Adan Rodriguez

85190 Avenida Reforma
Coachella, CA 92236

City of Coachella Request

Line Item Description	Line Item Explanation	Request	Line Item Total
Equipment-Helmets	Safety helmets ($120 ea. X 5 helmets)		$600
Equipment Shoulder Pads	Shoulder pads for players ($55 ea. X 10 sets)		$550
		Total Project Cost	**$1,150.00**

Evidence of Leveraging

From: Adan Rodriguez
To: Mary Rodriguez
Subject: Fwd: Sponsorship Confirmation Letter
Date: January 21 26 8:42:49 AM

---------- Forwarded message ---------
From: **Michael Davitt** <michael@electricalsolutions4you.com>
Date: Wed, Jan 21, 2026 at 8:39 AM
Subject: Sponsorship Confirmation Letter
To: Adan Rodriguez <adanrodriguez1310@gmail.com>

To Whom It May Concern,

This letter is to confirm that Electrical Solutions is a proud sponsor of the Coachella Valley Little Arabs Youth Football Program. Electrical Solutions has contributed a sponsorship donation in the amount of $1,000.00 in support of the organization and its youth athletic programs.

We are honored to support local youth sports and community development through this sponsorship.

If you have any questions or require additional information, please feel free to contact me directly.

Sincerely,

Michael Davitt, Owner

Electrical Solutions

C-10 License #973887

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Mary Rodriguez, Grants Manager

SUBJECT: Authorize a Community-Based Grant to Coachella Valley Little Arabs in the Amount of $1,000 to Support their Youth Football Program

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STAFF RECOMMENDATION:

Staff recommends that the City Council consider awarding a Community-Based Grant to the Coachella Valley Little Arabs to support their youth football programming in the amount of $1,000 for the purchase of equipment refurbishment, participant sponsorships, and end-of-season activities.

BACKGROUND:

The Community Based Grant Program was established in 2010 and allows the City of Coachella to offer financial assistance to local nonprofit organizations, schools, youth-serving organizations, and other community-based organizations that provide essential services, programs and activities to residents in Coachella. Applicant organizations are only eligible to submit one application for consideration each fiscal year and must be legally established with non-profit or tax-exempt status, be based in the Coachella Valley, or provide direct service to Coachella residents. The FY 25-26 budget includes an allocation of $15,000 for the Community Based Grant Program.

DISCUSSION/ANALYSIS:

Coachella Valley Little Arabs is a community-based youth football organization committed to serving children ages 9 to 13, primarily from middle-income Hispanic families residing on the eastern side of the Coachella Valley. The program actively recruits youth from City of Coachella elementary and middle schools and prioritizes participation from local residents.

The organization's football season typically runs from June through December. During the most recent season, one of the organization's teams achieved a historic milestone by qualifying for the National Championships in Florida, reflecting the program's positive youth development outcomes and community impact. Requested grant funds will be used to sponsor youth participants in need, refurbish and replace essential field equipment, and support end-of-season awards. Specifically, funding would assist with the purchase of safety equipment, including

helmets and shoulder pads, as well as support fundraising efforts necessary to sustain the remainder of the season. Helmets are estimated at approximately $120 per unit, with a need for five new helmets, and shoulder pads are estimated at $55 per unit, with a need for ten new sets.

The organization plans to sustain the program beyond the grant period through continued fundraising efforts and community sponsorships, including private contributions such as a documented $1,000 sponsorship from Electrical Solutions.

ALTERNATIVES:

1. Authorize a Community-Based Grant to the Coachella Valley Little Arabs in the amount of $1,000.

2. Do not authorize a Community-Based Grant to the Coachella Valley Little Arabs.

FISCAL IMPACT:

Should the City Council approve the staff recommendation, the Community-Based Grant Program account will be reduced by $1,000.

ATTACHMENT(S):

Coachella Valley Little Arabs Grant Application Packet

CITY OF COACHELLA, CA
COMMUNITY BASED GRANT PROGRAM
APPLICATION FOR FUNDS REQUEST

Please Type Information and Print
Information entered in the provided spaces cannot be saved.

(Attach additional pages as needed, however applicants are encouraged to be brief.)

1. **Application Funding Cycle:** **Date:** 12/10/2025

   July 1, 20 25 **- June 30, 20** 26

2. **Total Amount Requested:** $ 1,000

   If requesting waiver of City fees or charges, please indicate the City service for which the waiver is being requested.

3. **Proposed Program/Service of Funding Request:**
   Funds would provide performances of Newish Shakespeare Festival 2026

4. **Agency/Organization:**
   Green Room Theatre Company CV
5. **Mailing Address:**
   P.O. Box 103
   City: Coachella **Zip:** 92236
6. **Telephone:** (442) 215-7039

   Fax:

7. **Official Contact Person:**
   Name: David Catanzarite

   Title: Executive ArtisticDirector

   Telephone: (310) 850-2296

   Fax:

   E-mail: david.catanzarite@grtccv.org

8. **Does this organization have a non-profit status with the Internal Revenue Service (IRS)?**
   Yes ☑ No ☐ (Attach documentation)

9. **How long has this organization been in existence?**
   16 years

10. **Has the organization previously received funding from the City of Coachella?**
    ☑ Yes ☐ No
    If yes, please identify the program/service, total prior grant allocation, and the fiscal year in which the funds were received.
    $1,000 for Ballet Folklorico costumes in October 2024

11. **Is this request for a ☐ New or ☑ Existing program/service within the City?**

12. **What is the anticipated time frame to provide the proposed program/service and the expenditure of the requested funds?**
    Funds would be used by June 2026

13. **Describe briefly how the requested funds will be used.**
    Funds will help underwrite sets and costumes for a fully professional production of TWO different, timely Shakespeare-related works in rotating repertory for desert audiences.

14. **Will the program/service require additional funding sources? If so, identify all funding sources and provide the steps taken to acquire funding.**
    The total cost is $62,000. Funds leveraged from the RAP Foundation ($10,000), Inland Empire Community Foundation ($18,000), Cathedral City ($2500), City of La Quinta ($500+), Palm Springs ($3000), Palm Desert $1000), individual donations, fundraiser.

15. **If the program/service is planned to continue beyond the period provided by this grant, what funding plans are there to sustain the program/service?**
    The current request is for Spring 2026 Shakespeare Festival only.

16. **How will the proposed program/service serve City of Coachella residents? Will the proposed program/service also serve non-Coachella residents? Please describe.**
    Performances will be local and accessible, with Pick-What-You-Pay tickets available to Coachella residents, especially if we can afford to rent the Community Center on 6th St.

17. **Describe the characteristics of the clients the proposed program/service anticipates to serve (i.e. age group, gender, income level, ethnicity, etc.)**
    Primary audience in ECV has extensive agricultural worker population; median income $23,962; 45% with high school education; 4% with bachelor's degree, 11% in poverty; 41% foreign-born; 97% of Latine heritage and bilingual or speak only Spanish.

18. **Attach a proposed budget for requested funds.**

Authorized Official: David Catanzarite **Title:** Founding Artistic Director

Signature: _____ **Date:** 12/9/2025

December 10, 2025

Mayor Steven Hernandez
Mayor Pro-Tem Denise Delgado
Ms. Stephanie Virgen
Dr. Frank Figueroa
Ms. Yadira Perez

GREEN ROOM THEATRE CO
COACHELLA VALLEY

Estimados Mayor Hernandez and City Council:

With recent cuts to arts funding at all levels, theatre and the lively arts have never been more imperilled. Can you imagine yourself as a member of the community who wants to broaden her outlook? Or as a talented child or teenager who desperately desires to become an artist, but has virtually no access to theatre or dance performance or training? Sadly, this is the case for many families in our beautiful desert.

Adults and children cannot access performing arts due to financial and geographic limitations. A growing body of research shows that the arts are a major contributor to overall social-emotional health and well-being from cradle to grave. Creative expression is an inherent human need. Those who lack access to the arts, just like those who suffer from homelessness and food insecurity, are subject to more frequent and severe mental and physical illnesses. Communities without a healthy performing arts scene also miss out on the economic benefits of "downstream" spending that creates jobs and civic revenues. You have an opportunity to join Green Room Theatre Company in helping to solve these problems.

A grant of $1,000 from the City of Coachella would support performances of the Newish Shakespeare Festival during 2026 and provide access to the arts for those without means.

Request – A grant of $1,000 will help Green Room Theatre Company Coachella Valley (GRTCCV) underwrite four weekends with 16 performances of two plays - the Newish Shakespeare Festival - throughout Coachella Valley in March 2026. Funds will underwrite sets and props construction; professional acting and direction; costume and makeup; lights, sound and media for a fully professional rendition of these timely, Shakespeare-based works for desert audiences from Cathedral City to Coachella. Entry-level positions for crew, actors and interns - who work alongside industry professionals - offer career pathways across technical, artistic, and logistical elements of production. In the past we have hired many of our technical crew, designers, and actors from Coachella and hope to continue to do so. **The total cost of the Festival is $62,000.** Additional funds will be leveraged from the Inland Empire Community Foundation, RAP Foundation, Cathedral City, City of La Quinta, Palm Springs, Palm Desert, individual donors, and a fundraiser at an elegant Palm Springs home.

Background – Green Room Theatre Company is the only company in our region that tours bilingual, professional theatre and ballet folklorico performances to desert residents close to the neighborhoods where they live. Serving a geographical area and local population that severely lacks access to high-quality performing arts, Green Room Theatre Company Coachella Valley creates new works, reinvented classics, touring productions, and site-specific performances for the Coachella Valley. We direct our education programs toward young people and underserved communities with a focus on social-emotional and mental health and empowerment.

History and Successes - Over 16 consecutive seasons, GRTCCV has built increasing success with innovative professional arts offerings. In 2022, we began offering Ballet Folklorico classes: This continuing collaboration with school districts and the Desert Recreation District has served several hundred students with direct instruction at 12 schools in Indio/Palm Desert, as well as the Jerry Rummonds Community Center in Thermal. **The program has impacted more than 10,000 audience members young and old.**

In 2024, GRTCCV garnered widespread media praise, 14 award nominations, and three Desert Star Awards from the Desert Theatre League. We were the honored recipient of a $130,000 grant from California Creative Corps-Inland SoCal to devise an original play. *Displacement: Stories from Section 14*, was developed by a team of directors, playwrights, and actors, including youth, from the Inland Empire. It provided put a human face on the facts of the 1960s forced evictions on "Section 14" in Palm Springs.

Plays featured this season are a **compacted, bilingual adaptation of *As You Like It (Como Te Gusta),*** set in the Calexico desert and weaving together Spanish, cowboy slang, and Shakespeare's original language. ***American Moor* is a provocative take on *Othello*** from the perspective of a veteran African-American actor auditioning for the title role. Rights are secured for the weekends of March 13 - 15, March 20 - 22, March 27-29, and April 3 and 4, 2026. Each performance of *Como Te Gusta* features a pre-show performance by GRTCCV's Ballet Folklorico project, working with a professional dance company.

Many of our adult attendees, in post-show surveys, report that ***they have never before seen any form of live theatre***. Participation is inhibited by lack of venues and transportation, and by cost of attendance. Tickets to most desert theatricals range from $40 to $150… not viable for a family living at or below poverty level. Residents of Thermal, for example, have a median income of $15,565. Many families don't own a car and cannot afford transportation to typical desert theatre venues, which are concentrated in Palm Springs. Green Room hires the same actors, designers, and directors as venues in Palm Springs, but **our tickets are Pick-What-You-Pay, starting at $5.00**. By bringing productions to people within blocks of their homes, we enable patrons to reap the multitude of health and social benefits the arts provide. By keeping ticket prices flexible, GRTCCV removes the barrier of cost.

Need - In the City of Coachella where GRTCCV has its office, performances are still rare. Home to an extensive agricultural worker population, it has been left behind among regional cities, with median individual income of $23,962 (only 75% of metro average); only 45% of population with even high school education; only 4% with bachelor's degree, 11% of population in poverty; 41% of population foreign-born; 97% are of Hispanic-Latino heritage and are bilingual or speak only Spanish. A staggering 97% of CVUSD students qualify for Free or Reduced Lunch and 98% of CVUSD students identify as Latine. Organizations as diverse as the World Health Organization and National Endowment for the Arts are creating policies to promote public arts offerings with a focus on combatting mental health issues and noncommunicable diseases such as heart disease, stroke, cancer, Parkinson's, diabetes, and more.

Finances - GRTCCV has thrived for 16 years in a difficult financial and artistic environment. For 2025-26, the S. Mark Taper Foundation expressed its confidence in our work with a $50,000 investment to support general operating expenses. The California Arts Council has provided another $16,600. Local cities (including La Quinta, Palm Springs, Cathedral City and Palm Desert) provide sponsorships and grants. Every member of our Board contributes an annual capacity gift.

Your consideration of this request is deeply appreciated. Enclosed, please find a copy of our 501(c3) letter and Program Budget. We would love to answer any questions you may have and discuss our offerings in further detail.

With best regards,

David Catanzarite
Executive Artistic Director

INTERNAL REVENUE SERVICE
P. O. BOX 2508
CINCINNATI, OH 45201

DEPARTMENT OF THE TREASURY

Date: DEC 23 2015

GREEN ROOM THEATRE COMPANY
C/O KAREN T LIN
PO BOX 612
PALM DESERT, CA 92260

Employer Identification Number:
46-4126845
DLN:
17053261308045
Contact Person:
KIMBERLY O'BANNON ID# 31554
Contact Telephone Number:
(877) 829-5500
Accounting Period Ending:
July 31
Public Charity Status:
509(a)(2)
Form 990/990-EZ/990-N Required:
Yes
Effective Date of Exemption:
November 4, 2013
Contribution Deductibility:
Yes
Addendum Applies:
No

Dear Applicant:

We're pleased to tell you we determined you're exempt from federal income tax under Internal Revenue Code (IRC) Section 501(c)(3). Donors can deduct contributions they make to you under IRC Section 170. You're also qualified to receive tax deductible bequests, devises, transfers or gifts under Section 2055, 2106, or 2522. This letter could help resolve questions on your exempt status. Please keep it for your records.

Organizations exempt under IRC Section 501(c)(3) are further classified as either public charities or private foundations. We determined you're a public charity under the IRC Section listed at the top of this letter.

If we indicated at the top of this letter that you're required to file Form 990/990-EZ/990-N, our records show you're required to file an annual information return (Form 990 or Form 990-EZ) or electronic notice (Form 990-N, the e-Postcard). If you don't file a required return or notice for three consecutive years, your exempt status will be automatically revoked.

If we indicated at the top of this letter that an addendum applies, the enclosed addendum is an integral part of this letter.

For important information about your responsibilities as a tax-exempt organization, go to www.irs.gov/charities. Enter "4221-PC" in the search bar to view Publication 4221-PC, Compliance Guide for 501(c)(3) Public Charities, which describes your recordkeeping, reporting, and disclosure requirements.

Letter 947

GREEN ROOM THEATRE COMPANY

Sincerely,

Jeffrey I. Cooper
Director, Exempt Organizations
Rulings and Agreements

Letter 947

Green Room Theatre Company Coachella Valley
Touring Production Spring 2026 Budget
Coachella Valley "Newish" Shakespeare Festival

City of Coachella Request

Line Item Description of Project	Line Item Explanation of Project	Request	Line Item Total of Project
Director Compensation	*Como Te Gusta*: Oversee all aspects of production	--	$2,000
Director Compensation	*American Moor*: Oversee all aspects of production	--	$1,500
Stage Managers	Manage crew and tech aspects of performances – 2 individuals x $2000	--	$4,000
Actors	Compensation for fourteen Actors at $1,000 each	--	$14,000
Running Crew	5 crew X $100 X 16 performances (Sound, Lights, Followspot, Deck Crew, Props)	--	$8,000
Other Creative Labor	Lighting, Sound, Multimedia, Costume, Makeup and Set Designers at $1,000 each	--	$6,000
Publicity and Social Media	Advertising and Marketing/Ticket printing and sales	--	$5,000
Lighting – Portable Spotlights	Essential to illuminate performers. Megalite Baby Color Q70s for lighting performances at $350 each plus tax	--	$4,500
Backdrops- Pipe and Drape Kits	Essential for traveling productions to establish performance space. 2 x Drape Kings 50' x 8' Black Velour at $2,050 each plus tax	--	$4,400

Portable Stage Platforms	Allows us to bring the stage with us. ProX XSQ-12x16PKG48 12' x 16' StageQ 6-Stage Platforms 4' x 8' Package Platforms Height Adjustable 28-48"	--	$6,400
Sets and Props	For Stage Sets, Design – building materials for stage sets and props	$1,000	$2,000
Transportation of Equipment	U-Haul Truck Rental for 4 Weeks to transport all props, sets, equipment to performance sites	--	$1,184
Hair and Makeup	$100 per show X 16 Performances	--	$1,600
Costumes	Simple costumes X 14 actors	--	$1,400
TOTALS:		**$1,000**	**$61,984**

Each performance is projected to serve an audience of 150 Coachella Valley residents of all ages, backgrounds and income levels for a total of 2,400 individuals benefitting.

This project brings professional quality performing arts directly to the community at a cost of only $25 per person served.

STATER BROS. charities
Supporting Your Community

909.733.549
P.O. Box 150
San Bernardino, CA 92402
charities@staterbros.com
staterbros.com

December 23, 2025

Mr. David Catanzarite
Green Room Theatre Company
P.O. Box 40
Coachella, CA 92236

Dear Mr. Catanzarite,

At Stater Bros. Charities, we are dedicated to creating opportunities that inspire our communities to thrive. That's why our mission is to uplift Southern California communities through fundraising and investing in local nonprofits that provide hands-on support.

We wholeheartedly believe that the strength of a community is built on multiple acts of kindness. It is this belief that drives our passionate commitment to partnering with local nonprofits who share our mission to connect, collaborate, and build uplifting relationships within our community.

Thank you for taking the time to submit a grant application. We are delighted to further your mission with a $1,500 donation in support of ***Ballet Folklorico in Eastern Coachella Valley.***

We're grateful to partner with like-minded organizations that share the same passion for creating positive change in our communities.

Thank you for all you do, and best wishes for continued success.

Kindest regards,

Nancy Negrette
Chairman and President

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Mary Rodriguez, Grants Manager

SUBJECT: Authorize a Community-Based Grant to Green Room Theatre Company Coachella Valley in the Amount of $1,000 to Support the "*Newish*" Shakespeare Festival

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STAFF RECOMMENDATION:

Staff recommends that the City Council consider awarding a Community-Based Grant to Green Room Theatre Company Coachella Valley (GRTCCV) in the amount of $1,000 to support performances of the "*Newish*" Shakespeare Festival during 2026, expanding access to live arts programming for Coachella residents.

BACKGROUND:

The Community Based Grant Program was established in 2010 and allows the City of Coachella to offer financial assistance to local nonprofit organizations, schools, youth-serving organizations, and other community-based organizations that provide essential services, programs and activities to residents in Coachella. Applicant organizations are only eligible to submit one application for consideration each fiscal year and must be legally established with non-profit or tax-exempt status, be based in the Coachella Valley, or provide direct service to Coachella residents. The FY 25-26 budget includes an allocation of $15,000 for the Community Based Grant Program.

DISCUSSION/ANALYSIS:

Green Room Theatre Company Coachella Valley (GRTCCV) submitted an application requesting $1,000 to support performances of the "*Newish"* Shakespeare Festival during 2026. The GRTCCV has provided bilingual, accessible, and culturally resonant professional theatre productions throughout the Coachella Valley for 16 years, including specialized performances for underserved communities.

GRTCCV proposes to use City grant funds to underwrite sets, design building materials for stage sets and props. and related production elements for a fully professional staging of two Shakespeare-based works performed in rotating repertory for desert audiences. Funds will ensure affordable access for Coachella residents, including "Pick-What-You-Pay" ticket options and if

enough funds are raised, possible performances at the Coachella Community Center on 6th Street. The organization has a demonstrated history of service within Coachella and surrounding communities, including direct educational programming, touring productions, and collaborations with school districts and youth-serving organizations. As noted in its application, the organization has impacted more than 10,000 audience members and maintains an ongoing commitment to bilingual programming, mental health support through the arts, and providing professional pathways for local youth.

The total cost of the 2026 Festival is $62,000, with additional funding support leveraged from foundations, local governments, individual donors, and special events. The $1,000 request from the City would contribute toward core production expenses, helping ensure equitable access for families, youth, and agricultural worker households in Coachella.

ALTERNATIVES:

1. Authorize a Community-Based Grant to Green Room Theatre Company Coachella Valley in the amount of $1,000.

2. Do not authorize a Community-Based Grant to Green Room Theatre Company Coachella Valley.

FISCAL IMPACT:

Should the City Council approve the staff recommendation, the Community-Based Grant Program account will be reduced by $1,000.

ATTACHMENT(S):

1. Green Room Theatre Company Grant Application Packet

CITY OF COACHELLA, CA
COMMUNITY BASED GRANT PROGRAM
APPLICATION FOR FUNDS REQUEST

Please Type Information and Print
Information entered in the provided spaces cannot be saved.

(Attach additional pages as needed, however applicants are encouraged to be brief.)

1. **Application Funding Cycle:** **Date:** 12/11/2025

   July 1, 2025 **- June 30, 20**26

2. **Total Amount Requested:** **$** 1,000

   If requesting waiver of City fees or charges, please indicate the City service for which the waiver is being requested.

3. **Proposed Program/Service of Funding Request:**

   To support CVUSD TK-K students field trip to the Children's Discovery Museum

4. **Agency/Organization:**
   CVUSD Valle Del Sol Elementary
5. **Mailing Address:**
   51433 Education Way
   City: Coachella **Zip:** 92236
6. **Telephone:** (760) 398-1025

   Fax:

7. **Official Contact Person:**
   Name: Gisela Olguin

   Title: Teacher

   Telephone: (760) 899-6120

   Fax:

   E-mail: gisela.olguin@cvusd.us

8. **Does this organization have a non-profit status with the Internal Revenue Service (IRS)?**
   Yes ☑ No ☐ (Attach documentation)

9. **How long has this organization been in existence?**
   20 years, Coachella Valley Unified School District, Valle Del Sol Elementary School.

10. **Has the organization previously received funding from the City of Coachella?**
    ☐ Yes ☑ No
    If yes, please identify the program/service, total prior grant allocation, and the fiscal year in which the funds were received.

11. **Is this request for a ☑ New or ☐ Existing program/service within the City?**

12. **What is the anticipated time frame to provide the proposed program/service and the expenditure of the requested funds?**
    School year 2025-2026 field trip will take place March, funds will be used by the end of year.

13. **Describe briefly how the requested funds will be used.**
    Field trip for 89 TK-K students to the Children's Discovery Museum. Inspires personal growth by engaging curiosity and creativity through hands-on explorations of exhibits programs.

14. **Will the program/service require additional funding sources? If so, identify all funding sources and provide the steps taken to acquire funding.**
    Yes, teachers will continue fundraising to require additional needed funds.

15. **If the program/service is planned to continue beyond the period provided by this grant, what funding plans are there to sustain the program/service?**

16. **How will the proposed program/service serve City of Coachella residents? Will the proposed program/service also serve non-Coachella residents? Please describe.**
    The Museum will be valuable community resource for students to experience the joy of learning about themselves and the world around them.

17. **Describe the characteristics of the clients the proposed program/service anticipates to serve (i.e. age group, gender, income level, ethnicity, etc.)**
    TK - Kindergarten students, ages 5-6 years old, female/male. Low-income. All ethnicity with 99% Hispanic.

18. **Attach a proposed budget for requested funds.**

Authorized Official: Gisela Olguin **Title:** Teacher

Signature: Gisela Olguin **Date:** 12/11/25

Coachella Valley Unified School District
P.O. Box 847 • Thermal, CA 92274
760.399.5137 • FAX 399.1052
www.cvusd.us

October 21, 2024

City of Coachella
53990 Enterprise Way
Coachella, CA 92236

Re: Coachella Valley High School

To Whom It May Concern:

The Coachella Valley Unified School District is a public educational institution. Public schools are considered to be a political subdivision of the State of California and are therefore tax exempt. Any contribution to a political subdivision of a governmental agency is considered to be a deductible charitable contribution as long as it is used for the public good. (IRC 170(c)).

The Internal Revenue Code section 170 (c) defines charitable contribution as a contribution or gift to or for the use of a State, a possession of the United States, or any political subdivision of any of the foregoing of the United States or the District of Columbia, but only if the contribution or gift is made for exclusively public purposes.

For your information, our Federal Identification Number is 33-0765218. If you need additional tax information, please contact Karina Rios at krios@cvusd.us.

Thank you again for your contribution in support of our students.

Sincerely,

Mayela Salcedo
Assistant Superintendent Business Services

TAX ID: 33-0765218

2025-2026 School Year Budget

CVUSD Valle Del Sol Elementary School

TK & Kindergarten

Programs & Field Trips

Children's Discovery Museum of the Desert

Field Trip Date(s): 03/20/26
Total # of students: 89
of Required Chaperones: 17
Grade Level: TK-K

QTY	Description + Unit Price	Total Price
89 students	2 HOUR FIELD TRIP ($15/STUDENT)	$1,335.00
17 chaperones	CHAPERONES INCLUDED IN THE 1:5 RATIO ($15/PERSON)	$225.00
2 Trans buses	2 CVUSD transportation buses estimate	$589.19
89 lunch	CVUSD to provide school lunch for each student	$0.00
	Field trip total cost estimate	**$2,149.19**

COACHELLA VALLEY UNIFIED
SCHOOL DISTRICT
P O BOX 847
THERMAL CA 92274-0000

INVOICE

Invoice Date: 5/7/2025
Invoice Number: 2025 / 236

BILL TO:
VDS -ASB
ATTN: ASB ACCOUNT CLERK
P.O. BOX 847
THERMAL CA 92274
(760) 399-5137

Contact Information:

Make check or warrant payable to:

COACHELLA VALLEY UNIFIED SCHOOL DISTRICT
P O BOX 847
THERMAL, CA 92274-0000

Remit To: LYDIA VILLEGAS

PO Number	Terms	Customer Message
FIELD TRIPS	DUE ON RECEIPT	PLEASE REFERNCE INVOICE NUMBER WITH PAYMENT.THANK YOU

Service Name	Description	Quantity	Rate	Amount
FIELD TRIPS	TRANSPORTATION FEES TT#13176 4/1/25 CHILDREN DISCOVERY MUSEUM	1	589.19	589.19

Sales Tax: 0.00

TOTAL: 589.19

Accounting Information (Internal Only)

Account	Type	Amount	Trans Type
03-000-0000-0-0000-3600-8699	A/R	589.19	2

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Mary Rodriguez, Grants Manager

SUBJECT: Authorize a Community-Based Grant to Valle Del Sol Elementary School in the Amount of $1,000 to Support an Educational Field Trip for Students in TK–Kindergarten

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STAFF RECOMMENDATION:

Staff recommends that the City Council authorize a Community-Based Grant to to Valle Del Sol Elementary School in the amount of $1,000 to support an educational field trip for students in TK–Kindergarten.

BACKGROUND:

The Community Based Grant Program was established in 2010 and allows the City of Coachella to offer financial assistance to local nonprofit organizations, schools, youth-serving organizations, and other community-based organizations that provide essential services, programs and activities to residents in Coachella. Applicant organizations are only eligible to submit one application for consideration each fiscal year and must be legally established with non-profit or tax-exempt status, be based in the Coachella Valley, or provide direct service to Coachella residents. The FY 25-26 budget includes an allocation of $15,000 for the Community Based Grant Program.

DISCUSSION/ANALYSIS:

Coachella Valley Unified School District (CVUSD) submitted a Community-Based Grant application requesting funding to support an educational field trip for approximately 89 TK–Kindergarten students from Valle Del Sol Elementary School to the Children's Discovery Museum of the Desert. The proposed field trip is scheduled for March 20, 2026, and is designed to provide early learners with hands-on, age-appropriate educational experiences aligned with curriculum standards.

Project costs include museum admission, transportation, and related program expenses, with an estimated total cost of $2,149.19. Grant funds would be used to help offset these costs and reduce financial barriers for participating students and families.

Valle Del Sol Elementary School serves young students during a critical developmental period. Exposure to experiential learning opportunities such as museum visits supports early literacy, problem-solving, and social development. The proposed program directly benefits City of Coachella residents by expanding access to high-quality educational enrichment opportunities.

ALTERNATIVES:

1. Authorize a Community-Based Grant to Valle Del Sol Elementary School in the Amount of $1,000 to Support an Educational Field Trip for Students in TK–Kindergarten

2. Do Not Authorize a Community-Based Grant to Valle Del Sol Elementary School in the Amount of $1,000 to Support an Educational Field Trip for Students in TK–Kindergarten

FISCAL IMPACT:

Should the City Council approve the staff recommendation, the Community-Based Grant Program account will be reduced by $1,000.

ATTACHMENT(S):

1. CBG Application Packet - Valle Del Sol Elementary School

CITY OF COACHELLA, CA
COMMUNITY BASED GRANT PROGRAM
APPLICATION FOR FUNDS REQUEST

Please Type Information and Print
Information entered in the provided spaces cannot be saved.

(Attach additional pages as needed, however applicants are encouraged to be brief.)

1. **Application Funding Cycle:** **Date:** 12/03/2025

   July 1, 20 25 **- June 30, 20** 26

2. **Total Amount Requested:** $ 1,000

   If requesting waiver of City fees or charges, please indicate the City service for which the waiver is being requested. Not applicable

3. **Proposed Program/Service of Funding Request:**

   Housing Insecurity Prevention Program

4. **Agency/Organization:**
   Habitat for Humanity of the Coachel
5. **Mailing Address:**
   72680 Dinah Shore Drive, #6
   City: Palm De **Zip:** 92211
6. **Telephone:** (760) 969-6917

   Fax:

7. **Official Contact Person:**
   Name: David Thornton

   Title: Executive Director

   Telephone: (760) 969-6917

   Fax:

   E-mail: executivedirector@hfhcv.org

8. **Does this organization have a non-profit status with the Internal Revenue Service (IRS)?** ☐
Yes ☑ **No** ☐ **(Attach documentation)**

9. **How long has this organization been in existence?**
Founded in 1989, Habitat for Humanity of the Coachella Valley (HFHCV) has served the Valley region for 36 years

10. **Has the organization previously received funding from the City of Coachella?**
☑ **Yes** ☐ **No**
If yes, please identify the program/service, total prior grant allocation, and the fiscal year in which the funds were received.
HFHCV received a $1,000 grant in FY 2024-25 for the Housing Insecurity Prevention Program.

11. **Is this request for a** ☐ **New or** ☑ **Existing program/service within the City?**

12. **What is the anticipated time frame to provide the proposed program/service and the expenditure of the requested funds?**
Funds for the proposed program will be utilized during the period of 7/1/2025 – 6/30/2026.

13. **Describe briefly how the requested funds will be used.**
Please see attachment.

14. **Will the program/service require additional funding sources? If so, identify all funding sources and provide the steps taken to acquire funding.**
Please see attachment.

15. **If the program/service is planned to continue beyond the period provided by this grant, what funding plans are there to sustain the program/service?**
Please see attachment.

16. **How will the proposed program/service serve City of Coachella residents? Will the proposed program/service also serve non-Coachella residents? Please describe.**
Please see attachment.

17. **Describe the characteristics of the clients the proposed program/service anticipates to serve (i.e. age group, gender, income level, ethnicity, etc.)**
Last year, HFHCV served 331 low-income men, women & children (43 in Coachella); 67% were people of color; 41% seniors; 22% disabled; 25% under age 18; and 5% Veterans.

18. **Attach a proposed budget for requested funds.**

Authorized Official: David Thornton **Title:** Executive Director

Signature: David G Thornton **Date:** 12-19-2025

Habitat for Humanity®

We build strength, stability, self-reliance *and* shelter.

August 8, 2025

Habitat for Humanity of the Coachella Valley
72680 Dinah Shore Dr #6,
Palm Desert, California 92211

RE: Habitat for Humanity of the Coachella Valley - Tax Exempt Verification; EIN: 33-0370296

To whom it may concern:

The purpose of this letter is to confirm the tax-exempt status of the above-named Affiliate. The Affiliate is a subordinate of Habitat for Humanity International, Inc. ("HFHI" or "Parent") under HFHI's Group Exempt ruling with the Internal Revenue Service ("IRS") and is therefore tax exempt under Section 501(c)(3) of the Internal Revenue Code (the "Code").

The IRS mandates the Parent organization, which applied for and was granted the group exemption (rather than the IRS), determines which organizations are included as subordinates under its group exempt ruling (see IRS publication 4573 at https://www.irs.gov/pub/irs-pdf/p4573.pdf). Therefore, HFHI, as the Parent and holder of the group ruling, is authorized to issue letters of affirmation regarding subordinate affiliates.

The IRS has assigned group exempt number 8545 ("GEN 8545") to HFHI and its list of subordinates. Enclosed is a copy of the most recent determination letter provided by the IRS as evidence of HFHI's tax exempt status as well as its group exemption. The determination letter, together with this letter, confirms the Affiliate's inclusion under GEN 8545 and provides evidence of its tax-exempt status under Section 501(c)(3) of the Code.

I trust that you will find this letter sufficient verification of the Affiliate's tax-exempt status. If the Affiliate requires an updated letter or has additional questions, please contact the U.S. Support Center at ussupportcenter@habitat.org.

In partnership,

Aaron Lewis
Assistant Secretary and Deputy General Counsel

Enclosures

Department of the Treasury
Internal Revenue Service
Tax Exempt and Government Entities
PO Box 2508
Cincinnati, OH 45201

Date:
May 6, 2025
Employer ID number:
91-1914868
Person to contact:
Name: K Gleason
ID number: 0203083
Telephone: 877-829-5500

HABITAT FOR HUMANITY INTERNATIONAL
HABITAT FOR HUMANITY INTRNL PARENT
% LEGAL DEPARTMENT
322 W LAMAR ST
AMERICUS, GA 31709

Dear Sir or Madam:

This is in response to your request dated April 03, 2025, for information about your tax-exempt status.

We issued a determination letter to you on January 1987, and you're currently exempt under Internal Revenue Code (IRC) Section 501(c)(3).

We also recognized the subordinates on the list you submitted as exempt from federal income tax under IRC Section 501(c)(3).

For federal income tax purposes, donors can deduct contributions they make to you as provided in IRC Section 170. You're also qualified to receive tax deductible bequests, legacies, devises, transfers, or gifts under IRC Sections 2055, 2106 and 2522.

Because IRC Section 170(c) describes your subordinate organizations, donors can deduct contributions they make to them.

For information about filing requirements visit www.irs.gov/charities. Specifically, IRC Section 6033(j) provides that if you don't file a required return or notice for three consecutive years, your exempt status will be automatically revoked on the filing due date of the third required return or notice.

In addition, each subordinate organization is subject to automatic revocation if it doesn't file a required return or notice for three consecutive years. Subordinate organizations can file required returns or notices individually or as part of a group return.

If you have questions, you can call 877-829-5500 between 8 a.m. and 5 p.m., local time, Monday through Friday (Alaska and Hawaii follow Pacific time).

Keep a copy of this letter for your records.

Sincerely,

Stephen A. Martin
Director, Exempt Organizations
Rulings and Agreements

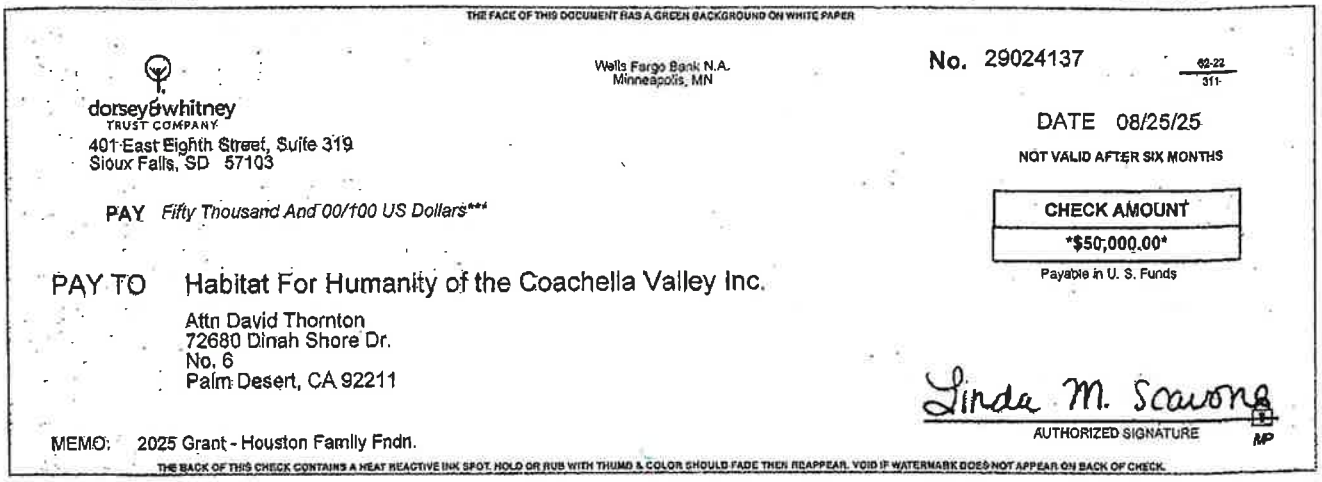
Habitat for Humanity of the Coachella Valley, Inc.
Request to the City of Coachella
Housing Insecurity Prevention Program
July 1, 2025 - June 30, 2026

Personnel Expenses	***Annual Cost***	***% FTE***	***Budget***
Executive Director/Program Supervisor (D. Thornton)	$140,000	40%	$56,000
A Brush With Kindness Coordinator (V. Rosales)	$65,520	100%	$65,520
Project Field Coordinator (TBH)	$24,960	100%	$24,960
Program Assistant (M. Raymond)	$24,960	100%	$24,960
Volunteer Coordinator (T. Powers)	$12,480	25%	$3,120
Client Services Coordinator (K. Gutierrez)	$43,680	50%	$21,840
Subtotal Personnel			*$196,400*
Benefits @ 23%			***$45,172***
Total Personnel			***$241,572***
Program Expenses			
Facility expenses (leasing, utilities, & janitorial)	$488,124	5%	$24,406
Program & office supplies	$45,000	10%	$4,500
Printing, photocopying, & postage	$5,880	10%	$588
Outreach	$64,000	10%	$6,400
Vehicle expenses	$63,048	10%	$6,305
Staff mileage reimbursement	$8,820	10%	$882
Equipment repair, maintenance & purchase	$25,200	10%	$2,520
Telephone & Internet	$10,800	10%	$1,080
Volunteer expenses (food, incentives, supplies)	$14,640	30%	$4,392
Professional contractor repairs for low-income client homes (i.e., HVAC, roofing, plumbing, etc.)	$100,000	100%	$100,000
Waste disposal	$16,800	40%	$6,720
Repair & maintenance	$15,600	20%	$3,120
Emergency Household Needs Assistance	$30,000	100%	$30,000
Home repair expenses, including building & yard materials, tools, & supplies	$25,388	100%	$25,388
Insurance	$27,600	50%	$13,800
Total Program Expenses			***$230,101***
Personnel + Program Expenses			**$471,673**
Indirect (@ 10%)			$47,167
Total Program Budget			**$518,840**

Revenues			
ReStore Sales program allocation			$230,000
Riverside County Department of Housing & Workforce Solutions			$24,996
Grants			$240,000
Contributions & fundraising			$22,844
Total			**$517,840**
Request of the City of Coachella			**$1,000**

CALIFORNIA BANK TRUST

Transaction Details



THE FACE OF THIS DOCUMENT HAS A GREEN BACKGROUND ON WHITE PAPER

dorsey&whitney
TRUST COMPANY
401 East Eighth Street, Suite 319
Sioux Falls, SD 57103

Wells Fargo Bank N.A.
Minneapolis, MN

No. 29024137

62-22
311

DATE 08/25/25

NOT VALID AFTER SIX MONTHS

PAY *Fifty Thousand And 00/100 US Dollars****

CHECK AMOUNT
$50,000.00
Payable in U. S. Funds

PAY TO Habitat For Humanity of the Coachella Valley Inc.
Attn David Thornton
72680 Dinah Shore Dr.
No. 6
Palm Desert, CA 92211

Linda M. Scavone
AUTHORIZED SIGNATURE

MEMO: 2025 Grant - Houston Family Fndn.

THE BACK OF THIS CHECK CONTAINS A HEAT REACTIVE INK SPOT. HOLD OR RUB WITH THUMB & COLOR SHOULD FADE THEN REAPPEAR. VOID IF WATERMARK DOES NOT APPEAR ON BACK OF CHECK.

⑈00290241 37⑈ ⑆031100225⑆ 20799500 26435⑈

dorsey&whitney
TRUST COMPANY
401 East Eighth Street, Suite 319
Sioux Falls, SD 57103

Habitat For Humanity of the Coachella Valley Inc.
Attn David Thornton
72680 Dinah Shore Dr.
No. 6
Palm Desert, CA 92211

NON NEGOTIABLE

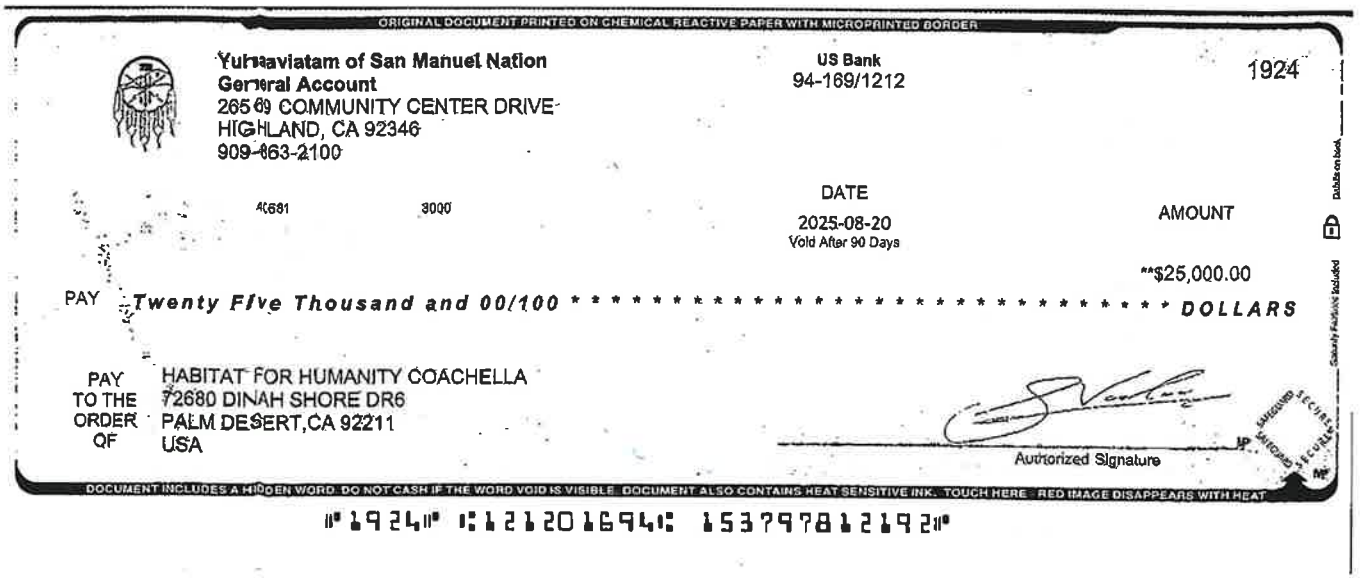
Check Amount: *$50,000.00*
Check Number: 29024137
Check Date: 08/25/25
Firm ID: 90415
Account No: ******9-03
Activity ID: 1848285855
Disb Desc: *Principal Distribution*

ACCOUNT OWNER: The Houston Family Foundation
c/o Dorsey & Whitney Trust Company
401 East Eighth Street, Suite 319
Sioux Falls, SD 57103

MEMO: 2025 Grant - Houston Family Fndn.

CALIFORNIA BANK TRUST

Transaction Details



ORIGINAL DOCUMENT PRINTED ON CHEMICAL REACTIVE PAPER WITH MICROPRINTED BORDER

Yuhaviatam of San Manuel Nation
General Account
26569 COMMUNITY CENTER DRIVE
HIGHLAND, CA 92346
909-863-2100

US Bank
94-169/1212

1924

40681 3000

DATE
2025-08-20
Void After 90 Days

AMOUNT
**$25,000.00

PAY Twenty Five Thousand and 00/100 * DOLLARS

PAY TO THE ORDER OF
HABITAT FOR HUMANITY COACHELLA
72680 DINAH SHORE DR6
PALM DESERT,CA 92211
USA

Authorized Signature

DOCUMENT INCLUDES A HIDDEN WORD. DO NOT CASH IF THE WORD VOID IS VISIBLE. DOCUMENT ALSO CONTAINS HEAT SENSITIVE INK. TOUCH HERE. RED IMAGE DISAPPEARS WITH HEAT

⑈1924⑈ ⑆122016941⑆ 153797812192⑈

DATE	INVOICE NO	COMMENT	AMOUNT	DISCOUNT	NET AMOUNT
08/13/2025	JS-070825	Housing Insecurity Prevention Program	25,000.00	0.00	25,000.00

RECEIVED
9-1-25

CHECK:1924	2025-08-20	HABITAT FOR HUMANITY COACHELLA	CHECK TOTAL:	25,000.00

City of Coachella Community Based Grant Program
Fiscal Year 2025-26 Application for Funds Request
Habitat for Humanity of the Coachella Valley Grant Attachment

13. Describe briefly how the requested funds will be used.

Habitat for Humanity of the Coachella Valley (HFHCV) requests support for the Housing Insecurity Prevention Program, which reduces low-income households' risks of housing and financial insecurity through A Brush with Kindness; Emergency Household Needs Assistance; and Wellness Checks and Advocacy. Services are provided in English and Spanish to struggling families, isolated seniors, underserved communities of color, the disabled, and veterans. HFHCV will serve 350 low-income Coachella Valley residents during the grant period. Funds will benefit City of Coachella households. A Brush With Kindness provides free safety hazard and property damage repairs for low-income households that lack resources to implement repairs due to disability or financial challenges. We recently completed a neighborhood revitalization project in the City of Coachella. Volunteers repair and paint home exteriors; remove hazardous debris, yard debris and excess vegetation; install drought-resistant plants; and repair and replace fences and windows. We fund licensed contractors to repair Heating, Air Conditioning and Ventilation (HVAC) systems, roofing, electrical, and plumbing issues. Last year, we funded $174,058 in repair expenditures, averaging $4,144 per household. These costs are well beyond the means of low-income households. Without our intervention, clients might have had to remain in an unsafe environment or incur unsustainable debt. Skyrocketing disaster-related payouts are leading insurance companies to threaten cancellation of vulnerable households' policies. Uninsured homeowners face financial ruin if homes are significantly damaged. Seniors with reverse mortgages risk repossession of homes if coverage lapses. In 2024, we successfully advocated to prevent policy cancellation for an elderly woman disabled by a stroke. Damage from her mobile home's leaky roof caused bathroom walls to decay and her bathtub to sink into the floor. Her home's poor condition led to threat of policy cancellation. We replaced and regrouted damaged wall tiles; repaired and refortified the bathtub's sunken foundation; refinished the tub; and repaired the roof leak. Her home environment became safer, and her insurance policy was renewed. We partner with Riverside County's Department of Housing and Workforce Solutions (HWS) to perform property repair assessments for pre-qualified low-income households. HWS implements the work. Through Emergency Household Needs Assistance, we provide limited financial assistance or donate appliances, furniture, and other needs from our thrift store to improve quality of life. Last year, emergency needs assistance expenditures were $28,949, averaging $1,379 per household. A single Hispanic mother who had lost her home and possessions in a fire secured new "Section 8" housing. We donated bedroom, living room and dining room furniture and purchased new appliances. We perform Wellness Checks to ensure clients' health and safety; identify immediate needs; and advocate to link them to vital community services. Grant objectives include providing property repair assessments and implementing repairs internally or through HWS for 150 individuals in 70 households; emergency household needs assistance to 50 individuals in 20 households; and wellness check and advocacy to 150 individuals in 60 households.

14. Will the program/service require additional funding sources? If so, identify all funding sources and provide the steps taken to acquire funding.

To fully fund the Housing Insecurity Prevention Program budget of $518,840 additional funds are required. To date we have secured $289,281 in revenues. Current grant awards for the July 1, 2025 – June 30, 2026 grant period total $205,000 to date and revenues from our ReStore Thrift Stores sales, fundraising events, and individual contributions amount to approximately $84,281 received to date allocated to the program.

Grants have been secured from the S. Mark Taper Foundation ($50,000), the Houston Family Foundation ($50,000), Yuhaaviatam of San Manuel Nation ($25,000), Bank of America ($10,000), Banc of California ($10,000), the Coeta & Donald Barker Foundation ($10,000), First Foundation ($5,000), the Morongo Band of Mission Indians ($5,000), and the cities of Palm Springs ($25,000), Indian Wells ($10,000), and Cathedral City ($5,000). Renewal applications for current or previous funders are pending with BIGHORN Cares, the Agua Caliente Band of Cahuilla Indians, and the City of Indio. Additional applications are pending with Costco, Nordstrom, the Champion Volunteers Foundation, and GAF Roofing.

15. If the program/service is planned to continue beyond the period provided by this grant, what funding plans are there to sustain the program/service?

HFHCV began implementing housing insecurity prevention program components in 2010 and has demonstrated a long-term commitment to this program. To sustain and grow the program, we will seek support from municipal, corporate, and private foundation funders that have historically partnered with us and identify new funders to enhance sustainability. As current grants referenced above expire, we will apply for renewed support. Sustainability is strengthened by varied funding sources decreasing vulnerability to reduced support from any one funder, including grants, ReStore thrift store sales, and fundraising. Volunteers assist with all facets of operations, including repair projects, reducing labor-related project costs. In the 2024-25 fiscal year, 276 volunteers provided more than 8,347 service hours. Program support is enhanced through substantial in-kind donations or reduced prices of building supplies and materials from long-term vendors. Recently a vendor donated $7,000 of in-kind services to repair a senior's mobile home. These factors create a multiplier effect enabling us to leverage grant funds significantly beyond the contribution's cash value. In addition, we have had a contract with Riverside County's HWS Department since 2016 to perform repair assessments on low-income households.

16. How will the proposed program/service serve City of Coachella residents? Will the proposed program/service also serve non-Coachella residents? Please describe.

While our program serves the entire Valley, City of Coachella funds will only be used to provide services to the City's low-income residents. We have a long history of service to the City of Coachella, including constructing two homes in 1999 that are now owned by low-income families who assumed affordable, income-based mortgages. In FY 2024-25, we served 43 Coachella residents through A Brush With Kindness, Emergency Household Needs Assistance, and Wellness Checks services. A 2025 Coachella neighborhood revitalization project benefited six low-income Hispanic families comprising 31 residents, including 15 children. The families live in adjacent homes and share a common block wall that serves as perimeter fencing. In 2023, Tropical Storm Hilary's extreme flooding seeped under the wall, compromising the foundation's integrity. We were contacted by one homeowner, a single mother, when a 30-foot section of the wall in her yard collapsed. She feared strangers from a nearby homeless encampment could enter her exposed yard, compromising her family's safety. She could not afford repairs costs, which could potentially exceed $20,000. We installed temporary fencing to secure her yard. Our assessment revealed that the walls of five adjoining properties were leaning over and at risk of collapse. We worked with all six homeowners to develop a solution to fortify the fencing. We presented findings to City officials. Initial reconstruction estimates could potentially have exceeded $200,000. Working with our vendors, we developed a proposal to reduce costs by 60%. HFHCV funded over $13,000 towards costs. Our proposal was accepted and construction on 380 linear feet of the fortified perimeter wall was completed this summer. The six families now have a safer and more secure environment. We also provided other repair and emergency assistance projects for City residents for which HFHCV expended additional funds of $5,662.

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Mary Rodriguez, Grants Manager

SUBJECT: Authorize a Community-Based Grant to Habitat for Humanity of the Coachella Valley in the Amount of $1,000 to Support the Housing Insecurity Prevention Program

---

STAFF RECOMMENDATION:

Staff recommends that the City Council consider awarding a Community-Based Grant to Habitat for Humanity of the Coachella Valley (HFHCV) in the amount of $1,000 to support its Housing Insecurity Prevention Program for the period of July 1, 2025 through June 30, 2026.

BACKGROUND:

The Community Based Grant Program was established in 2010 and allows the City of Coachella to offer financial assistance to local nonprofit organizations, schools, youth-serving organizations, and other community-based organizations that provide essential services, programs and activities to residents in Coachella. Applicant organizations are only eligible to submit one application for consideration each fiscal year and must be legally established with non-profit or tax-exempt status, be based in the Coachella Valley, or provide direct service to Coachella residents. The FY 25-26 budget includes an allocation of $15,000 for the Community Based Grant Program.

DISCUSSION/ANALYSIS:

Habitat for Humanity of the Coachella Valley (HFHCV) has served the region since 1989 and submitted a request for $1,000 to support its Housing Insecurity Prevention Program. The program assists low-income households by reducing housing instability and addressing unsafe living conditions for vulnerable populations, including seniors, individuals with disabilities, veterans, families, and communities of color.

Program services include A Brush With Kindness home repair projects, Emergency Household Needs Assistance, and Wellness Checks and Advocacy. These services are provided in both English and Spanish and focus on preventing displacement and mitigating health and safety hazards in existing homes.

City of Coachella funds will be used exclusively to serve eligible households within the City. During the grant period, HFHCV anticipates serving approximately 350 low-income Coachella Valley residents. The total program budget is approximately $518,840 and is supported through grants, local government contributions, fundraising, and ReStore thrift store revenues. The City's contribution will help leverage additional funding and expand program reach.

ALTERNATIVES:

1. Authorize a Community-Based Grant to Habitat for Humanity of the Coachella Valley in the amount of $1,000 to Support the Housing Insecurity Prevention Program

2. Do not authorize a Community-Based Grant to Habitat for Humanity of the Coachella Valley at this time.

FISCAL IMPACT:

Should the City Council approve the staff recommendation, the Community-Based Grant Program account will be reduced by $1,000.

ATTACHMENT(S):

1. CBG Application Packet - Habitat for Humanity of the Coachella Valley

CITY OF COACHELLA

ELECTED/APPOINTED OFFICIALS, BOARDS, COMMITTEES AND COMMISSIONS
LOCAL APPOINTMENTS LIST

CALENDAR YEAR 2026 – DRAFT

ELECTED OFFICIALS

City Council Meetings are held on the second and fourth Wednesday of each month in the Council Chamber of City Hall, beginning at 6:00 p.m.

ELECTED OFFICIALS		TERM EXPIRES
Mayor	Steven Hernandez	November 2026
Mayor Pro Tem	Denise Delgado	November 2028
Councilmember	Stephanie Virgen	November 2026
Councilmember	Dr. Frank Figueroa	November 2026
Councilmember	Yadira Perez	November 2028
City Clerk	Angela M. Zepeda	November 2028
City Treasurer	Mayra Perez	November 2028

APPOINTED OFFICIALS

Interim City Manager	Bill Pattison
City Attorney	Ryan Guiboa

In compliance with the requirements of the Maddy Act, Government Code 54972, the following local appointments list shows all boards, commissions, and committees which are appointed by the legislative body of the local agency and the dates of their terms of office.

COACHELLA PLANNING COMMISSION – *(Meets on the first and third Wednesday of each month at 6:00 p.m. at the Coachella Council Chambers of City Hall located at 1515 Sixth Street, Coachella.)*

The City Planning Commission shall consist of five regular members and one alternate member. Members of commissions shall be appointed for four-year terms or less. The term of each commission member shall continue for the term of the nominating council member and automatically terminate when the council member's term ends. If a council member is reelected, that council member is entitled to make all new nominations or may choose to re-nominate the council member's previous nominee.

APPOINTEE	NOMINATED BY (MEMBER OF COUNCIL)	ORIGINAL APPOINTMENT	TERM EXPIRES
Vanessa Ordorica	Councilmember Dr. Figueroa	June 25, 2025	December 2026
Isela Murillo (Chair)	Councilmember Virgen	March 8, 2023	December 2026
Eva Lara	Mayor Pro Tem Delgado	February 26, 2025	December 2028
Oscar Fonseca (Vice Chair)	Mayor Hernandez	February 26, 2025	December 2026
Alyssa Torres	Councilmember Perez	June 25, 2025	December 2028

OVERSIGHT BOARD OF THE SUCCESSOR AGENCY TO THE COACHELLA REDEVELOPMENT AGENCY (HEALTH AND SAFETY CODE SECTION 34179-34181): – *(Meetings held as needed.)*

The Oversight Board was created pursuant to California State law that dissolved the Coachella Redevelopment Agency, along with all 400 redevelopment agencies in California, on February 1, 2012. That law, known as AB X1 26, required the City of Coachella, as the successor agency to the Coachella Redevelopment Agency, to create a new Oversight Board to oversee certain fiscal management of former Agency funds and assets.

Oversight Boards direct the staff of the Successor Agency, have fiduciary responsibilities to holders of enforceable obligations, approves actions of the Successor Agency and establishes the Recognized Payment Obligation Payment Schedule. It takes a majority of the Oversight Board to constitute a quorum and to vote to take action.

The California Redevelopment Dissolution Laws mandated the dissolution of the 25 existing Oversight Boards within the County of Riverside and the creation of a single Consolidated Oversight Board overseeing all 25 successor agencies within the County commencing on **July 1, 2018.**

QUALIFICATIONS	APPOINTEE	ORIGINAL APPOINTMENT	TERM EXPIRES
Authority to represent the Successor Agency before the Countywide Oversight Board, the Riverside County Auditor-Controller, the State Controller, the California Department of Finance, or any other public body with regards to the Successor Agency business with the Countywide Oversight Board.	Gabriel Martin City Manager	December 8, 2021	Open

COACHELLA PARKS AND RECREATION COMMISSION – *(Meets on the third Tuesday of each month at 4:30 p.m. in the upstairs conference room at the Coachella Council Chambers of City Hall located at 1515 Sixth Street, Coachella.)*

The Coachella Parks and Recreation Commission shall consist of five regular members and one alternate member. Members of commissions shall be appointed for four-year terms or less. The term of each commission member shall continue for the term of the nominating council member and automatically terminate when the council member's term ends. If a council member is reelected, that council member is entitled to make all new nominations or may choose to re-nominate the council member's previous nominee.

APPOINTEE	NOMINATED BY (MEMBER OF COUNCIL)	ORIGINAL APPOINTMENT	TERM EXPIRES
Andrew Gallegos	Mayor Hernandez	April 26, 2023	December 2026
Marcos Granados Jr. (Vice C)	Councilmember Virgen	April 26, 2023	December 2026
J. Carlos Ayala *(Alternate)*	Mayor Hernandez	April 26, 2023	December 2026
Rosalio Avila (Chair)	Councilmember Dr. Figueroa	February 26, 2025	December 2026
Jesus Nunez	Mayor Hernandez	February 26, 2025	December 2026
Victor Alcantara	Mayor Pro Tem Delgado	February 26, 2025	December 2028

City of Coachella
Committee Membership – 2026

CULTURE AND ARTS COMMISSION – *(Meetings called as needed at the Council Chambers of City Hall located at 1515 Sixth Street, Coachella.)*

The Culture and Arts Commission shall consist of five regular members. Members of commissions shall be appointed for four-year terms or less. The term of each commission member shall continue for the term of the nominating council member and automatically terminate when the council member's term ends. If a council member is reelected, that council member is entitled to make all new nominations or may choose to re-nominate the council member's previous nominee.

APPOINTEE	NOMINATED BY (MEMBER OF COUNCIL)	ORIGINAL APPOINTMENT	TERM EXPIRES
Clara Nieblas	Councilmember Virgen	July 26, 2023	December 2026
Juan Ponce Ramos	Councilmember Dr. Figueroa	July 26, 2023	December 2026
Armando Lerma	Mayor Hernandez	February 26, 2025	December 2026
Oralia "Yaya" Ortiz	Mayor Hernandez	February 26, 2025	December 2026
Irene N. Rodriguez	Mayor Hernandez	March 12, 2025	December 2026
Javier Figueroa *(Alternate)*	Mayor Hernandez	March 12, 2025	December 2026

YOUTH ADVISORY COMMISSION – *(Meets on the second Monday of each month at 4:30 p.m. at the Council Chambers of City Hall located at 1515 Sixth Street, Coachella.)*

The Youth Advisory Commission shall consist of ten regular members. All members of the commission must live within the City of Coachella and be enrolled in high school. The term of a commissioner is one year from August to June; mirroring the local school district's school year. The term of each commission member shall continue for the term of the nominating council member and automatically terminate when the council member's term ends. If a council member is reelected, that council member is entitled to make all new nominations or may choose to re-nominate the council member's previous nominee.

APPOINTEE	NOMINATED BY (MEMBER OF COUNCIL)	ORIGINAL APPOINTMENT	TERM EXPIRES
Sewa Meza (Chair)	Full Council	September 10, 2025	June 2026
Daila Juarez-Andrade (Vice Chair)	Full Council	September 10, 2025	June 2026
Isabel Martinez (Secretary)	Full Council	September 10, 2025	June 2026
Meraly Rodriguez	Full Council	September 10, 2025	June 2026
Kayla Castillo-Cabrera	Full Council	September 10, 2025	June 2026
Kenia Avalos	Full Council	September 10, 2025	June 2026
Jade Meza	Full Council	September 10, 2025	June 2026
Yamileth Cabrera-Gutierrez	Full Council	September 10, 2025	June 2026
Yarely Morales-Hinojosa, Alt.	Full Council	September 10, 2025	June 2026
Valeria Romero	Honorary	September 10, 2025	June 2026
Amanda Flores-Rojas	Honorary	September 10, 2025	June 2026

COUNCIL SUB-COMMITTEES

Building/Code Enforcement/Public Safety Sub-Committee – *(Meetings called as needed)*

Denise Delgado, Mayor Pro Tem
Dr. Frank Figueroa, Councilmember *(Alternate)*
City Manager
Development Services Director
City Engineer
Police Chief
Battalion Chief
Finance Director
Permit Technician *(Support Staff)*
Code Enforcement

Economic Development/Planning Sub-Committee – *(Meetings held on the 1st Thursday of each month at 5:00 p.m. in the Council Chambers of City Hall located at 1515 Sixth Street, Coachella)*

Denise Delgado, Mayor Pro Tem
Stephanie Virgen, Councilmember
City Manager
Development Services Director
Economic Development Director
Finance Director

Senior Citizens Advisory Sub-Committee – *(Meetings called as needed, if held, on the 3rd Wednesday of the month at 1:00 p.m.)*

Steven Hernandez, Councilmember
Stephanie Virgen, Councilmember
Public Works Director
Senior Center Coordinator *(Support Staff)*

Engineering/Public Works/Water-Sewer Sub-Committee – *(Meetings called as needed.)*

Denise Delgado, Mayor Pro Tem
Stephanie Virgen, Councilmember
City Manager
Development Services Director
Economic Development Manager
Finance Director
Utilities Department Assistant *(Support Staff)*

Sister City Sub-Committee – *(Meetings called as needed.)*

Steven Hernandez, Mayor
Dr. Frank Figueroa, Councilmember
City Manager
Economic Development Manager

COACHELLA VALLEY ASSOCIATION OF GOVERNMENTS – *Dark during the months of March, July, August, October and December* at CVWD Steve Robbins Administration Building Training Room, 75515 Hovely Lane East, Palm Desert, CA*

Executive Committee – *(Meetings held on last Monday* at 4:00 p.m.)*

Steven Hernandez, Mayor, Member
Denise Delgado, Mayor Pro Tem *(Alternate)*
City Manager, Staff

CVAG COMMITTEES – *(Continued)*

Transportation Committee (TC) – *(Meetings held on 1st Monday* at 10:00 a.m.)*
CVWD Steve Robbins Administration Building Training Room, 75515 Hovely Lane East, Palm Desert, CA

Steven Hernandez, Mayor, Member
Stephanie Virgen, Councilmember *(Alternate)*
City Engineer, Staff

Homelessness Committee – *(Meetings held on 3rd Wednesday* at 10:00 a.m.)*
CVWD Steve Robbins Administration Building Training Room, 75515 Hovely Lane East, Palm Desert, CA

Yadira Perez, Councilmember, Member
Dr. Frank Figueroa, Councilmember *(Alternate)*
Economic Development Manager, Staff
Development Services Director, Staff *(Alternate)*

Energy/Sustainability Committee – *(Meetings held on 2nd Thursday of each month at 12:00 noon) at*
CVWD Steve Robbins Administration Building Training Room, 75515 Hovely Lane East, Palm Desert, CA

Stephanie Virgen, Councilmember, Member
Denise Delgado, Mayor Pro Tem *(Alternate)*
Assistant to the City Manager, Staff

Public Safety – *(Meetings held on 2nd Monday* at 9:00 a.m.)*
CVWD Steve Robbins Administration Building Training Room, 75515 Hovely Lane East, Palm Desert, CA

Dr. Frank Figueroa, Councilmember
Denise Delgado, Mayor Pro Tem
City Manager, Staff
Police Chief
Battalion Chief

Technical Planning Sub-Committee – *(Meetings held on 3rd Tuesday* at 11:00 a.m.)*

Development Services Director, Staff
Senior Planner, Staff *(Alternate)*

Transportation Technical Advisory Sub-Committee – *(Meetings held on 4th Monday* at 10:00 a.m.)*

City Engineer, Staff
Public Works Director, Staff *(Alternate)*

Solid Waste and Recycling Technical Working Group – *(Meetings are held quarterly on 2nd Monday at 3:00 p.m.)*

Public Works Director, Staff
Environmental/Regulatory Program Manager, Staff *(Alternate)*

JPA/ Coachella Valley Conservation Commission (CVCC) – *(Meetings held on 2nd Thursday of each month at 11:00 a.m.) Dark each March, August, October and December.*

Steven Hernandez, Mayor, Member
Dr. Frank Figueroa, Councilmember *(Alternate)*

SUNLINE TRANSIT AGENCY – *(Meetings are held on 4th Wednesday of each month at noon in the Board Room, 32505 Harry Oliver Trail, Thousand Palms) The Board goes dark the month of August and November.*

Denise Delgado, Mayor Pro Tem, Member
Yadira Perez, Councilmember *(Alternate)*

COACHELLA VALLEY MOSQUITO & VECTOR CONTROL DISTRICT BOARD – *(Meetings are held every 2nd Tuesday of each month at 6:00 p.m. at the District's Ben Laflin Administration Building, 43-420 Trader Place, Indio. Trustees are appointed for a fixed term of either two (2) or four (4) years,*

Dr. Frank Figueroa, Councilmember (Term Expires February 2026)
Public Works Director, Staff

PALM SPRINGS INTERNATIONAL AIRPORT COMMISSION – *(Meetings held on 3rd Wednesday of each month at 4:00 p.m. in the Multi Purpose Conference Room, Demuth Community Center, 3601 E. Mesquite Ave., Palm Springs, CA, The City representative(s) may be council members, community members or staff.)*

Denise Delgado, Mayor Pro Tem, Member (Term Expires December 31, 2026)

RIVERSIDE COUNTY TRANSPORTATION COMMISSION – *(**Executive** Meetings are held at **9:00 a.m.** on the **2nd Wednesday** of each month; and the **Budget and Implementation** meetings are held at **9:30 a.m.** on the **4th Monday** of each month at the County of Riverside Administrative Center, 4080 Lemon Street, Riverside. Video teleconferencing is available from Palm Desert City Hall.)*

Denise Delgado, Mayor Pro Tem, Member – **Commission & *Budget and Implementation***

City Engineer, Staff, TAC Member
Public Works Director, Staff, TAC *(Alternate)*

PUBLIC ENTITIES RISK MANAGEMENT AUTHORITY (PERMA) – *(Meetings at the DoubleTree Resort 67-967 Vista Chino, Cathedral City. Held quarterly, 1st Thursday of last month of each quarter.)*

Human Resources Manager, Staff, Bill Pattison Interim City Manager, Member,
Finance Director, Staff *(Alternate)*

ABANDONED VEHICLE AUTHORITY – *(Meetings held quarterly. Date and location for next meeting are announced at each meeting. Locations hosted by different cities.)*

Finance Director, Member
Code Compliance Manager *(Alternate)*

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS – ***General Assembly*** *– (Meetings are held At least once every year (usually in April or May).*

Denise Delgado, Councilmember, Voting Delegate

COACHELLA/INDIO WASTE TRANSFER STATION JOINT POWERS AUTHORITY – *(Meetings held at **as needed**, at Coachella City Hall located at 1515 Sixth Street, Coachella.)*

Steven Hernandez, Mayor, Board Member
Dr. Frank Figueroa, Councilmember *(Alternate)*
Public Works Director, Staff

WASTE MANAGEMENT CONTRACT AMENDMENT - AD HOC COMMITTEE – *(Held **as needed**.)*

Steven Hernandez, Mayor
Stephanie Virgen, Councilmember

NPDES TASK FORCE – *(Meetings held first Wednesday of each month at 10 a.m.)*

Environmental/Regulatory Program Manager, Member
Sanitary Superintendent, Member

CHAMBER OF COMMERCE LIAISON – *(Meetings held **as needed**)*

Yadira Perez, Councilmember
Dr. Frank Figueroa, Councilmember
Assistant to the City Manager, Staff
Executive Assistant, Staff

JOINT WATER POLICY ADVISORY COMMITTEE MEETING – *(As needed at CVWD'S Coachella office, 85-995 Avenue 52, Coachella, Rummonds Training Room.)*

Steven Hernandez, Mayor, Member
Dr. Frank Figueroa, Councilmember *(Alternate)*
Utilities Manager, Staff

COACHELLA VALLEY ANIMAL CAMPUS COMMISSION – *(Meetings held on 1st Thursday, every two months at 9:30 a.m. at the 1000 Palms Community Center, 31189 Robert Road, Thousand Palms, CA 92276)*

Dr. Frank Figueroa, Councilmember, Member
Yadira Perez, Councilmember *(Alternate)*
City Manager, Staff

COACHELLA VALLEY ENERGY COMMISSION – *(Meetings held at 4:00 p.m. on the second Thursday of each month. Meetings may be held at the IID Boardroom at its La Quinta Headquarters, 81-600 Avenue 58 La Quinta, or rotating at member agency locations. Commission members are appointed for one-year terms with no term limits, and must reside within the IID boundary area for the Coachella Valley. (New for 2021)* ***DISBANNED MAY 2025.***

Stephanie Virgen, Councilmember, Member (Term Expires December 2025)

UTILITY USERS CITIZENS OVERSIGHT COMMITTEE – *(Meetings held at [time] on the [day] of each month.) Meetings will be held at [location and address]*

Member
Staff

COACHELLA VALLEY MOUNTAINS CONSERVANCY – *(Meetings held at 3:00 p.m. on the 2nd Monday of February, May, August and November in the City of Palm Desert Administrative Conference Room, 73-510 Fred Waring Drive, Palm Desert. Terms are for 2-years. Appointees must be either the Mayor or a Councilmember.)*

Denise Delgado, Mayor Pro Tem, Member (Term Expires December 2026 – 2-year term)
Dr. Frank Figueroa, Councilmember *(Alternate)*
Development Services Director, Staff, non-member

VISIT GREATER PALM SPRINGS JOINT POWERS AUTHORITY – *(Six (6) Meetings are held yearly on Fridays, 8:00 am to 10:30 am.) [Locations and Dates TBD]*

Dr. Frank Figueroa, Councilmember, Member
Denise Delgado, Mayor Pro Tem *(Alternate)*

Agency Report of: Public Official Appointments

A Public Document

California Form 806

For Official Use Only

1. Agency Name

City of Coachella

Division, Department, or Region *(If Applicable)*

City Council

Designated Agency Contact *(Name, Title)*

Delia Granados, Deputy City Clerk

Area Code/Phone Number	E-mail
(760) 398-3502	dgranados@coachella.org

Date Posted: 12/4/2025 *(Month, Day, Year)*

2. Appointments

Agency Boards and Commissions	Name of Appointed Person	Appt Date and Length of Term	Per Meeting/Annual Salary/Stipend
Coachella Valley Association of Governments (CVAG) Executive Committee	Name: Hernandez, Steven (Last, First) Alternate, if any: Delgado, Denise (Last, First)	12/10/2025 Appt Date 1 Year Length of Term	Per Meeting: $ 125 Estimated Annual: ☐ $0-$1,000 ☐ $2,001-$3,000 ☒ $1,001-$2,000 ☐ Other
Coachella Valley Association of Governments (CVAG) Transportation Committee	Name: Hernandez, Steven (Last, First) Alternate, if any: Virgen, Stephanie (Last, First)	12/10/2025 Appt Date 1 Year Length of Term	Per Meeting: $ 100 Estimated Annual: ☐ $0-$1,000 ☐ $2,001-$3,000 ☒ $1,001-$2,000 ☐ Other
Coachella Valley Association of Governments (CVAG) Homelessness	Name: Perez, Yadira (Last, First) Alternate, if any: Figueroa, Frank (Last, First)	12/10/2025 Appt Date 1 Year Length of Term	Per Meeting: $ 100 Estimated Annual: ☐ $0-$1,000 ☐ $2,001-$3,000 ☒ $1,001-$2,000 ☐ Other
Coachella Valley Association of Governments (CVAG) Energy Environmental Resource Committee	Name: Virgen, Stephanie (Last, First) Alternate, if any: Delgado, Denise (Last, First)	12/10/2025 Appt Date 1 Year Length of Term	Per Meeting: $ 100 Estimated Annual: ☐ $0-$1,000 ☐ $2,001-$3,000 ☒ $1,001-$2,000 ☐ Other

3. Verification

I have read and understand FPPC Regulation 18702.5. I have verified that the appointment and information identified above is true to the best of my information and belief.

Signature of Agency Head or Designee	Print Name	Title	(Month, Day, Year)
Delia Granados	Delia Granados	Deputy City Clerk	12/4/2025

Comment:

Print Clear

FPPC Form 806 (1/18)
FPPC Toll-Free Helpline: 866/ASK-FPPC (866/275-3772)

Agency Report of: Public Official Appointments Continuation Sheet

California Form 806
A Public Document

1. Agency Name
City of Coachella

Date Posted: 12/10/2025 (Month, Day, Year)

2. Appointments

Agency Boards and Commissions	Name of Appointed Person	Appt Date and Length of Term	Per Meeting/Annual Salary/Stipend
Coachella Valley Association of Governments (CVAG) Public Safety Committee	Name: Figueroa, Frank (Last, First) Alternate, if any: Delgado, Denise (Last, First)	12/10/2025 (Appt Date) 1 Year (Length of Term)	Per Meeting: $ 100 Estimated Annual: ☐ $0-$1,000 ☐ $2,001-$3,000 ■ $1,001-$2,000 ☐ ____ Other
Coachella Valley Conservation Commission (CVCC)	Name: Hernandez, Steven (Last, First) Alternate, if any: Figueroa, Frank (Last, First)	12/10/2025 (Appt Date) 1 Year (Length of Term)	Per Meeting: $ 120 Estimated Annual: ☐ $0-$1,000 ☐ $2,001-$3,000 ■ $1,001-$2,000 ☐ ____ Other
Sunline Transit Agency: 1) Board 2) Finance Committee 3) Taxi Committee 4) Chairman Executive Committee ($50x1)	Name: Delgado, Denise (Last, First) Alternate, if any: Perez, Yadira (Last, First)	12/10/2025 (Appt Date) 1 Year (Length of Term)	Per Meeting: $ 25 Estimated Annual: ■ $0-$1,000 ☐ $2,001-$3,000 ☐ $1,001-$2,000 ☐ ____ Other
Coachella Valley Mosquito & Vector Control District Board	Name: Figueroa, Frank (Last, First) Alternate, if any: ____ (Last, First)	12/10/2025 (Appt Date) 1 Year (Length of Term)	Per Meeting: $ 100 Estimated Annual: ☐ $0-$1,000 ☐ $2,001-$3,000 ■ $1,001-$2,000 ☐ ____ Other
Riverside County Transportation Commission (RCTC) Executive and Budget & Implementation	Name: Delgado, Denise (Last, First) Alternate, if any: ____ (Last, First)	12/10/2025 (Appt Date) 1 Year (Length of Term)	Per Meeting: $ 100 Estimated Annual: ☐ $0-$1,000 ☐ $2,001-$3,000 ■ $1,001-$2,000 ☐ ____ Other
Coachella/Indio Waste Transfer Station Joint Powers Authority	Name: Hernandez, Steven (Last, First) Alternate, if any: Figueroa, Frank (Last, First)	12/10/2025 (Appt Date) 1 Year (Length of Term)	Per Meeting: $ 50 Estimated Annual: ■ $0-$1,000 ☐ $2,001-$3,000 ☐ $1,001-$2,000 ☐ ____ Other

Print Clear

Agency Report of: Public Official Appointments Continuation Sheet

California Form 806
A Public Document

1. Agency Name
City of Coachella

Date Posted: 12/4/2025 (Month, Day, Year)

2. Appointments

Agency Boards and Commissions	Name of Appointed Person	Appt Date and Length of Term	Per Meeting/Annual Salary/Stipend
Coachella Valley Mountains Conservancy	Name: Delgado, Denise (Last, First) Alternate, if any: Figueroa, Frank (Last, First)	Appt Date: 12/10/2025 Length of Term: 1 Year	Per Meeting: $ 75 Estimated Annual: ■ $0-$1,000 ☐ $2,001-$3,000 ☐ $1,001-$2,000 ☐ Other
Southern California Association of Governments (SCAG) General Assembly	Name: Delgado, Denise (Last, First) Alternate, if any: (Last, First)	Appt Date: 12/10/2025 Length of Term: 1 Year	Per Meeting: $ 150 Estimated Annual: ■ $0-$1,000 ☐ $2,001-$3,000 ☐ $1,001-$2,000 ☐ Other
Visit Greater Palm Springs Joint Powers Authority	Name: Figueroa, Frank (Last, First) Alternate, if any: Delgado, Denise (Last, First)	Appt Date: 12/10/2025 Length of Term: 1 Year	Per Meeting: $ 100 Estimated Annual: ☐ $0-$1,000 ☐ $2,001-$3,000 ■ $1,001-$2,000 ☐ Other
	Name: (Last, First) Alternate, if any: (Last, First)	Appt Date: Length of Term:	Per Meeting: $ Estimated Annual: ☐ $0-$1,000 ☐ $2,001-$3,000 ☐ $1,001-$2,000 ☐ Other
	Name: (Last, First) Alternate, if any: (Last, First)	Appt Date: Length of Term:	Per Meeting: $ Estimated Annual: ☐ $0-$1,000 ☐ $2,001-$3,000 ☐ $1,001-$2,000 ☐ Other
	Name: (Last, First) Alternate, if any: (Last, First)	Appt Date: Length of Term:	Per Meeting: $ Estimated Annual: ☐ $0-$1,000 ☐ $2,001-$3,000 ☐ $1,001-$2,000 ☐ Other

Print Clear

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Delia Granados, Deputy City Clerk

SUBJECT: Mayor's Appointments to Various Council Subcommittees, Coachella Valley Association of Government (CVAG) Committees, Other Agencies, etc.

STAFF RECOMMENDATION:

Appoint the members of Council to the various intergovernmental organizations, associations and City subcommittees.

BACKGROUND:

The City Council Members represent the City on various intergovernmental agencies and associations that consider policy and legislation, which directly impacts the City. In addition, Council Members serve on City subcommittees (ad hoc and standing) and as liaisons to several entities. In compliance with the requirements of the Maddy Act, Government Code 54972, the attached local appointments list shows all boards, commissions, and committees which are appointed by the legislative body of the local agency and the dates of their terms of office.

Also, attached is a completed Fair Political Practices Commission (FPPC) form 806, which has been posted to the City's website. This form is required pursuant to FPPC Regulation 18705.5. Each agency must post on its website Form 806, which lists all the paid appointed positions to which an official will vote to appoint themselves. This form must be posted prior to a vote (or consent item) to appoint a governing board member if the appointee will participate in the decision and the appointment results in additional income of $250 or more in a 12-month period.

The Mayor will be identifying Council appointments to these Committees.

FISCAL IMPACT:

There is no fiscal impact to the General Fund.

Attachments: Appointments List
FPPC Form 806

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Celina Jimenez, Director of Economic Development

SUBJECT: Appoint one (1) Commissioner to the Coachella Youth Advisory Commission

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STAFF RECOMMENDATION:

Staff recommends that the City Council appoint one (1) Commissioner to the Coachella Youth Advisory Commission (YAC).

BACKGROUND:

In July 2024, the City Council adopted Resolution No. 2024-25, which established compensation for members of the Youth Advisory Commission. Under this resolution, Commissioners receive $50.00 per scheduled meeting, provided a quorum is present. Following Council's action, the City conducted outreach through schools, community organizations, and social media platforms to promote the opportunity to local youth.

The YAC was created to provide young residents with a voice in civic matters. Commissioners serve in an advisory role to the City Council, helping to identify the educational, recreational, and cultural needs of Coachella's youth and ensuring coordination of community resources that improve quality of life for young people.

DISCUSSION/ANALYSIS:

The Commission is designed to consist of ten youth members enrolled in high school who reside in Coachella. To date, the City had received a sufficient number of applications to fill all ten seats. The Youth Advisory Commission held its first meeting on October 14, 2025 but since then, the Commission had one Commissioner resign. Appointing the full membership will allow the Commission to begin its work with balanced representation and greater capacity to address issues affecting youth. With all positions filled, the Commission will be better positioned to carry out its duties effectively and ensure broad input from across the community.

The following applicants submitted an application for consideration: (the council must select and appoint one)

1. Brandon Antunez Lopez (Coachella resident)
2. Valerie Aguirre (Coachella resident)
3. Emily Samano Felix

FISCAL IMPACT:

There is no additional fiscal impact beyond the stipends already authorized under Resolution No. 2024-25.

ATTACHMENT(S):

1. Youth Advisory Commission Applications

CITY OF COACHELLA

COMMISSION APPLICATION

NAME: Brandon Antunez Lopez

ADDRESS: 49400 Jazmin st

TELEPHONE: 760 899 8973 **E-MAIL:** B.antunezlopez@cvusd.us

COMMISSION:

- ☐ **Planning**
- ☐ **Cultural and Arts**
- ☐ **Parks and Recreation**
- ☐ **Utilities User Tax Citizen Oversight (UUT)**
- ☑ **Youth Advisory (**To be eligible for appointment to the Commission you must be enrolled in high school. Please state your age and high school you currently attend in the "other comments" in section 5.)
- ☐ **Social Justice & Public Safety**

To be eligible for appointment to any Commission you must be a resident of the City of Coachella. Members may only serve on one commission/committee.

Note: In the event a member of the commission has three (3) consecutive unexcused absences from meetings of the Commission, the City Council may declare the office of such member vacant.

PLEASE FURNISH BRIEF RESPONSES TO THE QUESTIONS BELOW:

1. Why do you think you should be appointed? What is there specifically in your background, training, education and interests that qualifies you as a candidate?

   Some training that I have had is I am in multiple clubs in my high school, also I am in a leadership group Where the youth give input on programs, policies, and community projects. We have mostly made an initiative Towards building smoke free environments for all of riverside county residents, which is led by RUHS and the RAP foundation

2. What do you see as the goals and objectives of the Commission? How would you help achieve these objectives and goals?

   I believe the Commission's objectives are to promote youth representation in the City of Coachella. I would support these goals by offering informed input as a local high school student and helping the commission by using my prior leadership experience to help strengthen youth involvement throughout the city of Coachella.

3. What special qualities can you bring to the Commission?

What qualities I can bring to the commission is that I am in a leadership youth group that promotes smoke free environments For riverside county residents as well as Coachella Valley residents. I have done around 260 hours of community service From this year and last year in order to promote topics like these

4. Do you have any questions or comments about the Commission's structure or functions?

At this time I do not have any questions. I look forward to learning more about the commissions structure and responsibilities

5. Other comments and/or ideas as to how you as a member of the selected Commission could benefit the City of Coachella.

As a student and active community volunteer, I can offer a youth perspective that reflects the concerns of local residents. I hope to support initiatives that promote community engagement, public health, and positive youth development.

Signature  Date 11-13-25

Note: Members of commissions shall be appointed for four-year terms or less. The term of each commission member shall continue for the term of the nominating council member and automatically terminate when the council member's term ends. If a council member is reelected, that council member is entitled to make all new nominations or may choose to re-nominate the council member's previous nominee.

Youth Advisory Commission Note: The term of a Commissioner is one year from August to June; mirroring the local school district's school year.

PLEASE RETURN THIS COMPLETED APPLICATION TO:

Deputy City Clerk
City of Coachella
53-462 Enterprise Way
Coachella, CA 92236

cityclerk@coachella.org

(Revised 10-30-2023)

CITY OF COACHELLA

COMMISSION APPLICATION

NAME: Emily Samano Felix

ADDRESS: 51085 Calhoun st Coachella, Ca 92236

TELEPHONE: 760-609-6031 **E-MAIL:** emilysamano1212@gmail.com

COMMISSION:

- [X] **Planning**
- [X] **Cultural and Arts**
- [X] **Parks and Recreation**
- [X] **Utilities User Tax Citizen Oversight·(UUT)**
- [X] **Youth Advisory** (To be eligible for appointment to the Commission you must be enrolled in high school. Please state your age and high school you currently attend in the "other comments" in section 5.)
- [X] **Social Justice & Public Safety**

To be eligible for appointment to any Commission you must be a resident of the City of Coachella. Members may only serve on one commission/committee.

Note: In the event a member of the commission has three (3) consecutive unexcused absences from meetings of the Commission, the City Council may declare the office of such member vacant.

PLEASE FURNISH BRIEF RESPONSES TO THE QUESTIONS BELOW:

1. Why do you think you should be appointed? What is there specifically in your background, training, education and interests that qualifies you as a candidate?

I think I should be appointed because I've learned a lot from my parents, who came from another country and built their own business. They taught me how to work hard, make good choices, and manage money. I also help my community by volunteering with groups like Cofem. I like being involved, helping others, and learning about the problems people face so I can make a difference.

2. What do you see as the goals and objectives of the Commission? How would you help achieve these objectives and goals?

My goal is to make Coachella a better place by listening to what people need and helping make good decisions for the community.I want to help more people know what's happening in our city and get involved. I will do this by speaking up for others, going to meetings, and working with different people to share ideas. I'll listen to everyone's opinions, help plan events, and bring new ideas to make our community better.

3. What special qualities can you bring to the Commission?

Some special qualities I bring to the Commission are that I'm very vocal and I stand up for what's right. I don't like seeing unfair things happen. I'm very active and like to help out in my community. I always try to join clubs and do community service. I stay organized and manage my time well. I enjoy working with others, sharing ideas, and listening to what people have to say so we can make good changes together.

4. Do you have any questions or comments about the Commission's structure or functions?

No, I don't have any questions. I just hope you are able to give me the opportunity to be part of the Commission for the city of Coachella. I would love to be able to learn new things!

5. Other comments and/or ideas as to how you as a member of the selected Commission could benefit the City of Coachella.

I want to help make Coachella a better and safer place for everyone. I can share ideas to make the city more fun and bring people together. I will help spread information so more people, especially young people, know what's going on. I want to listen to what students and families think and share their ideas.

Signature [signature] Date 11/05/2025

Note: Members of commissions shall be appointed for four-year terms or less. The term of each commission member shall continue for the term of the nominating council member and automatically terminate when the council member's term ends. If a council member is reelected, that council member is entitled to make all new nominations or may choose to re-nominate the council member's previous nominee.

Youth Advisory Commission Note: The term of a Commissioner is one year from August to June; mirroring the local school district's school year.

PLEASE RETURN THIS COMPLETED APPLICATION TO:

Deputy City Clerk
City of Coachella
53-462 Enterprise Way
Coachella, CA 92236

cityclerk@coachella.org

(Revised 10-30-2023)

CITY OF COACHELLA

COMMISSION APPLICATION

NAME: Valerie Aguirre

ADDRESS: 84500 Avenue 52 Apt F63 92236, Coachella, CA

TELEPHONE: (760) 561-2050 **E-MAIL:** valerie.aguirre6@icloud.com

COMMISSION:

- ☐ **Planning**
- ☐ **Cultural and Arts**
- ☐ **Parks and Recreation**
- ☐ **Utilities User Tax Citizen Oversight (UUT)**
- ☒ **Youth Advisory (**To be eligible for appointment to the Commission you must be enrolled in high school. Please state your age and high school you currently attend in the "other comments" in section 5.)
- ☐ **Social Justice & Public Safety**

To be eligible for appointment to any Commission you must be a resident of the City of Coachella. Members may only serve on one commission/committee.

Note: In the event a member of the commission has three (3) consecutive unexcused absences from meetings of the Commission, the City Council may declare the office of such member vacant.

PLEASE FURNISH BRIEF RESPONSES TO THE QUESTIONS BELOW:

1. Why do you think you should be appointed? What is there specifically in your background, training, education and interests that qualifies you as a candidate?

   Being appointed would not only allow me to be a voice for my peers but also a voice for the youth in my community. Coming from a Mexican American household where education levels where limited, and where lack of involvement in the community also played a role, I plan to break that cycle with my 3.9 GPA and by actively engaging with my community. This opportunity would be a big step toward achieving that goal. I have always taken my education and involvement in my community seriously, having worked at local election polling sites, participating in school sport teams, enrolled in advanced classes, and joining an academy focused on college preparation and Chicano/a history.

2. What do you see as the goals and objectives of the Commission? How would you help achieve these objectives and goals?

   The goals of the Youth Commission are to represent young people, improve community involvement, and create more opportunities for growth. I would help achieve these goals by listening to my peers, sharing their ideas with city leaders, and working on plans that make a positive impact on Coachella's youth.

3. What special qualities can you bring to the Commission?

With my dedication to academics, involvement within the city, and sports, I aim to bring ideas, teamwork, and a strong commitment to helping Coachella's youth reach their full potential.

4. Do you have any questions or comments about the Commission's structure or functions?

What kind of training or orientation do new members receive?

What should I expect if I were appointed as a new member wanting to make a strong impact?

5. Other comments and/or ideas as to how you as a member of the selected Commission could benefit the City of Coachella.

As a member of the Coachella Youth Commission, I would bring dedication, kindness, and a strong work ethic to serve my community. I value respect, teamwork, and understanding, and I strive to create a welcoming environment for others. With these qualities I would work to strengthen communication between young people and city leaders and help create a more inclusive and positive community for all youth in Coachella.

Signature  Date 11/07/2025

Note: Members of commissions shall be appointed for four-year terms or less. The term of each commission member shall continue for the term of the nominating council member and automatically terminate when the council member's term ends. If a council member is reelected, that council member is entitled to make all new nominations or may choose to re-nominate the council member's previous nominee.

Youth Advisory Commission Note: The term of a Commissioner is one year from August to June; mirroring the local school district's school year.

PLEASE RETURN THIS COMPLETED APPLICATION TO:

Deputy City Clerk
City of Coachella
53-462 Enterprise Way
Coachella, CA 92236

cityclerk@coachella.org

(Revised 10-30-2023)

STAFF REPORT
January 28, 2026

TO: Honorable Mayor and City Council Members

FROM: Lincoln Bogard, Finance Director
Bill Pattison, City Manager

SUBJECT: Resolution No. 2026-04 Approving a Contract for Consulting Services with Bell Burnett & Associates (BB&A) for the Development and Implementation of the Funding Program for Critical Electric Infrastructure in the City

STAFF RECOMMENDATION:

Staff recommends that the City Council approve Resolution 2026-04, approving a contract for consulting services with Bell Burnett & Associates (BB&A) for the development and implementation of the funding program for critical electric infrastructure in the City.

BACKGROUND:

Staff has communicated its discussions with Imperial Irrigation District (IID) to Council. IID electrical capacity in our city is limited. Construction of additional substations in the city is needed for energy reliability, resiliency and continued economic growth. Indio and IID recently created the Indio Electric Financing Authority which successfully financed the construction of new substations within in Indio through the levy of surcharge on each kilowatt hour of energy sold by IID in Indio. IID talks have progressed to the point that our city needs to begin the formation and rate setting process for the Coachella Electric Financing Authority. Staff is hoping to use the same consultants that Indio used since this is a new type of funding mechanism and we feel that using the same consultants will result in lower costs due to economies of scale from the prior experience with Indio and from their experience collaborating with IID on behalf of Indio.

The goal of the Coachella Electric Financing Authority would be to issue bonds secured by a surcharge collected by IID on behalf of the City. The bonds would finance the expansion of 3 existing substations and the construction of a new substation within the City.

DISCUSSION/ANALYSIS:

Staff would like to have Council consider BB&A to provide strategic consulting services in conjunction with the formation and funding of the Coachella Electric Financing Authority. BB&A is proposing to provide the following services to the City:

- Develop funding program that would accommodate the financing of electric improvements in the City;
- Provide financial analysis, including cost and capacity, under the program;
- Meet and advance discussions and approval of the program with Imperial Irrigation District (IID);
- Prepare summary materials and make presentations as needed to City Council or other external stakeholders as requested;
- Review and comment upon creation of Coachella Electric Financing Authority or other comparable Joint Powers Authority associated with the funding program;
- Evaluation of terms and conditions of the program to maximize future flexibility;
- Review and development of key business and credit terms for the program;
- Support transaction execution, including the negotiation of any program documentation;
- Develop timeline for execution, and
- Other services as necessary to support the execution of the program

The terms allow the City to cancel with or without cause at any time with a 10-day written notification. If the City does not move forward with the formation of the Coachella Electric Financing Authority, this contract can be terminated to avoid any unnecessary costs.

ALTERNATIVES:

1. Approve the action.
2. Do not approve the action.

FISCAL IMPACT:

Total Not-To-Exceed fixed contract amount of $150,000. In the event that the transaction does not close, the fee would be reduced to $35,000 plus any direct expenses for travel and lodging incurred at the City's request. Costs can be recuperated from bond issuance for consultant costs of formation.

Attachments:
Resolution 2026-04
Proposal to Provide Strategic Consulting Services

RESOLUTION NO. 2026-04

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF COACHELLA, CALIFORNIA, APPROVING A PROFESSIONAL SERVICES AGREEMENT WITH BELL BURNETT & ASSOCIATES (BB&A)

WHEREAS, the Approval of Agreement Between the City of Coachella and BB&A is for the Development and Implementation of the Funding Program for Critical Electric Infrastructure in the City; and

WHEREAS, the City of Coachella has limited IID capacity in our city; and

WHEREAS, the Agreement provides for assistance in the formation and funding program for the Coachella Electric Financing Authority to add redundancy, resiliency and capacity to the city electric grid; and

WHEREAS, the goal of the Coachella Electric Financing Authority is to issue bonds secured by a surcharge to be levied by the Coachella Electric Financing Authority and collected by IID to finance the expansion of three substations and addition of one new substation (in a phased approach to minimize costs to residents); and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Coachella as follows:

Section 2. Adopt Resolution No. 2026-04 Approving a Contract for Consulting Services with Bell Burnett & Associates (BB&A) for the Development and Implementation of the Funding Program for Critical Electric Infrastructure in the City.

Section 3. Authorize the City Manager to make any non-substantive changes to the contract as may be recommended by City Attorney and agreed to by BB&A.

PASSED, APPROVED and **ADOPTED** this 28th day of January 2026.

_____

Steven A. Hernandez
Mayor

ATTEST:

_____
Angela M. Zepeda
City Clerk

APPROVED AS TO FORM:

BEST, BEST & KRIEGER

_____
City Attorney

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF COACHELLA)

I HEREBY CERTIFY that the foregoing Resolution No. 2026-04 was duly adopted by the City Council of the City of Coachella at a regular meeting thereof, held on the 28th day of January 2026, by the following vote of Council:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
Delia Granados
Deputy City Clerk

BB&A

Bell Burnett & Associates

January 12, 2025

Mr. Bill Pattison
City Manager
City of Coachella
53990 Enterprise Way
Coachella, CA 92236

Dear Mr. Pattison,

On behalf of Bell Burnett & Associates ("BB&A"), we are pleased to offer this proposal to provide strategic consulting services to the City of Coachella ("City") in connection with developing and implementing a funding program ("Program") for critical electric infrastructure in the City. As you know, we worked with the City of Indio and IID on a comparable program and funding strategy and believe that the City can also successfully implement this approach.

Scope of Services

BB&A is proposing to provide the following services to the City:

- Develop funding program that would accommodate the financing of electric improvements in the City;
- Provide financial analysis, including cost and capacity, under the program;
- Meet and advance discussions and approval of the program with Imperial Irrigation District (IID);
- Prepare summary materials and make presentations as needed to City Council or other external stakeholders as requested;
- Review and comment upon creation of Coachella Electric Financing Authority or other comparable Joint Powers Authority associated with the funding program;
- Evaluation of terms and conditions of the program to maximize future flexibility;
- Review and development of key business and credit terms for the program;
- Support transaction execution, including the negotiation of any program documentation;
- Develop timeline for execution, and
- Other services as necessary to support the execution of the program

Firm Qualifications

BB&A is a management and strategic consulting firm serving the utility industry and public sector clients in the West, particularly in California. We offer an independent development, review, and assessment of strategic plans and initiatives. We are former Chief Financial Officers, financial advisors and bankers, so we understand the complexities that our clients face.

Working in and for cities in the West is a core strength of BB&A, particularly in the utility sector. We have worked on strategic and funding plans, financial forecasting, feasibility reports, economic

valuations, project development, resource planning, risk management policies, rate design, reserve policies, capital and business plans, and risk analysis for numerous communities in California, including:

- Anaheim
- Burbank
- Glendale
- Indio
- Lodi
- Long Beach
- Los Angeles
- Pasadena
- Redding
- Riverside
- Roseville
- San Diego
- San Francisco

It is also important to highlight that BB&A is not an Independent Registered Municipal Advisor (IRMA) and will not be rendering any financial advice pertaining to municipal securities, including but not limited to the terms, pricing, or structure of any municipal bonds in connection with the program. Our understanding is that the City will retain an IRMA when appropriate, and BB&A has worked with any number of financial advisors in the past. BB&A's consulting services will be limited to the funding program and not the financing of any improvements. **While considering the Proposal and the funding program, the City should make its own independent assessment and seek its own professional, financial, legal and tax advice, including but not limited to an independent registered municipal advisor, as to the merits and considerations associated with the issuance of municipal securities.**

Project Team

Alex Burnett will be the primary point of contact for the City, but our full team and their expertise will continue to work on this assignment. **Alex brings over 35 years of experience working for public utilities in California.** He is the former Head of the West Coast for Public Finance at JP Morgan and former financial advisor with Public Financial Management, the nation's largest independent financial advisory firm, where he was a Managing Director and served for 15 years. Alex brings particular expertise in project development, including contract negotiation, and the development and disposition of assets for electric and water utilities.

Alex will be assisted by Mike Bell and Drew Atwater. **With over 40 years of both utility management and consulting experience, Mr. Bell brings extensive expertise and a demonstrated track record working for and on behalf of publicly owned utilities, including public power and water agencies, municipalities and public agencies, including both Imperial and Coachella Valley.** Past experience includes serving as Assistant General Manager for Anaheim Public Utilities, CFO for the Southern California Public Power Authority, Interim CFO for the Imperial Irrigation District, and Interim Executive Director of the California Municipal Utilities Association.

Drew is a finance expert with 15 years of public sector experience as a financial consultant and working within government, including 5 years in executive management positions. Drew has extensive financial and operational experience including leveraging data analytics to optimize processes, operations, and asset management. Drew has also served as Deputy General Manager of the Moulton Niguel Water District, and Manager of Rates, Charges, & Financial Planning for the Metropolitan Water District of Southern California. Drew brings particular expertise in budget protocols, budget process, data management and financial modeling.

Compensation

BB&A has a standard fee structure and approach to programs such as this one. Typically, we charge a fixed monthly retainer and a success fee that is contingent upon the successful closing of the initial financing for the Program. Our retainers generally equal $5,000 to $20,000 per month.

In the case of the City, we appreciate that we have invested significantly in creating this program already and want to be as economic as possible. As noted, even with the past work, it will take time to implement and there are a number of critical steps over the coming months. We recognize that the objective is to minimize upfront costs and the risk to the City.

As such, BB&A proposes to not have a fixed retainer and to charge a fixed fee of $150,000, which would be payable when the initial transaction closes. Should the transaction not close for any reason, we would reduce our fee to $35,000 plus any direct expenses for travel and lodging that have been incurred at the City's request. Fees are payable within 30 days of receipt of our invoice.

On behalf of BB&A, we would like to thank you for the opportunity to serve the City. Should you have any questions or comments, please do not hesitate to reach out to any member of the BB&A team.

Very truly yours,



R. Alexander Burnett
Principal, Bell Burnett & Associates
alex@bbaconsult.net | (415) 994-6750

BB&A QUALIFICATIONS

BB&A RESUMES



Financial and technical education and training

BA — Princeton University, Politics and East Asian Studies

R. Alexander Burnett
Principal, Bell Burnett & Associates
Financial and Strategic Advisors
+1 415 994 6750
alex@bbaconsult.net

BB&A

Professional experience summary

- Alex Burnett is a Principal with Bell Burnett & Associates, a management and strategic consulting company serving the general municipal, utility and transportation sectors.
- Alex is a finance expert with 34 years of public sector utility and transportation experience as both a banker and financial advisor having served as Head of the West Coast for Public Finance at JP Morgan, a Managing Director at Citigroup and as a Managing Director at Public Financial Management, the nation's largest independent financial advisory firm serving the public sector, where he spent 15 years.
- Alex has served as senior manager, co-manager or financial advisor on infrastructure transactions in excess of $50 billion.
- Representative experience includes: financial and strategic planning, cashflow modeling and management, balance sheet strategy, rate design, credit strategy and negotiation, contract negotiation and project financing and delivery.
- Municipal clients include: State of California, City of San Diego, City and County of San Francisco, San Francisco Public Utilities Commission, East Bay Municipal Utility District, Metropolitan Water District of Southern California, City of San Jose, Bonneville Power Administration, Energy Northwest, Southern California Public Power Authority, Anaheim Public Utilities, Burbank Water and Power, City of Vernon, Northern California Power Agency, Silicon Valley Power, Transmission Agency of Northern California, Bay Area Rapid Transit District, County of Alameda.

Select engagement experience

- **City of Indio–** Served as the lead working with Indio. BB&A's responsibilities include developing a Strategic and Funding Plan for critical electric infrastructure investment in the City in connection with the Imperial Irrigation District.
- **San Francisco Public Utilities Commission –** Served as Engagement Leader for three different enterprise funds of the SFPUC. In this capacity, responsible for the development of a cost optimization model for the City's Sewer System Improvement Program (SSIP), a 20-year city-wide infrastructure program with an overall cost in excess of $4 billion. Evaluated both capital and operating forecasts over a 50-year period to assess the impacts of different assumptions on financial health, rates and charges, financial feasibility, customer affordability, and compliance with SFPUC policies. Currently working with the SFPUC on infrastructure development for the Power Enterprise.
- **Imperial Irrigation District –** Worked with IID in the economic valuation and funding strategy for potential transmission assets, including analyzing cost/benefit and identifying financial, risk, and operational considerations.



Michael A. Bell
Principal, Bell Burnett & Associates
Financial and Strategic Advisors
+1 209 217 6358
mike@bbaconsult.net

Financial and technical education and training

Harvard University Program for Senior Executives in State and Local Government

Pepperdine University Masters of Business Administration

St. Louis University Bachelor of Science

Professional experience summary

- Mike Bell is a Principal with Bell Burnett & Associates, a management and strategic consulting company serving the general municipal, utility and transportation sectors.
- Mike is a finance expert with 40 years of public sector experience as a financial advisor and working within government. Mike spent 20 years in executive management positions in city government and the utility industry.
- Mike founded Michael Bell Management Consulting (MBMC), a strategic and financial consulting firm, and managed the engineering, design, and management consulting services for RW Beck, a nationally recognized consulting engineering company serving the electric, water, wastewater, and solid waste businesses in California. Mike served as Assistant General Manager and Economic Planning Manager for 20 years, working for both the Anaheim Public Utilities and City Water, Light and Power in Springfield (IL).
- Representative experience includes: strategic planning, organizational reviews, operational and financial planning, and program and service development to cities, counties, utilities and special districts.
- Mike has detailed knowledge of both long- and short-term financing strategies and has acted as the key decision-maker in more than $9.0 billion project financings. He has prepared numerous analyses and feasibility reports used to finance infrastructure, including major water, wastewater, telecommunications, and electric generation, transmission and distribution system projects. Mike has provided expert testimony before various public bodies such as city councils, utility boards, and participating organizations in multifaceted business concerns.

Select engagement experience

- **Bonneville Power Administration (BPA) –** Mr. Bell provided professional expertise and advice in the development of long term financial and strategic plans for the BPA. The plans included targets for financial health, including cash balances, leveraging, secondary revenue risk management and capital deployment efficiency. Mr. Bell continued service to assist BPA with implementation of the plans with an emphasis on operational and program reviews, cost containment and efficiency studies.
- **Glendale Water and Power (GWP) –** Developed a comprehensive update of GWP's Water and Electric Department financial plans including the development of a 5-year financial plan. During this assignment annual audits and budgets were completed and adopted; cost of service analysis updated; new water, and electric rates implemented, and two bond issues completed, including document development and review, discussions with rating agencies, and interaction with the City's advisors, attorneys, and bankers.
- **Riverside Public Utilities (RPU) –** Assisted RPU with the development of guidelines and goals that provide direction for the financial management of RPU. Policies and guidelines include revenue, debt, investment, risk management, accounting and reporting, budget, and reserves.



Financial and technical education and training

University of California; Riverside, CA – **Master of Science, Environmental Economics & Natural Resource Economics & Policy**

Reed College; Portland, OR – **Bachelor of Arts, Physics**

Drew Atwater

Associate, Bell Burnett & Associates

Financial and Strategic Advisors

+1 818 935 0205

Professional experience summary

- Drew Atwater is an Associate with Bell Burnett & Associates, a management and strategic consulting company serving the general municipal, utility and transportation sectors.
- Drew is a finance expert with 15 years of public sector experience as a utility rate consultant and working within government. Drew spent 5 years in executive management positions in the utility industry.
- Built highly skilled team of top talent, focusing on recruiting mission-driven individuals who understand organization's purpose, fostering culture of innovation and continuous improvement, and establishing feedback mechanisms to enhance employee support. Achieved recognition as top workplace in Orange County and US.
- Enhanced financial management operations by establishing streamlined flow of information across departments, building cross-functional relationships, and enabling cutting-edge modeling for forecasting purposes:
    - Achieved AAA rating from Fitch and S&P, won numerous financial awards, and implemented financial best practices certified by various organizations.
    - Secured high-value grant awards, including $10M Federal Emergency Management Agency (FEMA), $2M grant for operations and supportability implementation system (OASIS) ranking, $405K US Bureau of Reclamation (USBR) project, and water efficiency rebates of $500K.
- Led several high-impact capital projects for Moulton Niguel Water District (MNWD) that garnered awards for customer benefits and innovative technologies, including $8M transition to smart meters, replacement of outdated billing system, organization-wide Resiliency Action Plan with global utility best practices and implementation of new work order maintenance management system.
- Lead efforts to optimize metropolitan water district's rate structure. Oversaw stakeholder management, provided strategic policy recommendations, led development and implementation of key financial planning processes, studies, and policies, ensured compliance with government regulations, and supported organization's strategic goals through financial forecasting and analysis.

DISCLAIMER

This Proposal ("Proposal") has been sponsored by the City of Coachella (the "City") and prepared for the exclusive use of the City. **The Proposal does not constitute a recommendation or municipal advice under Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act and is distributed for general information purposes only.** While the information and opinions contained in the Proposal have been prepared in good faith, the Proposal is not and does not purport to be comprehensive, all-inclusive or to have been independently verified. Neither Bell Burnett & Associates, nor any of their principals, employees, advisers or consultants accept any liability or responsibility for the accuracy, reasonableness or completeness of or for any errors, omissions or misstatements, negligent or otherwise, relating to or makes any representation or warranty, express or implied, with respect to the information contained in the Proposal or on which it is based or with respect to any written or oral information made, or to be made available to any of the recipients or their professional advisers and, so far as permitted by law and except in the case of fraudulent misrepresentation by the party concerned, any liability therefore is hereby expressly disclaimed. **While considering the Proposal, the City should make its own independent assessment and seek its own professional, financial, legal and tax advice, including but not limited to an independent registered municipal advisor, as to the information and findings herein.**

STAFF REPORT
January 28, 2026

TO: Honorable Mayor and City Council Members

FROM: Lincoln Bogard, Finance Director
Bill Pattison, City Manager

SUBJECT: Resolution No. 2026-05 Approving an Underwriter Engagement Letter with Piper Sandler for Underwriting Debt Associated with the Establishment of the Coachella Electric Financing Authority

STAFF RECOMMENDATION:

Staff recommends that the City Council approve Resolution 2026-05, approving an Underwriter Agreement Letter with Piper Sandler for underwriting debt associated with the establishment of the Coachella Electric Financing Authority.

BACKGROUND:

Staff has communicated its discussions with Imperial Irrigation District (IID) to Council. IID electrical capacity in our city is limited. Construction of additional substations in the city is needed for energy reliability, resiliency and continued economic growth. Indio and IID recently created the Indio Electric Financing Authority which successfully financed the construction of new substations within in Indio through the levy of surcharge on each kilowatt hour of energy sold by IID in Indio. IID talks have progressed to the point that our city needs to begin the formation and rate setting process for the Coachella Electric Financing Authority. Staff is hoping to use the same consultants that Indio used since this is a new type of funding mechanism and we feel that using the same consultants will result in lower costs due to economies of scale from the prior experience with Indio and from their experience collaborating with IID on behalf of Indio.

The goal of the Coachella Electric Financing Authority would be to issue bonds secured by a surcharge collected by IID on behalf of the City. The bonds would finance the expansion of 3 existing substations and the construction of a new substation within the City.

DISCUSSION/ANALYSIS:

Staff would like to have Council consider Piper Sandler as underwriter to the City in connection with any issued debt associated with the formation of the City of Coachella Electric Financing Authority ("Formation Services") which will be repaid from revenue from the implementation of

a surcharge on electrical power provided by Imperial Irrigation district within the City (the "Surcharge").

The terms allow the City to cancel with or without cause at any time with immediate effect upon written notification. If the City does not move forward with the formation of the Coachella Electric Financing Authority, this contract can be terminated to avoid any unnecessary costs.

ALTERNATIVES:

1. Approve the action.
2. Do not approve the action.

FISCAL IMPACT:

The estimated cost of underwriting services for the first issuance of $40 million is $320,291.56. Staff would like to ask council to approved a ten percent contingency in the event that the average takedown costs exceed the estimated $7 per bond for a Not-To-Exceed amount of $352,320.72 and can be recuperated from bond issuance for consultant costs of formation.

Attachments:
Resolution 2026-05
Underwriter Engagement Letter

RESOLUTION NO. 2026-05

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF COACHELLA, CALIFORNIA, APPROVING A PROFESSIONAL SERVICES AGREEMENT WITH PIPER SANDLER

WHEREAS, the Approval of Agreement Between the City of Coachella and Piper Sandler is for the underwriting of debt associated with the establishment of the Coachella Electric Financing Authority; and

WHEREAS, the City of Coachella has limited IID capacity in our city; and

WHEREAS, Staff would like to have Council consider Piper Sandler as underwriter to the City in connection with any issued debt associated with the formation of the City of Coachella Electric Financing Authority ("Formation Services") which will be repaid from revenue from the implementation of a surcharge on electrical power provided by Imperial Irrigation district within the City (the "Surcharge"); and

WHEREAS, the Agreement provides for assistance in the formation and funding program for the Coachella Electric Financing Authority to add redundancy, resiliency and capacity to the city electric grid through the expansion of three substations and addition of one new substation (in a phased approach to minimize costs to residents); and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Coachella as follows:

Section 2. Adopt Resolution No. 2026-05 Approving an Underwriter Engagement Letter with Piper Sandler for Underwriting Debt Associated with the Establishment of the Coachella Electric Financing Authority with a Total Not-To-Exceed amount of $352,320.72 (including a ten percent contingency).

Section 3. Authorize the City Manager to make any non-substantive changes to the contract as may be recommended by City Attorney and agreed to by Piper Sandler.

PASSED, APPROVED and **ADOPTED** this 28th day of January 2026.

_____

Steven A. Hernandez
Mayor

ATTEST:

_____
Angela M. Zepeda
City Clerk

APPROVED AS TO FORM:

BEST, BEST & KRIEGER

_____
City Attorney

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF COACHELLA)

I HEREBY CERTIFY that the foregoing Resolution No. 2026-05 was duly adopted by the City Council of the City of Coachella at a regular meeting thereof, held on the 28th day of January 2026, by the following vote of Council:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
Delia Granados
Deputy City Clerk

PIPER | SANDLER

1777 Botelho Drive, Suite 345
Walnut Creek, CA 94596
P (415) 304-9695
Piper Sandler & Co.
Since 1895. Member SIPC and NYSE.

January 12, 2026

Bill Pattison
City Manager
City of Coachella
53990 Enterprise Way
Coachella, CA 92236

Re: Underwriter Engagement Letter
Coachella Electric Authority Electric Revenue Bonds

Dear Mr. Pattison:

On behalf of Piper Sandler & Co. (the "Underwriter" or "us" or "Piper Sandler"), we are writing concerning a potential municipal securities transaction as identified above. This letter confirms that you engage Piper Sandler as an underwriter respecting the Securities, subject to the conditions and limitations described below.

This engagement is preliminary in nature, non-binding and may be terminated at any time by you or us. Although you intend or reasonably expect to use Piper Sandler as an underwriter respecting the Securities, this engagement is subject to any applicable procurement laws and the formal approval of Piper Sandler as underwriter by your board or governing body, and is also subject to mutual agreement as to the final structure for the Securities and the terms and conditions of a bond purchase or similar agreement. This engagement does not restrict you from using other underwriters respecting the Securities or any other municipal securities transaction or prevent you from delaying or cancelling the Bond issue or selecting an underwriting syndicate that does not include Piper Sandler.

As an underwriter, Piper Sandler may provide advice concerning the structure, timing, terms, and other similar matters concerning the Securities. However, Piper Sandler intends to serve as an underwriter and not as a financial advisor to you, and the primary role of Piper Sandler is to purchase securities for resale to investors in an arm's-length commercial transaction between you and Piper Sandler. Piper Sandler has financial and other interests that differ from your interests.

Attached to this letter are regulatory disclosures required by the Securities and Exchange Commission and the Municipal Securities Rulemaking Board to be made by us at this time because of this engagement. We may be required to send you additional disclosures regarding the material financial characteristics and risks of such transaction or describing any conflicts. At that time, we also will seek your acknowledgement of receipt of any such additional disclosures. It is our understanding that you have the authority to bind the issuer by contract with us, and that you are not a party to any conflict of interest relating to the Securities. If our understanding is incorrect, please notify the undersigned immediately.

We wish to receive your written acknowledgement that you have received the Appendix A and Appendix B disclosures and that this engagement is approved. Accordingly, please send me an email to that effect or sign and return the enclosed copy of this letter to me.

Sincerely,

Ralph Holmes

Ralph Holmes, Managing Director
Piper Sandler & Co.

Acknowledgement and Approval of Engagement
and Receipt of Appendix A Disclosures

_____
Bill Pattison, City Manager
City of Coachella

Date: _____

Thank you for engaging Piper Sandler & Co. (Piper Sandler) to serve as your underwriter. We are writing to provide you with certain disclosures relating to the captioned bond issue (the Securities), as required by Municipal Securities Rulemaking Board (MSRB) Rule G-17 as set forth in MSRB Notice 2019-20 (Nov. 8, 2019).[1]

Piper Sandler & Co. intends to serve as an underwriter, and not as a financial advisor or municipal advisor, in connection with the issuance of the Securities. As part of our underwriting services, we may provide advice concerning the structure, timing, terms, and other similar matters concerning the issuance of the Securities.

The following G-17 conflict of interest disclosures are now broken down into three types, including: 1) dealer-specific conflicts of interest disclosures (if applicable); 2) transaction-specific disclosures (if applicable); and 3) standard disclosures.

Dealer-Specific Conflicts of Interest Disclosures

Piper Sandler has identified the following actual or potential[2] material conflicts of interest:

- We have entered into a separate agreement with Charles Schwab & Co., Inc. that enables Charles Schwab & Co., Inc. to distribute certain new issue municipal securities underwritten by or allocated to us which could include the Securities. Under that agreement, we will share with Charles Schwab & Co., a portion of the fee or commission paid to us.

Transaction-Specific Disclosures

- Disclosures Concerning Complex Municipal Securities Financing:
  - Since we have not recommended a "complex municipal securities financing" to the Issuer or Obligor, additional disclosures regarding the financing structure for the Securities are not required under MSRB Rule G-17.

Standard Disclosures

- Disclosures Concerning the Underwriters' Role:
  - MSRB Rule G-17 requires an underwriter to deal fairly at all times with both issuers and investors.
  - The underwriters' primary role is to purchase the Securities with a view to distribution in an arm's-length commercial transaction with the Issuer. The underwriters have financial and other interests that differ from those of the Issuer.
  - Unlike a municipal advisor, an underwriter does not have a fiduciary duty to the Issuer under the federal securities laws and is, therefore, not required by federal law to act in the best interests of the Issuer without regard to its own financial or other interests.
  - The Issuer may choose to engage the services of a municipal advisor with a fiduciary obligation to represent the Issuer's interest in this transaction.
  - The underwriters have a duty to purchase the Securities from the Issuer at a fair and reasonable price but must balance that duty with their duty to sell the Securities to investors at prices that are fair and reasonable.
  - The underwriters will review the official statement for the Securities in accordance with, and a part of, their respective responsibilities to investors under the federal securities laws, as applied to the facts and circumstances of this transaction.[3]

[1] Revised Interpretive Notice Concerning the Application of MSRB Rule G-17 to Underwriters of Municipal Securities (effective Mar. 31, 2021).

[2] When we refer to *potential* material conflicts throughout this letter, we refer to ones that are reasonably likely to mature into *actual* material conflicts during the course of the transaction, which is the standard required by MSRB Rule G-17.

[3] Under federal securities law, an issuer of securities has the primary responsibility for disclosure to investors. The review of the official statement by the underwriters is solely for purposes of satisfying the underwriters' obligations under the federal

- Disclosures Concerning the Underwriters' Compensation:
  - The underwriters will be compensated by a fee and/or an underwriting discount that will be set forth in the bond purchase agreement to be negotiated and entered into in connection with the issuance of the Securities. Payment or receipt of the underwriting fee or discount will be contingent on the closing of the transaction and the amount of the fee or discount may be based, in whole or in part, on a percentage of the principal amount of the Securities. While this form of compensation is customary in the municipal securities market, it presents a conflict of interest since the underwriters may have an incentive to recommend to the Issuer a transaction that is unnecessary or to recommend that the size of the transaction be larger than is necessary.

If you or any other Issuer officials have any questions or concerns about these disclosures, please make those questions or concerns known immediately to the undersigned. In addition, you should consult with the Issuer's own financial and/or municipal, legal, accounting, tax and other advisors, as applicable, to the extent you deem appropriate.

Please note that nothing in this letter should be viewed as a commitment by the underwriters to purchase or sell all the Securities and any such commitment will only exist upon the execution of any bond purchase agreement or similar agreement and then only in accordance with the terms and conditions thereof.

You have been identified by the Issuer as a primary contact for the Issuer's receipt of these disclosures, and that you are not a party to any disclosed conflict of interest relating to the subject transaction. If our understanding is incorrect, please notify the undersigned immediately. We are required to seek your acknowledgement that you have received this letter. Accordingly, please send me an email to that effect, or sign and return the enclosed copy of this letter to me at the address set forth above. Otherwise, an email read receipt from you or automatic response confirming that our email was opened by you will serve as an acknowledgment that you received these disclosures.

Depending on the structure of the transaction that the Issuer decides to pursue, or if additional actual or potential material conflicts are identified, we may be required to send you additional disclosures regarding the material financial characteristics and risks of such transaction and/or describing those conflicts. At that time, we also will seek your acknowledgement of receipt of any such additional disclosures.

securities laws and such review should not be construed by an issuer as a guarantee of the accuracy or completeness of the information in the official statement.

Appendix B – Fixed Rate Securities

The following is a general description of the financial characteristics and security structures of fixed rate municipal securities ("Fixed Rate Securities"), as well as a general description of certain financial risks that are known to us and reasonably foreseeable at this time and that you should consider before deciding whether to issue Fixed Rate Securities. If you have any questions or concerns about these disclosures, please make those questions or concerns known immediately to us. In addition, you should consult with your financial and/or municipal, legal, accounting, tax, and other advisors, as applicable, to the extent you deem appropriate.

Financial Characteristics

Maturity and Interest. Fixed Rate Securities are interest-bearing debt securities issued by state and local governments, political subdivisions and agencies and authorities, whether for their benefit or as a conduit issuer for a nongovernmental entity. Maturity dates for Fixed Rate Securities are fixed at the time of issuance and may include serial maturities (specified principal amounts are payable on the same date in each year until final maturity) or one or more term maturities (specified principal amounts are payable on each term maturity date) or a combination of serial and term maturities. The final maturity date typically will range between 10 and 30 years from the date of issuance. Interest on the Fixed Rate Securities typically is paid semiannually at a stated fixed rate or rates for each maturity date.

Redemption. Fixed Rate Securities may be subject to optional redemption, which allows you, at your option, to redeem some or all the securities on a date prior to scheduled maturity, such as in connection with the issuance of refunding securities to take advantage of lower interest rates. Fixed Rate Securities will be subject to optional redemption only after the passage of a specified period, often approximately ten years from the date of issuance, and upon payment of the redemption price set forth in the securities, which may include a redemption premium. You will be required to send out a notice of optional redemption to the holders of the securities, usually not less than 30 days prior to the redemption date. Fixed Rate Securities with term maturity dates also may be subject to mandatory sinking fund redemption, which requires you to redeem specified principal amounts of the securities annually in advance of the term maturity date. The mandatory sinking fund redemption price is 100% of the principal amount of the securities to be redeemed.

Security

Payment of principal of and interest on a municipal security, including Fixed Rate Securities, may be backed by various types of pledges and forms of security, some of which are described below.

General Obligation Securities. "General obligation (GO) securities" are debt securities to which your full faith and credit is pledged to pay principal and interest. If you have taxing power, generally you will pledge to use your ad valorem (property) taxing power to pay principal and interest. The debt service on "unlimited tax" GO securities are paid from ad valorem taxes which are not subject to state constitutional property tax millage limits, whereas "limited tax" GO Securities are subject to such limits.

General obligation securities constitute a debt and, depending on applicable state law, may require that you obtain approval by voters prior to issuance. In the event of default in required payments of interest or principal, the holders of general obligation securities generally will have certain rights under state law to compel you to impose a tax levy.

Revenue Securities. **"**Revenue securities" are debt securities that are payable only from a specific source or sources of revenues. Revenue securities are not a pledge of your full faith and credit, and you (or, if you are a conduit issuer, the obligor, as described in the following paragraph) are obligated to pay

principal and interest on your revenue securities only from the revenue source(s) specifically pledged to the securities. Revenue securities do not permit the bondholders to compel you to impose a tax levy for payment of debt service. Pledged revenues may be derived from operation of the financed project or system, grants or excise or other specified taxes. Generally, subject to state law or local charter requirements, you are not required to obtain voter approval prior to issuance of revenue securities. If the specified source(s) of revenue become inadequate, a default in payment of principal or interest may occur. Various types of pledges of revenue may be used to secure interest and principal payments on revenue securities. The nature of these pledges may differ widely based on state law, the type of issuer, the type of revenue stream and other factors.

Some revenue securities (conduit revenue securities) may be issued by a governmental issuer acting as a conduit for the benefit of a private sector entity or a 501(c)(3) organization (the obligor). Conduit revenue securities commonly are issued for not-for-profit hospitals, educational institutions, single and multi-family housing, airports, industrial or economic development projects, and student loan programs, among other obligors. Principal and interest on conduit revenue securities normally are paid exclusively from revenues pledged by the obligor. Unless otherwise specified under the terms of the securities, you are not required to make payments of principal or interest if the obligor defaults.

The description above regarding “Security” is only a summary of certain possible security provisions for the securities and is not intended as legal advice. You should consult with your bond counsel for further information regarding the security for the securities.

Financial Risk Considerations

Certain risks may arise in connection with your issuance of Fixed Rate Securities, including some or all the following (generally, the obligor, rather than the issuer, will bear these risks for conduit revenue securities):

Issuer Default Risk. You may be in default if the funds pledged to secure your securities are not enough to pay debt service on the securities when due. The consequences of a default may be serious for you and, depending on applicable state law and the terms of the authorizing documents, the holders of the securities, the trustee and any credit support provider may be able to exercise a range of available remedies against you. For example, if the securities are secured by a general obligation pledge, you may be ordered by a court to raise taxes. Other budgetary adjustments also may be necessary to enable you to provide sufficient funds to pay debt service on the securities. If the securities are revenue securities, you may be required to take steps to increase the available revenues that are pledged as security for the securities. A default may negatively impact your credit ratings and may effectively limit your ability to publicly offer securities or other securities at market interest rate levels. Further, if you are unable to provide sufficient funds to remedy the default, subject to applicable state law and the terms of the authorizing documents, you may find it necessary to consider available alternatives under state law, including (for some issuers) state-mandated receivership or bankruptcy. A default also may occur if you are unable to comply with covenants or other provisions agreed to in connection with the issuance of the securities.

This description is only a summary of issues relating to defaults and is not intended as legal advice. You should consult with your bond counsel for further information regarding defaults and remedies.

Securities payable from the general fund, particularly securities without a defined revenue stream identified to pay debt service, reduce your flexibility to balance the general fund. Because a fixed debt service payment is required to be paid regardless of how your general fund is impacted by revenue losses or by increased expenses, you have less flexibility in the options available to you in assuring a balanced budget for your general fund.

General Fund Obligations that are Project Based. Some general fund obligations are issued for projects which are expected to generate revenues that will pay for some or all of the debt service on the securities. In the event the project does not generate the anticipated levels of revenues available for debt service, or, in the extreme case, does not create any revenue available for debt service, you may need to make payments from other available general fund revenues. This may force you to reduce other expenditures or to make difficult decisions about how to pay your debt service obligation while meeting other expenditure needs.

General Fund Obligations that are Subject to Annual Appropriation. Some general fund obligations require that debt service is subject to annual appropriation by your governing body. If your governing body decides not to appropriate payments for debt service, your credit ratings may be negatively impacted, and you may be forced to pay a higher interest rate on future debt issuance or may be unable to access the market for future debt issuance.

For all securities, a default may negatively impact your credit ratings and may effectively limit your ability to publicly offer securities or other securities at market interest rate levels. Further, if you are unable to provide sufficient funds to remedy the default, subject to applicable state law and the terms of the authorizing documents, it may be necessary for you to consider available alternatives under state law, including (for some issuers) state-mandated receivership or bankruptcy. A default also may occur if you are unable to comply with covenants or other provisions agreed to in connection with the issuance of the securities.

Redemption Risk. Your ability to redeem the securities prior to maturity may be limited, depending on the terms of any optional redemption provisions. If interest rates decline, you may be unable to take advantage of the lower interest rates to reduce debt service.

Refinancing Risk. If your financing plan contemplates refinancing some or all the securities at maturity (for example, if you have term maturities or if you choose a shorter final maturity than might otherwise be permitted under the applicable federal tax rules), market conditions or changes in law may limit or prevent you from refinancing those securities when required.

Reinvestment Risk. You may have proceeds from the issuance of the securities available to invest prior to the time that you are able to spend those proceeds for the authorized purpose. Depending on market conditions, you may not be able to invest those proceeds at or near the rate of interest that you are paying on the securities, which is referred to as “negative arbitrage”.

Tax Compliance Risk. The issuance of tax-exempt securities is subject to several requirements under the United States Internal Revenue Code, as enforced by the Internal Revenue Service (IRS). You must take certain steps and make certain representations prior to the issuance of tax-exempt securities. You also must covenant to take certain additional actions after issuance of tax-exempt securities. A breach of your representations or your failure to comply with certain tax-related covenants may cause the interest on securities to become taxable retroactively to the date of issuance of the securities, which may result in an increase in the interest rate that you pay on the securities or the mandatory redemption of the securities. The IRS also may audit you or your securities, in some cases on a random basis and in other cases targeted to specific types of bond issues or tax concerns. If tax-exempt securities are declared taxable, or if you are subject to audit, the market price of your securities may be adversely affected. Further, your ability to issue other tax-exempt securities also may be limited.

This description of tax compliance risks is not intended as legal advice and you should consult with your bond counsel regarding tax implications of issuing the securities.

PIPER | SANDLER

1777 Botelho Drive, Suite 345
Walnut Creek, CA 94596
P (415) 304-9695
Piper Sandler & Co.
Since 1895. Member SIPC and NYSE.

To: Bill Pattison, City Manager, City of Coachella

Re: **Underwriting Fee Quote**
Coachella Electric Authority
Electric Revenue Bonds, Series 2026

Mr. Pattison,

On behalf of Piper Sandler, thank you for the opportunity to serve as underwriter for the Coachella Electric Authority, Electric Revenue Bonds Series 2026. Before we began on the transaction, we wanted to detail our proposed fees to the right assuming a sole managed transaction with a par amount of $40 million. For brevity, we provide an average takedown of $7.00 per bond plus expenses

Underwriter's Discount	$ Amount	$ Per Bond
Average Takedown	$280,000	$7.00
Management Fee	$0	$0.00
Expenses (detailed below)	$40,292	$1.01
Gross Spread	**$320,291.56**	**$8.01**
Expenses (detailed below)	**$ Amount**	**$ Per Bond**
Underwriter's Counsel	$30,000	$0.38
Out of Pocket Expenses	$0	$0.00
CDIAC	$5,000	$0.13
IPREO	$2,670	$0.06
DTC	$975	$0.02
CUSIP	$891	$0.02
Day Loan	$556	$0.01
Pershing	$200	$0.01
DAC Review	$0	$0.00
Total Expenses	**$40,292**	**$0.63**

We appreciate the consideration and look forward to displaying our full capabilities as underwriter. If you have any questions or need anything else, please do not hesitate to contact us.

Sincerely,

Ralph Holmes
Managing Director
(925) 472-8750 office
(415) 304-9695 cell
ralph.holmes@psc.com

STAFF REPORT
January 28, 2026

TO: Honorable Mayor and City Council Members

FROM: Lincoln Bogard, Finance Director
Bill Pattison, City Manager

SUBJECT: Resolution No. 2026-06 Approving a Master Service Engagement Letter and a Supplemental Engagement Letter with Stradling for the Establishment of the Coachella Electric Financing Authority including acting as Bond and Disclosure Council

STAFF RECOMMENDATION:

Staff recommends that the City Council approve Resolution 2026-06, approving a Master Service Agreement Letter and Supplemental Engagement Letter with Stradling for the establishment of the Coachella Electric Financing Authority including acting as Bond and Disclosure Council.

BACKGROUND:

Staff has communicated its discussions with Imperial Irrigation District (IID) to Council. IID electrical capacity in our city is limited. Construction of additional substations in the city is needed for energy reliability, resiliency and continued economic growth. Indio and IID recently created the Indio Electric Financing Authority which successfully financed the construction of new substations within in Indio through the levy of surcharge on each kilowatt hour of energy sold by IID in Indio. IID talks have progressed to the point that our city needs to begin the formation and rate setting process for the Coachella Electric Financing Authority. Staff is hoping to use the same consultants that Indio used since this is a new type of funding mechanism and we feel that using the same consultants will result in lower costs due to economies of scale from the prior experience with Indio and from their experience collaborating with IID on behalf of Indio.

The goal of the Coachella Electric Financing Authority would be to issue bonds secured by a surcharge collected by IID on behalf of the City. The bonds would finance the expansion of 3 existing substations and the construction of a new substation within the City.

DISCUSSION/ANALYSIS:

Staff would like to have Council consider Stradling as bond and disclosure counsel to the City in connection with its formation of the City of Coachella Electric Financing Authority ("Formation Services") and the implementation of a surcharge on electrical power provided by Imperial

Irrigation district within the City (the "Surcharge") and other general public finance work ("Other Finance Services" and together with Formation Services the "Services").

The terms allow the City to cancel with or without cause at any time with a 10-day written notification. If the City does not move forward with the formation of the Coachella Electric Financing Authority, this contract can be terminated to avoid any unnecessary costs.

ALTERNATIVES:

1. Approve the action.
2. Do not approve the action.

FISCAL IMPACT:

2026 Discounted Senior Partner hourly rates are $680; Junior Partner hourly rates are $630; Senior Associate hourly rates are $450; Junior Associates hourly rates are $385; and all Paralegals hourly rates are $195. These rates are subject to a two percent escalator per year. The contract Not-To-Exceed amount will be for $100,000 and can be recuperated from bond issuance for consultant costs of formation.

Attachments:
Resolution 2026-06
Master Service Agreement Letter
Supplemental Engagement Letter

RESOLUTION NO. 2026-06

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF COACHELLA, CALIFORNIA, APPROVING A PROFESSIONAL SERVICES AGREEMENT WITH STRADLING

WHEREAS, the Approval of Agreement Between the City of Coachella and Stradling is for the bond and disclosure council services associated with the establishment of the Coachella Electric Financing Authority; and

WHEREAS, the City of Coachella has limited IID capacity in our city; and

WHEREAS, Staff would like to have Council consider Stradling as bond and disclosure counsel to the City in connection with its formation of the City of Coachella Electric Financing Authority ("Formation Services") and the implementation of a surcharge on electrical power provided by Imperial Irrigation district within the City (the "Surcharge") and other general public finance work ("Other Finance Services" and together with Formation Services the "Services"); and

WHEREAS, the Agreement provides for assistance in the formation and funding program for the Coachella Electric Financing Authority to add redundancy and capacity to the city electric grid; through the expansion of three substations and addition of one new substation (in a phased approach to minimize costs to residents); and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Coachella as follows:

Section 2. Adopt Resolution No. 2026-06 Approving a Master Service Engagement Letter and a Supplemental Engagement Letter with Stradling for the Establishment of the Coachella Electric Financing Authority including acting as Bond and Disclosure Council with a Total Not-To-Exceed amount of $100,000.

Section 3. Authorize the City Manager to make any non-substantive changes to the contract as may be recommended by City Attorney and agreed to by Stradling.

PASSED, APPROVED and **ADOPTED** this 28th day of January 2026.

_____

Steven A. Hernandez
Mayor

ATTEST:

_____
Angela M. Zepeda
City Clerk

APPROVED AS TO FORM:

BEST, BEST & KRIEGER

_____
City Attorney

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF COACHELLA)

I HEREBY CERTIFY that the foregoing Resolution No. 2026-06 was duly adopted by the City Council of the City of Coachella at a regular meeting thereof, held on the 28th day of January 2026, by the following vote of Council:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
Delia Granados
Deputy City Clerk

Stradling Yocca Carlson & Rauth LLP
660 Newport Center Drive, Suite 1600
Newport Beach, CA 92660-6422
949 725 4000
stradlinglaw.com

Brian P. Forbath
949 725 4193
bforbath@stradlinglaw.com

January 12, 2026

Lincoln Bogard, MAcc, CPA, CFE
Finance Director
City of Coachella
53990 Enterprise Way
Coachella, CA 92236

Dear Mr. Bogard:

We thank you for the opportunity to represent the City of Coachella (the "City") as bond and disclosure counsel on public finance matters as may arise from time-to-time in addition to advising the City on certain public financing matters. Unless otherwise confirmed in writing, the terms of this letter and the enclosed Terms of Retention will govern our bond and finance counsel representation of you.

We are attaching our normal Terms of Retention, which is an integral part of our retention agreement. If this letter, including the attached Terms of Retention, accurately reflects your understanding of our relationship, please acknowledge your approval and acceptance of these terms by signing and returning this letter to me. Copies of each are enclosed for your files. I would be pleased to answer any questions you might have.

Very truly yours,

STRADLING YOCCA CARLSON & RAUTH LLP

Brian P. Forbath

The undersigned hereby agrees that the terms and conditions in this letter and the accompanying Terms of Retention shall apply to services rendered by Stradling Yocca Carlson & Rauth LLP.

CITY OF COACHELLA

By: _____
Finance Director

TERMS OF RETENTION
OF
STRADLING YOCCA CARLSON & RAUTH LLP

1. **Fees and Costs**. Stradling Yocca Carlson & Rauth LLP (the "Firm") is compensated for its services based primarily on the value of the services and the time spent performing them. Such compensation may include the time spent on client conferences, travel, research, drafting documents, and other activities. The amount of fees charged on a statement is determined by the hours expended by the different attorneys and other professional personnel involved and the applicable discounted rates applicable to public agencies. Such rates may change from time-to-time. **Notwithstanding the foregoing, in the event that the City of Coachella (the "City") determines to issue bonds, notes or other obligations, we will agree to negotiate a written fixed fee arrangement as is traditional for bond and disclosure counsel matters. Such arrangement may be memorialized as a supplement to this letter. Such fixed fees would be payable contingent upon closing of the transaction and the City would be under no obligation to pay the fees to the Firm if either (i) the bonds, notes or other obligations are not issued or (ii) the Firm and the City are unable to reach an agreement regarding the fixed fee arrangement.**

The fee arrangement for any representation will be provided in a supplement to this letter.

The firm also charges for various costs such as copying, telephone charges, computerized legal research, word processing and/or other computer time, overtime costs, messenger services, travel, filing fees and other costs. Bills for some costs are passed on directly, such as bills for certified shorthand reporters, technical consultants, and other professional fees. In the event that the City and the Firm agree to a fixed fee for a transaction, expenses for such transaction will be included in the fixed fee set forth in the related supplement to this letter.

2. **Termination by Us**. We reserve the absolute right to withdraw from representing you, upon 30 days written notification, if, among other things, you fail to honor the terms of our agreement, you fail to cooperate fully or follow our advice on a material matter, or any fact or circumstance occurs that would, in our view, render our continuing representation unlawful or unethical. If we elect to withdraw, you will take all steps necessary to free us of any obligation to perform further services, including the execution of any documents necessary to complete our withdrawal, and we will be entitled to be paid at the time of withdrawal for all services rendered and costs and expenses paid or incurred on your behalf. If necessary in connection with litigation, we would request leave of court to withdraw.

3. **Termination by City**. We understand that we serve at the pleasure of the City and this Terms of Retention may be terminated by the City at any time, upon 10 days written notification with or without cause.

4. **Date of Termination**. Our representation of you will be considered terminated at the earlier of (i) your termination of our representation, (ii) our withdrawal from our representation of you, or (iii) the completion of our substantive work for you.

5. **Related Activities**. If any claim or action is brought against us or any personnel or agents of the firm based on your negligence or misconduct, or if we are asked to testify as a result of our representation of you or must defend the confidentiality of your communications in any proceeding, you agree to pay us for any resulting fees, costs, or damages, including our time, even if our representation of you has ended.

6. **No Guarantee of Outcome**. The Firm will provide its services consistent with the level and quality of expertise expected of a nationally recognized firm specializing in securities law and the transactions contemplated by this agreement. We do not and cannot guarantee any outcome in a matter.

7. **Insurance**. We hereby advise you that this firm maintains professional errors and omissions insurance coverage applicable to the services to be rendered to you. Evidence of such insurance will be provided upon request.

8. **Client**. This firm's client for the purpose of our representation is only the person or entity identified in the letter accompanying these Terms of Retention. Unless expressly agreed, we are not undertaking the representation of any related or affiliated person or entity, nor any parent, brother-sister, subsidiary, or affiliated corporation or entity, nor any of your or their officers, directors, agents, or employees. The City acknowledges that from time to time the Firm may advise the Marina Joint Powers Financing Authority on financing transactions and related matters.

9. **Client File and Retention**. For each matter the Firm maintains a file in which the Firm places certain documents and items, including original documents, that are reasonably necessary to the Firm's representation in the matter. The Firm currently keeps each file for seven years after a matter concludes. The file belongs to the client and, subject to any protective order or non-disclosure agreement, the client may request to take possession of it once the matter concludes. Should all or any portion of the file become the subject of a subpoena, discovery request or other disclosure obligation ("Legal Process") while in the Firm's possession, including after the matter concludes, you agree to pay the Firm's then-prevailing hourly rates and costs that the Firm incurs in connection with the Legal Process.

10. **Payment Notwithstanding Dispute**. In the event of any dispute that relates to our entitlement to any payment from you, all undisputed amounts shall be paid by you. Any amounts in any client trust account held on your behalf, sufficient to pay the disputed amounts, shall continue to be held in such trust account until the final disposition of the dispute.

11. **Arbitration.** We appreciate the opportunity to serve as your attorneys and anticipate a productive and harmonious relationship. If you should feel for any reason that there is a problem with the services we have performed or with our charges, we encourage you to bring that to our attention immediately. If we perceive a problem with your representation, we likewise will endeavor to discuss it with you. Most problems should be rectified by communication and discussion. However, a dispute might arise between us which could not be resolved by negotiation. We believe that such attorney-client disputes are most satisfactorily resolved through final and binding arbitration rather than by litigation. Both the United States Supreme Court and the California

Supreme Court have endorsed arbitration as an accepted and favored method of resolving disputes, because it is economical and expeditious.

In arbitration, there is no right to a trial by jury and the arbitrator's legal and factual determinations are generally not subject to appellate review. Arbitration rules of evidence and procedure are often less formal and less rigid than the rules which apply in Court. Arbitration usually results in a decision much more quickly than proceedings in Court, and the attorneys' fees and other costs incurred by both sides may be substantially less. You are free to discuss the advisability of arbitration with us, or with your own independent counsel or any of your other advisors, and to ask any questions which you may have.

By signing this Terms of Retention, we agree that, in the event of any dispute or claim arising out of or relating to our engagement, our relationship, our charges, or our services (including but not limited to disputes or claims regarding our charges, professional malpractice, errors or omissions, breach of contract, breach of fiduciary duty, fraud, or violation of any statute), SUCH DISPUTE OR CLAIM SHALL BE RESOLVED BY SUBMISSION TO FINAL AND BINDING ARBITRATION IN RIVERSIDE COUNTY, CALIFORNIA, BEFORE A RETIRED JUDGE OR JUSTICE. BY AGREEING TO ARBITRATE, YOU WAIVE ANY RIGHT YOU HAVE TO A COURT OR JURY TRIAL. Venue with regard to any ancillary proceedings arising out of such dispute or claim shall also be in Riverside County. If we are unable to mutually agree on a retired judge or justice, then each side will name one retired judge or justice and the two named persons will select a neutral judge or justice who will act as the sole arbitrator. The fees of the arbitrator will be paid initially equally by both the Firm and you. However, the arbitrator shall have the right to order either party to pay all fees and costs as part of his award.

In arbitration, we shall both be entitled to conduct discovery in accordance with the provisions of the California Code of Civil Procedure, but either of us may request that the arbitrator limit the amount or scope of such discovery and, in determining whether to do so, the arbitrator shall balance the need for the discovery against the parties' mutual desire to resolve disputes expeditiously and inexpensively.

Under California law, you have the right, if you desire, to request arbitration of any fee dispute before an arbitrator or panel of arbitrators selected by a local bar association or the State Bar (“Bar Arbitration”) and a trial de novo in court if dissatisfied with the result. If you do request a Bar Arbitration, the law provides that evidence of any claim of malpractice or professional misconduct is admissible only concerning the fees or costs in dispute and that the Bar Arbitrators shall not award any affirmative relief in the form of damages, offset or otherwise on account of such claim. By signing this Terms of Retention, you agree that if a Bar Arbitration is conducted, that Bar Arbitration or any trial de novo in Court thereafter shall determine only the issue of the amount of fees properly chargeable to you, if any, and that such Bar Arbitration or trial de novo in Court thereafter shall have no effect on the provisions set forth above which require arbitration before a retired judge or justice of any claims for affirmative relief based on alleged professional malpractice, errors or omissions, breach of conduct, breach of fiduciary duty, fraud or violation of any statute. Any such claims shall

be solely determined in an arbitration proceeding by a retired judge or justice without regard to the result of any Bar Arbitration or trial de novo thereafter.

12. **Other Clients**. As a law firm with many diverse clients and practice areas, the Firm seeks to retain the ability to accept unrelated matters for all of our clients. The Firm may thus request your informed written consent in the event the Firm seeks to represent any other client in any future matter that is not substantially related to the applicable public finance matter of the City and does not involve material confidential information the Firm obtained while representing the City. Such matters could arise during the Firm's representation of you on public finance matters as contemplated by this letter. You may determine to consent or not consent to such request and should feel free to consult your general counsel or other counsel of your choice before deciding whether to grant any consent should it be requested.

The Firm represents various investment banks and underwriters from time-to-time on transactions for public agencies other than the City. In the event that the City determines to issue bonds, notes or other obligations, the Firm will not represent any investment bank or underwriter on any such transaction of the City.

The Firm represents various public agencies, including cities, water agencies, school districts, and other agencies in Riverside County and throughout California, as bond finance and/or disclosure counsel and on other financing matters. In the event that the City determines to issue bonds, notes or other obligations, the Firm does not expect to represent any such agency in connection with the City's transaction; however, in the supplemental letter relating to the specific transaction of the City, the Firm would provide a statement to the effect that the Firm is not representing another water or similar agency in connection with such transaction.

13. **Electronic Communication and Storage Technology**. The Firm uses cell phones, email, wireless networks, cloud-based platforms, and other technology to communicate with others and to transmit or store documents and information. Such technology helps the Firm provide efficient and convenient legal services, but may pose confidentiality and security risks. By signing this letter agreement, you consent to the Firm's use of all such technology in connection with this engagement.

14. **Processing Client Personal Information**. In connection with our engagement, you may be required to disclose to the Firm, or the Firm may obtain on your behalf, personal information relating to individuals that the Firm does not otherwise collect for the Firm's own commercial or business purposes ("Client Personal Information"). For example, materials that you provide to the Firm for purposes of due diligence may contain Client Personal Information relating to third parties. You hereby acknowledge, agree and require that the Firm only collect, retain, use, disclose, or otherwise process Client Personal Information as your "service provider" or "data processor," as defined in the California Consumer Privacy Act of 2018 or other data privacy laws, as applicable (collectively, "Data Privacy Laws"), or pursuant to any exception that may apply under Data Privacy Laws regarding the attorney-client relationship. The Firm will not sell Client Personal Information. The Firm will not collect, retain, use, disclose or otherwise process Client Personal Information for any purpose other than for the purpose of performing services to you pursuant to this

engagement letter, unless applicable law requires us to do otherwise. The Firm will not collect, retain, use, disclose, or otherwise process Client Personal Information outside of the Firm's direct relationship with you, unless applicable law requires the Firm to do otherwise. The Firm certifies that the Firm understand these restrictions and will comply with them. These restrictions are not intended to reduce or replace our obligations under applicable rules of professional conduct, including but not limited to the Firm's obligation of confidentiality.

15. **Publicity**. You consent to the Firm's use of your name and logo (if applicable) on our web site and in our marketing materials.

16. **Client Communication**. You hereby designate Lincoln Bogard, Finance Director, to act on your behalf for this matter, and you authorize us to communicate with, and receive directions from, that person and any other person that you may designate in the future.

17. **City to Sign**. The person signing this letter on behalf of the City represents that he or she has the full right and authority to do so, and to fully commit and bind the City to this engagement letter.

18. **Firm Not Providing Financial Advice**. The Firm is not a registered municipal advisor and does not provide financial advisory services or otherwise provide financial advice to Firm clients.

19. **Miscellaneous**. This letter sets forth the entire agreement between you and the Firm, and there is no other or additional understanding between you and the Firm on these subjects. This agreement supersedes any prior agreements or representations, written or oral, between you and the Firm on these subjects. Any modification or amendment to this agreement must be in a writing signed by you and the Firm. This agreement shall be governed by California law without reference to its conflict of law principles. If any provision of this agreement is found to be invalid or unenforceable, that provision shall be deemed modified or removed so that it is valid and enforceable to the fullest extent of the law, and the other provisions of this agreement shall be unimpaired.

20. **Primary Attorneys.** The primary attorneys with responsibility for this representation will be Brian Forbath and Jake Ediger. The parties agree that the Firm is being retained based on the unique skill, experience, and expertise of Brian Forbath and Jake Ediger and no change will be made in the primary attorneys without the prior, written consent of the City. The Firm will not substitute another primary attorney without the prior, reasonable, approval of the City.

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660 Newport Center Drive, Suite 1600
Newport Beach, CA 92660-6422
949 725 4000
stradlinglaw.com

Brian P. Forbath
949 725 4193
bforbath@stradlinglaw.com

January 12, 2026

Lincoln Bogard, MAcc, CPA, CFE
Finance Director
City of Coachella
53990 Enterprise Way
Coachella, CA 92236

Dear Mr. Bogard:

We thank you for the opportunity to continue our relationship with the City of Coachella (the "City"), and the opportunity to serve as bond and disclosure counsel to the City in connection with its formation of the City of Coachella Electric Financing Authority ("Formation Services") and the implementation of a surcharge on electrical power provided by Imperial Irrigation district within the City (the "Surcharge") and other general public finance work ("Other Finance Services" and together with Formation Services the "Services")

This letter is a supplement to our letter dated January 12, 2026, including the Terms of Retention (the "Master Terms of Retention") set forth therein (collectively, the "Master Engagement Letter"). Except as expressly provided in this letter, the terms of the Master Engagement Letter will apply to the transaction and our Firm's representation in connection therewith contemplated by this letter as if the same were herein set forth at length. Unless otherwise confirmed in writing, the terms of the Master Engagement Letter, as supplemented by this letter, including the attached Terms of Retention (Formation Services and Other Finance Services), will govern our representation of you.

We are attaching our normal Terms of Retention with respect to ongoing Services, which are supplemental to the Master Terms of Retention. Such Terms of Retention are an integral part of our retention agreement. If the Master Engagement Letter, as supplemented by this letter, including the attached Terms of Retention, accurately reflects your understanding of our relationship, please acknowledge your approval and acceptance of these terms by signing and returning this letter to me. Copies of each are enclosed for your files. I would be pleased to answer any questions you might have.

Very truly yours,

STRADLING YOCCA CARLSON & RAUTH LLP

Brian P. Forbath

Enclosure

The undersigned hereby agrees that the terms and conditions in Master Engagement Letter, as supplemented by this letter, including the attached Terms of Retention, shall apply to services rendered by Stradling Yocca Carlson & Rauth LLP.

CITY OF COACHELLA

By: _____
Finance Director

TERMS OF RETENTION (FORMATION AND OTHER FINANCE SERVICES)
OF
STRADLING YOCCA CARLSON & RAUTH LLP

1. **Master Terms of Retention set forth in Master Engagement Letter**. Except as expressly provided in this letter, the terms of the Master Terms of Retention will apply to the transaction and our Firm's representation contemplated by this letter as if the same were herein set forth at length.

2. **Fees and Costs**. Stradling Yocca Carlson & Rauth LLP (the "Firm") is compensated for its services based primarily on the value of the services and the time spent performing them. Such compensation may include the time spent on client conferences, travel, research, drafting documents, and other activities. The amount of fees charged on a statement is determined by the hours expended by the different attorneys and other professional personnel involved and the applicable rates.

Work in connection with formation of the City of Coachella Electric Financing Authority and the implementation of the Surcharge will be charged on an hourly rate basis. A schedule of the hourly rates applicable to attorneys expected to work on City matters is attached as Exhibit A. Such rates may change from time-to-time but no increases in excess of 2% per annum shall be implemented without the written consent of the City Manager. Notwithstanding the forgoing, bond and disclosure counsel services with respect to the issuance of any bonds will be billed at fixed fees set forth in a future supplement to this letter payable contingent upon the closing of the transaction.

The firm also charges for various costs such as copying, telephone charges, computerized legal research, word processing and/or other computer time, overtime costs, messenger services, travel, filing fees and other costs. Bills for some costs are passed on directly, such as bills for certified shorthand reporters, technical consultants, and other professional fees.

3. **Client Communication**. You hereby designate Lincoln Bogard, Finance Director, to act on your behalf for this matter, and you authorize us to communicate with, and receive directions from, that person and any other person that you may designate in the future.

4. **Authority to Sign**. The person signing this letter on behalf of the City represents that he or she has the full right and authority to do so, and to fully commit and bind the City to this engagement letter.

5. **Firm Not Providing Financial Advice**. The Firm is not a registered municipal advisor and does not provide financial advisory services or otherwise provide financial advice to Firm clients. We understand that your registered municipal advisor will be providing financial advisory services to you with respect to the ongoing finance matters.

6. **Representation of Imperial Irrigation District**. The Firm has from time to time served as bond and disclosure counsel to the Imperial Irrigation District.

7. **Miscellaneous**. The Master Engagement Letter, as supplemented by this letter, sets forth the entire agreement between you and the Firm, and there is no other or additional

understanding between you and the Firm on these subjects. This agreement supersedes any prior agreements or representations, written or oral, between you and the Firm on these subjects. Any modification or amendment to this agreement must be in a writing signed by you and the Firm. This agreement shall be governed by California law without reference to its conflict of law principles. If any provision of this agreement is found to be invalid or unenforceable, that provision shall be deemed modified or removed so that it is valid and enforceable to the fullest extent of the law, and the other provisions of this agreement shall be unimpaired.

8. **Primary Attorneys.** The primary attorneys with responsibility for this representation will be Brian Forbath and Jake Ediger. The parties agree that the Firm is being retained based on the unique skill, experience, and expertise of Brian Forbath and Jake Ediger and no change will be made in the primary attorneys without the prior, written consent of the City. The Firm will not substitute another primary attorney without the prior, reasonable, approval of the City.

2026 DISCOUNTED RATES

PARTNERS	2026 RATE
BRIAN FORBATH	$680.00
CAROL LEW	$680.00
SENIOR PARTNER	$680.00
JUNIOR PARTNER	$630.00
ASSOCIATES	**2026 RATE**
SENIOR ASSOCIATES	$450.00
JUNIOR ASSOCIATES	$385.00

ALL PARALEGALS ARE AT $195.00/HOUR

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Celina Jimenez, Director of Economic Development

SUBJECT: Authorize the City Manager to Execute Subrecipient Agreements for the Development of the Caltrans Sustainable Transportation Planning Grant for the Cesar Chavez Street Corridor Transformation Plan with CivicWell ($83,600), Raices Cultura ($50,000), and Terra Nova ($260,140)

STAFF RECOMMENDATION:

Staff recommends that the City Council considers authorizing the City Manager to execute Subrecipient Agreements for the Caltrans Sustainable Transportation Planning Grant for the Cesar Chavez Street Corridor Transformation Plan with CivicWell ($83,600), Raices Cultura ($50,000), and Terra Nova ($260,140).

BACKGROUND:

The Sustainable Transportation Planning Grant Program was created to support the California Department of Transportation's (Caltrans) Mission of providing a safe and reliable transportation network that serves all people and respects the environment.

The California Legislature passed, and Governor Edmund G. Brown Jr. signed into law, Senate Bill 1 (SB 1, Beall, Chapter 5, Statutes of 2017) – The Road Repair and Accountability Act of 2017, a transportation funding bill that provides a reliable fund source to maintain and integrate the State's multimodal transportation system. In addition to the $9.5 million in traditional State and federal grants, approximately $25 million in SB 1 funds for Sustainable Communities Grants is available for each grant cycle.

On January 22, 2025, the City submitted an application to Caltrans for its Sustainable Transportation Planning Grant to fund its Cesar Chavez Street Corridor Transformation Plan. On July 1, 2025, City staff received notification that the grant was awarded to the City in the amount of $393,740, with a required city match of $51,014 bringing the total project cost to $444,754.

DISCUSSION/ANALYSIS:

The City also included Sub-Applicants in its application to assist with the development of the Cesar Chavez Street Corridor Transformation Plan and their respective budgets are:

Task #	Task Title	Grant Amount*	Estimated Local Cash Match*	Estimated Local In-Kind Match*	Estimated Total Project Cost*
01	Project Administration (no more than 5% of total grant funds)	$8,490	$1,100	$0	$9,590
02	Consultant Procurement and Sub-Contracting	$6,580	$853	$0	$7,433
1	Analysis of Plans, Policies and Existing Conditions	$89,040	$11,536	$0	$100,576
2	Community Outreach	$26,500	$3,433	$0	$29,933
3	Community Engagement	$124,710	$16,158	$0	$140,868
4	Draft Plan	$102,060	$13,223	$0	$115,283
5	Final Plan/Council Review and Approval	$36,360	$4,711	$0	$41,071
	Totals	**$393,740**	**$51,014**	**$0**	**$444,754**

Budget Breakdown per Entity

Civic Well	$83,600
Raices Cultura	$50,000
Terra Nova	$260,140
City Match	$51,014
	$444,754

Caltrans requires that the City enters into Subrecipient Agreements with the three Sub-Applicants.

ALTERNATIVES:

1. Authorize the City Manager to Execute Subrecipient Agreements for the Development of the Caltrans Sustainable Transportation Planning Grant for the Cesar Chavez Street Corridor Transformation Plan with CivicWell ($83,600), Raices Cultura ($50,000), and Terra Nova ($260,140)

2. Not Authorize

FISCAL IMPACT:

The overall project budget is $444,754 of which $393,740 comes from the Caltrans grant. The local match ($51,014, or 11.47% of the total budget, as required by the grant guidelines) will be funded by the General Fund; these costs were previously anticipated in the current budget and approved by the City Council on July 23, 2025.

ATTACHMENTS:

1. Attachment 1 - Subrecipient Agreements: CivicWell, Terra Nova and Raices Cultura

SUBRECIPIENT AGREEMENT

This Subrecipient Agreement ("Agreement"), effective as of _____, 2026 ("Effective Date") is entered into by and between the CITY OF COACHELLA, a municipal corporation of the State of California with its principal place of business located at 53990 Enterprise Way, Coachella, CA 92236 ("City"), and CIVICWELL, a California nonprofit public benefit corporation with its principal place of business located at 520 Capitol Mall, Suite 440, Sacramento, CA 95814 ("Subrecipient"). City and Subrecipient shall be referred to herein individually as "Party" and collectively as "Parties."

RECITALS

A. The City has entered into a Restricted Grant Agreement (RGA) with the California Department of Transportation (Caltrans), Agreement Number 74A1763, dated November 17, 2025 ("Prime Agreement"), for the Cesar Chavez Street Corridor Transformation Plan project (the "Project"), funded pursuant to Budget Act Line Item 2660-102-3290 under California Senate Bill No. 1 (SB-1), also known as the Road Repair and Accountability Act of 2017.

B. The Prime Agreement provides restricted grant funds in the amount of $393,740.00 to the City for the purpose of conducting transportation studies and planning within the Project area, as detailed in the Scope of Work and Project Cost and Schedule (Attachment II to the Prime Agreement), the Grant Application Guide (Attachment III to the Prime Agreement), and other attachments incorporated therein.

C. The City is responsible under the Prime Agreement for timely and satisfactorily completing all Project work within the budget and in accordance with the terms of the Prime Agreement.

D. The Subrecipient has been identified in the Scope of Work (Attachment II to the Prime Agreement) as a sub-applicant and partner to assist the City with Project management, coordination, community engagement, outreach, and other specified tasks essential to the Project.

E. The City desires to pass through a portion of the grant funds and delegate certain Project responsibilities to the Subrecipient, subject to the Subrecipient's compliance with all applicable terms of the Prime Agreement, California law, and this Agreement.

F. This Agreement is intended to ensure that the Subrecipient performs its delegated responsibilities in full compliance with the Prime Agreement and all federal, state, and local laws, regulations, and requirements applicable to the use of SB-1 funds, including but not limited to Government Code Section 14460(a)(1) and 2 CFR Part 200 (Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards).

NOW, THEREFORE, in consideration of the mutual covenants and conditions herein, the parties agree as follows:

1. INCORPORATION OF PRIME AGREEMENT

1.1 The Prime Agreement, including all attachments (e.g., Attachment I: Agency Resolution; Attachment II: Scope of Work and Project Cost and Schedule; Attachment III: Grant Application Guide), is incorporated herein and attached hereto as **Exhibit "1."** The Subrecipient acknowledges receipt of a copy of the Prime Agreement and agrees to comply with all applicable terms, covenants, conditions, and obligations therein as if the Subrecipient were the "AGENCY" under the Prime Agreement, to the extent such terms are applicable to the Subrecipient's scope of services.

1.2 In the event of any conflict between this Agreement and the Prime Agreement, the Prime Agreement shall control, except where this Agreement imposes more stringent requirements to ensure compliance with California law.

2. SCOPE OF SERVICES

2.1 The Subrecipient shall perform the services described in the Scope of Work (Attachment II to the Prime Agreement) assigned to CivicWell ("Services" or "Project Work"), including but not limited to:

(a) Assisting with overall Project management and coordination.

(b) Preparing the Request for Proposals (RFP) for consultant selection.

(c) Assembling and facilitating a Project Advisory Group.

(d) Organizing community engagement events, including workshops, pop-up events, walk audits, and bicycle audits.

(e) Developing publicity materials with local input and documenting public input for inclusion in the Cesar Chavez Street Corridor Transformation Plan document.

(f) Facilitating community engagement activities in English and Spanish.

(g) Providing content for the Project website and assisting with online surveys.

(h) Participating in the development of the Cesar Chavez Street Corridor Transformation Plan, including summarizing the public process.

(i) Supporting presentations to the Planning Commission and City Council.

2.2 All Services shall be performed in accordance with the Project timeline in Attachment II to the Prime Agreement, the Grant Application Guide (Attachment III to the Prime Agreement), and all applicable federal, state, and local laws, regulations, ordinances, Caltrans policies and procedures, and published manuals.

2.3 The Subrecipient shall not subcontract any portion of its Services without the prior written approval of the City. Any approved subcontracts shall incorporate all applicable terms of this Agreement and the Prime Agreement.

3. COMPENSATION AND PAYMENT

3.1 The maximum amount payable to the Subrecipient under this Agreement shall not exceed **Eighty-Three Thousand Six Hundred** Dollars (**$83,600**) ("Grant Amount"). This amount is a portion of the Prime Agreement grant funds and is subject to the City's receipt of funds from Caltrans.

3.2 Funds may only be used for the purpose set forth in this Agreement, the Prime Agreement, and the attachments to the Prime Agreement, and funds may only be used for costs and expenses that are directly related to such purpose.

3.3 Compensation shall be based on actual allowable costs incurred by the Subrecipient in performing the Services, in accordance with Section III, Paragraph 15 of the Prime Agreement (Payment and Invoicing). No in-kind contributions are allowed unless identified in advance and approved by both Parties in writing.

3.4 The Subrecipient shall submit invoices to the City at least quarterly but no more frequently than monthly, in arrears, for completed milestones. Invoices shall include:

(a) Names of Subrecipient personnel performing work.

(b) Dates, times, and locations of work.

(c) Itemized costs, including labor rates, hours, travel expenses (limited to State of California Department of Human Resources rates), and receipts.

(d) Certification of compliance with this Agreement and the Prime Agreement.

3.5 Indirect costs are reimbursable only if the Subrecipient has an approved Indirect Cost Allocation Plan or Indirect Cost Rate Proposal per 2 CFR Part 200 and Chapter 5 of the Local Assistance Procedures Manual.

3.6 The City shall reimburse the Subrecipient for allowable costs within thirty (30) days of approval, subject to the City's receipt of corresponding reimbursement from Caltrans. The Subrecipient must have paid for costs before claiming reimbursement.

3.7 All costs must be incurred after the City's issuance of a Notice to Proceed and before the end of the Term.

4. TERM AND PERIOD OF PERFORMANCE

4.1 This Agreement shall become effective on the Effective Date or upon the City's receipt of a Notice to Proceed from Caltrans under the Prime Agreement, whichever occurs later. The term of this Agreement ("Term") shall continue in full force and effect until June 30, 2028,

unless earlier terminated in accordance with the provisions of Section 7 (Termination) herein or upon the expiration or termination of the Prime Agreement, whichever occurs first. Notwithstanding the foregoing, the Subrecipient's obligations regarding record retention, audits, indemnification, re-payment of unallowable costs, and any other provisions that by their nature survive termination shall remain in effect beyond the expiration or termination of this Agreement, as specified in the applicable sections hereof and in the Prime Agreement. The Subrecipient shall commence performance of the Services promptly upon the Effective Date and shall complete all Services in a timely manner consistent with the Project timeline set forth in Attachment II to the Prime Agreement. Time is of the essence in the performance of this Agreement.

4.2 The Subrecipient shall attend a kickoff meeting with the City within one week of the Notice to Proceed.

5. PASS-THROUGH OBLIGATIONS AND COMPLIANCE

5.1 Compliance with Laws, Regulations, and Policies. The Subrecipient shall perform all Services under this Agreement in accordance with California Senate Bill No. 1 (SB-1) (Chapter 5, Statutes of 2017), also known as the Road Repair and Accountability Act of 2017, including, but not limited to, Government Code Section 14460(a)(1), as well as all applicable Federal, State, and Local laws, regulations, and ordinances, all applicable Caltrans policies and procedures, and all applicable Caltrans published manuals, including, but not limited to, the applicable Grant Application Guide (Attachment III to the Prime Agreement). In case of conflict between any applicable Federal, State, and Local laws, regulations, and ordinances, and/or any applicable policies, procedures, or published manuals of either Caltrans or the City, the order of precedence of the applicability of same to this Agreement shall be established in this order: 1) Federal laws and regulations; 2) California laws and regulations; 3) Caltrans policies, procedures, and published manuals; 4) Local ordinances; and 5) City policies, procedures, and published manuals.

5.2 Payment and Invoicing. The Subrecipient shall establish and maintain an accounting system and records that properly accumulate and segregate incurred Project costs by line. The accounting system of the Subrecipient shall conform to Generally Accepted Accounting Principles (GAAP), enable the determination of incurred costs at interim points of completion, and provide support for reimbursement payment vouchers or invoices. Reimbursement of the Subrecipient's expenditures will be authorized only for those allowable costs actually incurred by the Subrecipient in accordance with the provisions of this Agreement and the Prime Agreement and in the performance of the Services. The Subrecipient must not only have incurred the expenditures on or after the start date and the issuance of the Notice to Proceed letter for this Agreement and before the Expiration Date but must have also paid for those costs to claim any reimbursement. Travel expenses and per diem rates are not to exceed the rate specified by the State of California Department of Human Resources for similar employees (i.e., non-represented employees) unless written verification is supplied that government hotel rates were not then commercially available to the Subrecipient at the time and location required as specified in the California Department of Transportation's Travel Guide Exception Process. The Subrecipient shall submit invoices to the City at least quarterly, but no more frequently than monthly, in arrears for completion of milestones in accordance with the Project Cost and Schedule in Attachment II to the Prime Agreement to the satisfaction of the City. Invoices shall reference this Agreement Number and shall be signed and submitted to the City. One-time lump sum invoices for the Grant Amount

are not allowed. Invoices shall include the following information: 1) Names of the Subrecipient personnel performing work; 2) Dates and times of Project Work; 3) Locations of Project Work; 4) Itemized costs as set forth in Attachment II to the Prime Agreement, including identification of each employee who provided services during the period of the invoice, the number of hours and hourly rates for each employee, authorized travel expenses with receipts, receipts for authorized materials or supplies, and contractor, sub-recipient, and subcontractor invoices. Incomplete or inaccurate invoices shall be returned to the Subrecipient unapproved for correction. Failure to submit invoices on a timely basis may be grounds for termination of this Agreement for material breach per Section 7. The Agreement Expiration Date refers to the last date for the Subrecipient to incur valid Project costs or credits and is the date the Agreement expires. The Subrecipient has 60 days after that Expiration Date to make final allowable payments to Project contractors or vendors and submit the Project's Final Product(s) as defined in Attachment II to the Prime Agreement and a final accurate invoice to the City for reimbursement for allowable Project costs. Any unexpended Project funds not invoiced by the 60th day will be reverted and will no longer be accessible to reimburse late Project invoices.

5.3 Cost Principles. The Subrecipient agrees to comply with Title 2, Code of Federal Regulations (CFR), Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. The Subrecipient agrees that (a) Contract Cost Principles and Procedures, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31, et seq., shall be used to determine the allowability of individual Project costs and (b) the Parties shall comply with Federal administrative procedures in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. The Subrecipient shall comply with Federal administrative procedures in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards to the extent applicable. Prior to the Subrecipient seeking reimbursement of indirect costs, the Subrecipient must have identified the estimated indirect cost rate in Attachment II to the Prime Agreement, prepare and submit annually to the City for review and approval an indirect cost rate proposal and a central service cost allocation plan (if any) in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards and Chapter 5 of the Local Assistance Procedures Manual. The Subrecipient agrees and shall require that all its agreements with consultants and sub-recipients contain provisions requiring adherence to this section in its entirety.

5.4 Repayment of Unallowable Costs. Any Project costs for which the Subrecipient has received payment or credit that are determined by subsequent audit to be unallowable under 2 CFR, Part 200, and/or Part 48, Chapter 1, Part 31, are subject to repayment by the Subrecipient to the City. Should the Subrecipient fail to reimburse moneys due the City within thirty (30) days of discovery or demand, or within such other period as may be agreed in writing between the parties hereto, the City is authorized to intercept and withhold future payments due the Subrecipient from the City or any third-party source, including, but not limited to, the State Treasurer, the State Controller or any other fund source.

5.5 Americans with Disabilities Act. By signing this Agreement, the Subrecipient assures the City that in the course of performing Project Work, it will fully comply with the applicable provisions of the Americans with Disabilities Act (ADA) of 1990, as amended, which

prohibits discrimination on the basis of disability, as well as all applicable regulations and guidelines issued pursuant to the ADA (42 USC Section 12101 et seq.).

5.6 Indemnification. Neither the City, Caltrans, nor any officer or employee thereof is responsible for any injury, damage, or liability occurring by reason of anything done or omitted to be done by the Subrecipient, its officers, employees, agents, contractors, subrecipients, or subcontractors, under or in connection with any work, authority, or jurisdiction conferred upon the Subrecipient under this Agreement. It is understood and agreed that the Subrecipient shall fully defend, indemnify, and save harmless the City, Caltrans, and all of their officers and employees from all claims, suits, or actions of every name, kind, and description brought forth under, including, but not limited to, tortuous, contractual, inverse condemnation, or other theories or assertions of liability occurring by reason of anything done or omitted to be done by the Subrecipient, its officers, employees, agents, contractors, subrecipients, or subcontractors under this Agreement.

5.7 Nondiscrimination Clause. During the performance of this Agreement, the Subrecipient shall not deny the contract's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status. The Subrecipient shall ensure that the evaluation and treatment of employees and applicants for employment are free of such discrimination. The Subrecipient shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code Sections 12900 et seq.), the regulations promulgated thereunder (Cal. Code Regs., Tit. 2, Sections 11000 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code Sections 11135-11139.5), and the regulations or standards adopted by the City or Caltrans to implement such article. The Subrecipient shall permit access by representatives of the Department of Fair Employment and Housing, the City, and Caltrans upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department, the City, or Caltrans shall require to ascertain compliance with this clause. The Subrecipient shall give written notice of its obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. The Subrecipient shall include the nondiscrimination and compliance provisions of this clause in all agreements with its contractors and subcontractors (preapproved by City), and shall include a requirement in all agreements with all of same that each of them in turn include the nondiscrimination and compliance provisions of this clause in all contracts and subcontracts they enter into to perform work under this Agreement.

5.8 Retention of Records/Audits. The Subrecipient agrees to comply with Title 2, Code of Federal Regulations (CFR), Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. All accounting records and other supporting papers of the Subrecipient, its contractors, subcontractors, and sub-recipients connected with Project performance under this Agreement shall be maintained for a minimum of three (3) years from the date of final payment to the Subrecipient and shall be held open to inspection, copying, and audit

by representatives of the City, Caltrans, the California State Auditor, and auditors representing the Federal government. Copies thereof will be furnished by the Subrecipient, its contractors, its subcontractors, and sub-recipients upon receipt of any request made by the City, Caltrans, or its agents. In conducting an audit of the costs and match credits claimed under this Agreement, the City and Caltrans will rely to the maximum extent possible on any prior audit of the Subrecipient pursuant to the provisions of State and City law. In the absence of such an audit, any acceptable audit work performed by the Subrecipient's external and internal auditors may be relied upon and used by the City and Caltrans when planning and conducting additional audits. For the purpose of determining compliance with applicable State and City law in connection with the performance of the Subrecipient's contracts with third parties pursuant to Government Code Section 8546.7, the Subrecipient, the Subrecipient's sub-recipients, contractors, subcontractors, the City, and Caltrans, shall each maintain and make available for inspection all books, documents, papers, accounting records, and other evidence pertaining to the performance of such contracts, including, but not limited to, the costs of administering those various contracts. All the above referenced parties shall make such materials available at their respective offices at all reasonable times during the entire Project period and for three (3) years from the date of final payment to the Subrecipient under this Agreement. The City, Caltrans, the California State Auditor, or any duly authorized representative of the City, Caltrans, or the United States Department of Transportation, shall each have access to any books, records, and documents that are pertinent to a Project for audits, examinations, excerpts, and transactions, and the Subrecipient shall furnish copies thereof if requested. The Subrecipient, its sub-recipients, contractors, and subcontractors will permit access to all records of employment, employment advertisements, employment application forms, and other pertinent data and records by the State Fair Employment Practices and Housing Commission, or any other agency of the State of California designated by the City or Caltrans, for the purpose of any investigation to ascertain compliance with this Agreement. Additionally, all grants may be subject to a pre-award audit prior to execution of this Agreement to ensure the Subrecipient has an adequate financial management system in place to accumulate and segregate reasonable, allowable, and allocable costs. Any contract with a contractor, subcontractor, or sub-recipient entered into as a result of this Agreement shall contain all the provisions of this article.

5.9 Drug-Free Workplace Certification. By signing this Agreement, the Subrecipient hereby certifies under penalty of perjury under the laws of California that the Subrecipient will comply with the requirements of the Drug-Free Workplace Act of 1990 (Gov. Code Sections 8350 et seq.) and will provide a Drug-Free workplace by doing all the following: a) Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations, as required by Government Code Section 8355(a)(1); b) Establish a Drug-Free Awareness Program as required by Government Code Section 8355(a)(2) to inform employees about all the following: 1) The dangers of drug abuse in the workplace; 2) The person's or organization's policy of maintaining a Drug-Free workplace; 3) Any available counseling, rehabilitation, and employee assistance programs; and 4) Penalties that may be imposed upon employees for drug abuse violations; c) Provide, as required by Government Code Section 8355(a)(3), that every employee who works on the proposed contract or grant: 1) Will receive a copy of the company's Drug-Free Policy Statement; and 2) Will agree to abide by the terms of the company's statement as a condition of employment on the contract or grant; d) Failure to comply with these requirements may result in suspension of payments under this Agreement or termination of this Agreement or both, and the Subrecipient may be ineligible for the award of any future State

contracts if the City or Caltrans determines that any of the following has occurred: (1) the Subrecipient has made a false certification or, (2) the Subrecipient violates the certification by failing to carry out the requirements as noted above.

5.10 State-Owned Data. The Subrecipient agrees to comply with the following requirements to ensure the preservation, security, and integrity of State-owned data on portable computing devices and portable electronic storage media: 1) Encrypt all State-owned data stored on portable computing devices and portable electronic storage media using government-certified Advanced Encryption Standard (AES) cipher algorithm with a 256-bit or 128-bit encryption key to protect Caltrans data stored on every sector of a hard drive, including temp files, cached data, hibernation files, and even unused disk space; 2) Data encryption shall use cryptographic technology that has been tested and approved against exacting standards, such as FIPS 140-2 Security Requirements for Cryptographic Modules; 3) Encrypt, as described above, all State-owned data transmitted from one computing device or storage medium to another; 4) Maintain confidentiality of all State-owned data by limiting data sharing to those individuals contracted to provide services on behalf of the State, and limit use of State information assets for State purposes only; 5) Install and maintain current anti-virus software, security patches, and upgrades on all computing devices used during the course of the Agreement; 6) Notify the City immediately of any actual or attempted violations of security of State-owned data, including lost or stolen computing devices, files, or portable electronic storage media containing State-owned data; 7) Advise the owner of the State-owned data, the City Manager, and the City Chief Information Officer of vulnerabilities that may present a threat to the security of State-owned data and of specific means of protecting that State-owned data. The Subrecipient agrees to use the State-owned data only for State purposes under this Agreement. The Subrecipient agrees to not transfer State-owned data to any computing system, mobile device, or desktop computer without first establishing the specifications for information integrity and security as established for the original data file(s) (State Administrative Manual (SAM) Section 5335.1).

5.11 Assumption of Risk and Indemnification Regarding Exposure to Environmental Health Hazards. In addition to, and not a limitation of, the Subrecipient's indemnification obligations contained elsewhere in this Agreement, the Subrecipient hereby assumes all risks of the consequences of exposure of the Subrecipient's employees, agents, subrecipients, contractors, and subcontractors, subcontractors' employees, and any other person, firm, or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement, to any and all environmental health hazards, local and otherwise, in connection with the performance of this Agreement. Such hazards include, but are not limited to, bodily injury and/or death resulting in whole or in part from exposure to infectious agents and/or pathogens of any type, kind or origin. The Subrecipient also agrees to take all appropriate safety precautions to prevent any such exposure to the Subrecipient's employees, agents, subrecipients, contractors, and subcontractors, subcontractors' employees, and any other person, firm or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement. The Subrecipient also agrees to indemnify and hold harmless the City, Caltrans, the State of California, and each and all their officers, agents and employees, from any and all claims and/or losses accruing or resulting from such exposure. Except as provided by law, the Subrecipient also agrees that the provisions of this paragraph shall apply regardless of the existence or degree of negligence or fault on the part of the City, Caltrans, the State of California, and/or any of their officers, agents and/or employees.

5.12 Mandatory Organic Waste Recycling. It is understood and agreed that pursuant to Public Resources Code Sections 42649.8 et seq., if the Subrecipient generates two (2) cubic yards or more of organic waste or commercial solid waste per week, the Subrecipient shall arrange for organic waste or commercial waste recycling services that separate/source organic waste for organic waste recycling. The Subrecipient shall provide proof of compliance, i.e., organic waste recycling services or commercial waste recycling services that separate/source organic waste recycling, upon request from the City.

5.13 ADA Compliance. All entities that provide electronic or information technology or related services that will be posted online by the City or Caltrans must be in compliance with Government Code Sections 7405 and 11135 and the Web Content Accessibility Guidelines (WCAG) 2.0 or subsequent version, published by the Web Accessibility Initiative of the World Wide Web Consortium at a minimum Level AA success. All entities will respond to and resolve any complaints/deficiencies regarding accessibility brought to their attention.

5.14 Executive Order N-6-22 – Russia Sanctions. On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (the EO) regarding Economic Sanctions against Russia and Russian entities and individuals. "Economic Sanctions" refers to sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law unless the contract has been Federalized (i.e., there is federal participation in any phase). The EO directs state agencies to terminate contracts with, and to refrain from entering any new contracts with, individuals or entities that are determined to be a target of Economic Sanctions. Accordingly, should the City or the State determine the Subrecipient is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this agreement. The City shall provide the Subrecipient advance written notice of such termination, allowing the Subrecipient at least 30 calendar days to provide a written response. Termination shall be at the sole discretion of the City.

5.15 The Subrecipient shall ensure that its contractors and subcontractors comply with all pass-through obligations set forth in this Section 5.

5.16 The Subrecipient shall provide quarterly progress reports to the City, detailing progress, expenditures, and any issues, to enable the City's reporting to Caltrans under Section III, Paragraph 17 of the Prime Agreement.

6. INSURANCE

6.1 Time for Compliance. Subrecipient shall not commence work under this Agreement until it has provided evidence satisfactory to the City that it has secured all insurance required under this section. In addition, Subrecipient shall not allow any subconsultant to commence work on any subcontract until it has provided evidence satisfactory to the City that the subconsultant has secured all insurance required under this section. Failure to provide and maintain all required insurance shall be grounds for the City to terminate this Agreement for cause.

6.2 Types of Insurance Required. As a condition precedent to the effectiveness of this Agreement for work to be performed hereunder, and without limiting the indemnity provisions of the Agreement, the Subrecipient, in partial performance of its obligations under such Agreement,

shall procure and maintain in full force and effect during the term of the Agreement the following policies of insurance. If the existing policies do not meet the insurance requirements set forth herein, Subrecipient agrees to amend, supplement or endorse the policies to do so.

(a) Commercial General Liability: Commercial General Liability Insurance which affords coverage at least as broad as Insurance Services Office "occurrence" form CG 00 01, or the exact equivalent, with limits of not less than $1,000,000 per occurrence and no less than $2,000,000 in the general aggregate. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions (1) limiting coverage for contractual liability; (2) excluding coverage for claims or suits by one insured against another (cross-liability); (3) products/completed operations liability; or (4) containing any other exclusion(s) contrary to the terms or purposes of this Agreement.

(b) Automobile Liability Insurance: Automobile Liability Insurance with coverage at least as broad as Insurance Services Office Form CA 00 01 covering "Any Auto" (Symbol 1), or the exact equivalent, covering bodily injury and property damage for all activities with limits of not less than $1,000,000 combined limit for each occurrence.

(c) Workers' Compensation: Workers' Compensation Insurance, as required by the State of California and Employer's Liability Insurance with a limit of not less than $1,000,000 per accident for bodily injury and disease.

6.3 Professional Liability (Errors & Omissions): Professional Liability insurance or Errors & Omissions insurance appropriate to Subrecipient's profession with limits of not less than $1,000,000. Covered professional services shall specifically include all work to be performed under the Agreement and delete any exclusions that may potentially affect the work to be performed (for example, any exclusions relating to lead, asbestos, pollution, testing, underground storage tanks, laboratory analysis, soil work, etc.). If coverage is written on a claims-made basis, the retroactive date shall precede the effective date of the initial Agreement and continuous coverage will be maintained or an extended reporting period will be exercised for a period of at least five (5) years from termination or expiration of this Agreement.

6.4 Insurance Endorsements. Required insurance policies shall contain the following provisions, or Subrecipient shall provide endorsements on forms approved by the City to add the following provisions to the insurance policies:

(a) Commercial General Liability: (1) Additional Insured: The City, its officials, officers, employees, agents, and volunteers shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the Agreement. Additional Insured Endorsements shall not (1) be restricted to "ongoing operations"; (2) exclude "contractual liability"; (3) restrict coverage to "sole" liability of Subrecipient; or (4) contain any other exclusions contrary to the terms or purposes of this Agreement. For all policies of Commercial General Liability insurance, Subrecipient shall provide endorsements in the form of ISO CG 20 10 10 01 and 20 37 10 01 (or endorsements providing the exact same coverage) to effectuate this requirement. (2) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(b) Automobile Liability. (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(c) Professional Liability (Errors & Omissions): 1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium. (2) Contractual Liability Exclusion Deleted: This insurance shall include contractual liability applicable to this Agreement. The policy must "pay on behalf of" the insured and include a provision establishing the insurer's duty to defend.

(d) Workers' Compensation: (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium. (2) Waiver of Subrogation: A waiver of subrogation stating that the insurer waives all rights of subrogation against the City, its officials, officers, employees, agents, and volunteers.

6.5 Primary and Non-Contributing Insurance. All policies of Commercial General Liability and Automobile Liability insurance shall be primary and any other insurance, deductible, or self-insurance maintained by the City, its officials, officers, employees, agents, or volunteers shall not contribute with this primary insurance. Policies shall contain or be endorsed to contain such provisions.

6.6 Waiver of Subrogation. All required insurance coverages, except for the professional liability coverage, shall contain or be endorsed to waiver of subrogation in favor of the City, its officials, officers, employees, agents, and volunteers or shall specifically allow Subrecipient or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. Subrecipient hereby waives its own right of recovery against City, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

6.7 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be approved in writing by the City and shall protect the City, its officials, officers, employees, agents, and volunteers in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention.

6.8 Evidence of Insurance. The Subrecipient, concurrently with the execution of the Agreement, and as a condition precedent to the effectiveness thereof, shall deliver either certified copies of the required policies, or original certificates on forms approved by the City, together with all endorsements affecting each policy. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for approval. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. At least fifteen (15 days) prior to the expiration of any such policy, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the City. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Subrecipient shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage,

file with the City evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies.

6.9 Acceptability of Insurers. Each such policy shall be from a company or companies with a current A.M. Best's rating of no less than A:VII and authorized to transact business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law.

6.10 Enforcement of Agreement Provisions (non estoppel). Subrecipient acknowledges and agrees that actual or alleged failure on the part of the City to inform Subrecipient of non-compliance with any requirement imposes no additional obligation on the City nor does it waive any rights hereunder.

6.11 Requirements Not Limiting. Requirement of specific coverage or minimum limits contained in this Section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance.

6.12 Additional Insurance Provisions

(a) The foregoing requirements as to the types and limits of insurance coverage to be maintained by Subrecipient, and any approval of said insurance by the City, is not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Subrecipient pursuant to this Agreement, including but not limited to, the provisions concerning indemnification.

(b) If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, City has the right but not the duty to obtain the insurance it deems necessary and any premium paid by City will be promptly reimbursed by Subrecipient or City will withhold amounts sufficient to pay premium from Subrecipient payments. In the alternative, City may cancel this Agreement.

(c) The City may require the Subrecipient to provide complete copies of all insurance policies in effect for the duration of the Project.

(d) Neither the City nor any of its officials, officers, employees, agents or volunteers shall be personally responsible for any liability arising under or by virtue of this Agreement.

(e) The limits set forth herein shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Subrecipient from liability in excess of such coverage, nor shall it limit the Subrecipient's indemnification obligations to the City and shall not preclude the City from taking such other actions available to the City under other provisions of the Agreement or law.

(f) Subrecipient shall report to the City, in addition to Subrecipient's insurer, any and all insurance claims submitted by Subrecipient in connection with the Services under this Agreement.

6.13 Insurance for Subconsultants. Subrecipient shall include all subconsultants engaged in any work for Subrecipient relating to this Agreement as additional insureds under the Subrecipient's policies, or the Subrecipient shall be responsible for causing subconsultants to purchase the appropriate insurance in compliance with the terms of these Insurance Requirements, including adding the City, its officials, officers, employees, agents, and volunteers as additional insureds to the subconsultant's policies. All policies of Commercial General Liability insurance provided by Subrecipient's subconsultants performing work relating to this Agreement shall be endorsed to name the City, its officials, officers, employees, agents and volunteers as additional insureds using endorsement form ISO CG 20 38 04 13 or an endorsement providing equivalent coverage. Subrecipient shall not allow any subconsultant to commence work on any subcontract relating to this Agreement until it has received satisfactory evidence of subconsultant's compliance with all insurance requirements under this Agreement, to the extent applicable. The Subrecipient shall provide satisfactory evidence of compliance with this section upon request of the City.

7. TERMINATION

7.1 City reserves the right to terminate this Agreement for any or no reason upon written notice to Subrecipient at least 30 days in advance of the effective date of such termination in the event City determines (at its sole discretion) that Subrecipient failed to proceed or continue with Project Work in accordance with the terms of this Agreement. In the event of termination for convenience, City will reimburse Subrecipient for all allowable, authorized, and non-cancelled costs up to the date of termination.

7.2 This Agreement may be terminated by either party for any or no reason by giving written notice to the other Party at least thirty (30) days in advance of the effective date of such termination. In the event of termination for convenience, City will reimburse Subrecipient for all allowable, authorized, and non-cancelled costs up to the date of termination.

7.3 Subrecipient has sixty (60) days after the Termination Date to submit accurate invoices to City to make final allowable payments for Project costs in accordance with the terms of this Agreement. Failure to submit accurate invoices within this period of time shall result in a waiver by Subrecipient of its right to reimbursement of expended costs.

8. BUDGET CONTINGENCY CLAUSE

8.1 It is mutually agreed that if Caltrans is unable to appropriate or allocate funds during the current year and/or any subsequent years covered under this Agreement and are not able to provide sufficient funds for the Project, this Agreement shall be of no further force and effect. In this event, City shall have no liability to pay any funds whatsoever to Subrecipient or to furnish any other consideration under this Agreement and Subrecipient shall not be obligated to perform any provisions of this Agreement.

8.2 If funding to Caltrans for any fiscal year is reduced or deleted for purposes of this Project, City shall have the option to either terminate this Agreement with no liability occurring to City or offer an Agreement Amendment to Subrecipient to reflect reduced amount.

9. CHANGES/AMENDMENTS

This Agreement may only be amended or modified during the Term of the by mutual written agreement of the Parties. Any proposed modification to this Agreement that requires a formal amendment must be submitted by Subrecipient to City no less than 120 days prior to the expiration of the Term.

10. DISPUTE RESOLUTION

Disputes shall be resolved per Section III, Paragraph 24 of the Prime Agreement, including good faith negotiations and alternative dispute resolution before litigation.

11. INDEPENDENT CONTRACTOR

The Subrecipient is an independent contractor, not an employee or agent of the City.

12. NOTICES

The City's Project Manager for the Project is Kendra Reif. The City's Financial Manager for the Project is Ruben Ramirez. The Subrecipient's Contract Manager is Bernadette Austin, or her designee following notice to the City.

All notices herein provided to be given, or which may be given, by either Party to the other, shall be deemed to have been fully given when made in writing and received by the Parties at their respective addresses:

City of Coachella
Attention: Kendra Reif, Project Manager
53990 Enterprise Way
Coachella, CA 92236
Phone: (760) 398-3502
Email: kreif@coachella.org

CivicWell
Attention: Bernadette Austin, CEO
520 Capitol Mall, Suite 440
Sacramento, CA 95814
Email: baustin@civicwell.org

13. COOPERATION; FURTHER ACTS

The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Agreement.

14. ENTIRE AGREEMENT

This Agreement contains the entire agreement of the Parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements.

15. ATTORNEYS' FEES

If either party commences an action against the other party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorneys' fees and all costs of such action.

16. GOVERNING LAW

This Agreement shall be governed by the laws of the State of California. Venue shall be in Riverside County. In addition to any and all contract requirements pertaining to notices of and requests for compensation or payment for extra work, disputed work, claims and/or changed conditions, Subrecipient must comply with the claim procedures set forth in Government Code sections 900 et seq. prior to filing any lawsuit against the City. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra work, disputed work, claims, and/or changed conditions have been followed by Subrecipient. If no such Government Code claim is submitted, or if any prerequisite contractual requirements are not otherwise satisfied as specified herein, Subrecipient shall be barred from bringing and maintaining a valid lawsuit against the City.

17. TIME OF ESSENCE

Time is of the essence for each and every provision of this Agreement.

18. CITY'S RIGHT TO EMPLOY OTHER SUBRECIPIENTS.

City reserves right to employ other subrecipients in connection with this Project.

19. SUCCESSORS AND ASSIGNS

This Agreement shall be binding on the successors and assigns of the parties.

20. ASSIGNMENT OR TRANSFER

Subrecipient shall not assign, sublet, or transfer this Agreement or any rights under or interest in this Agreement without the written consent of the City, which may be withheld for any reason. Any attempt to so assign or so transfer without such consent shall be void and without legal effect and shall constitute grounds for termination. Subrecipient shall not subcontract any portion of the Services required by this Agreement, except as expressly stated herein, without prior written approval of City. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

21. CONSTRUCTION; REFERENCES; CAPTIONS

Since the Parties or their agents have participated fully in the preparation of this Agreement, the language of this Agreement shall be construed simply, according to its fair meaning, and not strictly for or against any Party. Any term referencing time, days or period for performance shall be deemed calendar days and not work days. All references to Subrecipient include all personnel, employees, agents, and subconsultants of Subrecipient, except as otherwise specified in this Agreement. All references to City include its elected officials, officers, employees, agents, and volunteers except as otherwise specified in this Agreement. The captions of the various articles and paragraphs are for convenience and ease of reference only, and do not define, limit, augment, or describe the scope, content, or intent of this Agreement.

22. WAIVER

No waiver of any default shall constitute a waiver of any other default or breach, whether of the same or other covenant or condition. No waiver, benefit, privilege, or service voluntarily given or performed by a Party shall give the other Party any contractual rights by custom, estoppel, or otherwise.

23. NO THIRD-PARTY BENEFICIARIES

There are no intended third party beneficiaries of any right or obligation assumed by the Parties.

24. INVALIDITY; SEVERABILITY

If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

25. PROHIBITED INTERESTS

Subrecipient maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Subrecipient, to solicit or secure this Agreement. Subrecipient warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Subrecipient, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. Subrecipient further agrees to file, or shall cause its employees or subconsultants to file, a Statement of Economic Interest with the City's Filing Officer as required under state law in the performance of the Services. For breach or violation of this warranty, City shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of City, during the term of his or her service with City, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

26. AUTHORITY TO ENTER AGREEMENT

Subrecipient has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

27. COUNTERPARTS

This Agreement may be signed in counterparts, each of which shall constitute an original.

28. SURVIVAL

All rights and obligations hereunder that by their nature are to continue after any expiration or termination of this Agreement, including, but not limited to, the indemnification obligations, shall survive any such expiration or termination.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

CITY OF COACHELLA

By: _____

Printed Name: _____

Title: _____

Date: _____

CIVICWELL

By: _____

Printed Name: Bernadette Austin

Title: CEO

Date: _____

EXHIBIT "1"

PRIME AGREEMENT

SUBRECIPIENT AGREEMENT

This Subrecipient Agreement ("Agreement"), effective as of _____, 2026 ("Effective Date") is entered into by and between the CITY OF COACHELLA, a municipal corporation of the State of California with its principal place of business located at 53990 Enterprise Way, Coachella, CA 92236 ("City"), and **TERRA NOVA**, a California nonprofit public benefit corporation with its principal place of business located at **42635 Melanie Place, Suite 101, Palm Desert, CA 92211** ("Subrecipient"). City and Subrecipient shall be referred to herein individually as "Party" and collectively as "Parties."

RECITALS

A. The City has entered into a Restricted Grant Agreement (RGA) with the California Department of Transportation (Caltrans), Agreement Number 74A1763, dated November 17, 2025 ("Prime Agreement"), for the Cesar Chavez Street Corridor Transformation Plan project (the "Project"), funded pursuant to Budget Act Line Item 2660-102-3290 under California Senate Bill No. 1 (SB-1), also known as the Road Repair and Accountability Act of 2017.

B. The Prime Agreement provides restricted grant funds in the amount of $393,740.00 to the City for the purpose of conducting transportation studies and planning within the Project area, as detailed in the Scope of Work and Project Cost and Schedule (Attachment II to the Prime Agreement), the Grant Application Guide (Attachment III to the Prime Agreement), and other attachments incorporated therein.

C. The City is responsible under the Prime Agreement for timely and satisfactorily completing all Project work within the budget and in accordance with the terms of the Prime Agreement.

D. The Subrecipient has been identified in the Scope of Work (Attachment II to the Prime Agreement) as a sub-applicant and partner to assist the City with Project management, coordination, community engagement, outreach, and other specified tasks essential to the Project.

E. The City desires to pass through a portion of the grant funds and delegate certain Project responsibilities to the Subrecipient, subject to the Subrecipient's compliance with all applicable terms of the Prime Agreement, California law, and this Agreement.

F. This Agreement is intended to ensure that the Subrecipient performs its delegated responsibilities in full compliance with the Prime Agreement and all federal, state, and local laws, regulations, and requirements applicable to the use of SB-1 funds, including but not limited to Government Code Section 14460(a)(1) and 2 CFR Part 200 (Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards).

NOW, THEREFORE, in consideration of the mutual covenants and conditions herein, the parties agree as follows:

1. INCORPORATION OF PRIME AGREEMENT

1.1 The Prime Agreement, including all attachments (e.g., Attachment I: Agency Resolution; Attachment II: Scope of Work and Project Cost and Schedule; Attachment III: Grant Application Guide), is incorporated herein and attached hereto as **Exhibit "1."** The Subrecipient acknowledges receipt of a copy of the Prime Agreement and agrees to comply with all applicable terms, covenants, conditions, and obligations therein as if the Subrecipient were the "AGENCY" under the Prime Agreement, to the extent such terms are applicable to the Subrecipient's scope of services.

1.2 In the event of any conflict between this Agreement and the Prime Agreement, the Prime Agreement shall control, except where this Agreement imposes more stringent requirements to ensure compliance with California law.

2. SCOPE OF SERVICES

2.1 The Subrecipient shall perform the services described in the Scope of Work (Attachment II to the Prime Agreement) assigned to TERRA NOVA ("Services" or "Project Work"), including but not limited to:

Terra Nova will be responsible for technical analysis, documentation mapping and evaluation for the project. Terra Nova will analyze and document baseline conditions for land use, multimodal access, connectivity and traffic safety and operations, coordinate with the Technical Advisory Committee, will actively participate in community engagement activities, will develop design concepts and recommendations that respond to input from residents, stakeholders and responsible agencies, and prepare the plan document. Core components of the plan will include:

a) A comprehensive summary of the community engagement process and input received.
b) An overall framework plan for on- and off-street connections along the corridor with proposed development, circulation, and access patterns consistent with the desired community character.
c) A traffic analysis of the corridor to evaluate potential changes.
d) An analysis of current engineering standards for the corridor, recommended changes and analysis of operational impacts, cost and feasibility of proposed changes to the street.
e) An analysis of market conditions and the feasibility for different types of development along the corridor.
f) An analysis of existing stormwater facilities along the corridor and any constraints that might limit future development. Recommendations for applicable green infrastructure treatments.
g) Conceptual designs for public and private development opportunity sites and bringing streets in the area up to current complete street standards, including pedestrian, bicycle and transit facilities and enhanced streetscapes to support walking and

bicycling. Graphic street designs and/or simulations will provide a visualization tool for the public to understand roadway cross-sections and their interaction with adjacent land uses.

h) Land use plan with recommended zoning and development standards to support walkable, mixed-use infill, and affordable housing development.
i) An assessment of possible amendments to the general plan land use map, zoning and development standards that could be required to implement proposed changes.
j) Proposed development standards that the city can adopt to put the plan into operation.
k) An implementation strategy that identifies short- and long-term infrastructure improvements, funding and financing opportunities, and process for instituting policy and regulatory changes to implement the plan.

2.2 All Services shall be performed in accordance with the Project timeline in Attachment II to the Prime Agreement, the Grant Application Guide (Attachment III to the Prime Agreement), and all applicable federal, state, and local laws, regulations, ordinances, Caltrans policies and procedures, and published manuals.

2.3 The Subrecipient shall not subcontract any portion of its Services without the prior written approval of the City. Any approved subcontracts shall incorporate all applicable terms of this Agreement and the Prime Agreement.

3. COMPENSATION AND PAYMENT

3.1 The maximum amount payable to the Subrecipient under this Agreement shall not exceed **Two Hundred Sixty Thousand One Hundred Forty** Dollars (**$260,140.00**) ("Grant Amount"). This amount is a portion of the Prime Agreement grant funds and is subject to the City's receipt of funds from Caltrans.

3.2 Funds may only be used for the purpose set forth in this Agreement, the Prime Agreement, and the attachments to the Prime Agreement, and funds may only be used for costs and expenses that are directly related to such purpose.

3.3 Compensation shall be based on actual allowable costs incurred by the Subrecipient in performing the Services, in accordance with Section III, Paragraph 15 of the Prime Agreement (Payment and Invoicing). No in-kind contributions are allowed unless identified in advance and approved by both Parties in writing.

3.4 The Subrecipient shall submit invoices to the City at least quarterly but no more frequently than monthly, in arrears, for completed milestones. Invoices shall include:

(a) Names of Subrecipient personnel performing work.

(b) Dates, times, and locations of work.

(c) Itemized costs, including labor rates, hours, travel expenses (limited to State of California Department of Human Resources rates), and receipts.

(d) Certification of compliance with this Agreement and the Prime Agreement.

3.5 Indirect costs are reimbursable only if the Subrecipient has an approved Indirect Cost Allocation Plan or Indirect Cost Rate Proposal per 2 CFR Part 200 and Chapter 5 of the Local Assistance Procedures Manual.

3.6 The City shall reimburse the Subrecipient for allowable costs within thirty (30) days of approval, subject to the City's receipt of corresponding reimbursement from Caltrans. The Subrecipient must have paid for costs before claiming reimbursement.

3.7 All costs must be incurred after the City's issuance of a Notice to Proceed and before the end of the Term.

4. TERM AND PERIOD OF PERFORMANCE

4.1 This Agreement shall become effective on the Effective Date or upon the City's receipt of a Notice to Proceed from Caltrans under the Prime Agreement, whichever occurs later. The term of this Agreement ("Term") shall continue in full force and effect until June 30, 2028, unless earlier terminated in accordance with the provisions of Section 7 (Termination) herein or upon the expiration or termination of the Prime Agreement, whichever occurs first. Notwithstanding the foregoing, the Subrecipient's obligations regarding record retention, audits, indemnification, re-payment of unallowable costs, and any other provisions that by their nature survive termination shall remain in effect beyond the expiration or termination of this Agreement, as specified in the applicable sections hereof and in the Prime Agreement. The Subrecipient shall commence performance of the Services promptly upon the Effective Date and shall complete all Services in a timely manner consistent with the Project timeline set forth in Attachment II to the Prime Agreement. Time is of the essence in the performance of this Agreement.

4.2 The Subrecipient shall attend a kickoff meeting with the City within one week of the Notice to Proceed.

5. PASS-THROUGH OBLIGATIONS AND COMPLIANCE

5.1 Compliance with Laws, Regulations, and Policies. The Subrecipient shall perform all Services under this Agreement in accordance with California Senate Bill No. 1 (SB-1) (Chapter 5, Statutes of 2017), also known as the Road Repair and Accountability Act of 2017, including, but not limited to, Government Code Section 14460(a)(1), as well as all applicable Federal, State, and Local laws, regulations, and ordinances, all applicable Caltrans policies and procedures, and all applicable Caltrans published manuals, including, but not limited to, the applicable Grant Application Guide (Attachment III to the Prime Agreement). In case of conflict between any applicable Federal, State, and Local laws, regulations, and ordinances, and/or any applicable policies, procedures, or published manuals of either Caltrans or the City, the order of precedence of the applicability of same to this Agreement shall be established in this order: 1) Federal laws and regulations; 2) California laws and regulations; 3) Caltrans policies, procedures, and published manuals; 4) Local ordinances; and 5) City policies, procedures, and published manuals.

5.2 Payment and Invoicing. The Subrecipient shall establish and maintain an accounting system and records that properly accumulate and segregate incurred Project costs by line. The accounting system of the Subrecipient shall conform to Generally Accepted Accounting Principles (GAAP), enable the determination of incurred costs at interim points of completion, and provide support for reimbursement payment vouchers or invoices. Reimbursement of the Subrecipient's expenditures will be authorized only for those allowable costs actually incurred by the Subrecipient in accordance with the provisions of this Agreement and the Prime Agreement and in the performance of the Services. The Subrecipient must not only have incurred the expenditures on or after the start date and the issuance of the Notice to Proceed letter for this Agreement and before the Expiration Date but must have also paid for those costs to claim any reimbursement. Travel expenses and per diem rates are not to exceed the rate specified by the State of California Department of Human Resources for similar employees (i.e., non-represented employees) unless written verification is supplied that government hotel rates were not then commercially available to the Subrecipient at the time and location required as specified in the California Department of Transportation's Travel Guide Exception Process. The Subrecipient shall submit invoices to the City at least quarterly, but no more frequently than monthly, in arrears for completion of milestones in accordance with the Project Cost and Schedule in Attachment II to the Prime Agreement to the satisfaction of the City. Invoices shall reference this Agreement Number and shall be signed and submitted to the City. One-time lump sum invoices for the Grant Amount are not allowed. Invoices shall include the following information: 1) Names of the Subrecipient personnel performing work; 2) Dates and times of Project Work; 3) Locations of Project Work; 4) Itemized costs as set forth in Attachment II to the Prime Agreement, including identification of each employee who provided services during the period of the invoice, the number of hours and hourly rates for each employee, authorized travel expenses with receipts, receipts for authorized materials or supplies, and contractor, sub-recipient, and subcontractor invoices. Incomplete or inaccurate invoices shall be returned to the Subrecipient unapproved for correction. Failure to submit invoices on a timely basis may be grounds for termination of this Agreement for material breach per Section 7. The Agreement Expiration Date refers to the last date for the Subrecipient to incur valid Project costs or credits and is the date the Agreement expires. The Subrecipient has 60 days after that Expiration Date to make final allowable payments to Project contractors or vendors and submit the Project's Final Product(s) as defined in Attachment II to the Prime Agreement and a final accurate invoice to the City for reimbursement for allowable Project costs. Any unexpended Project funds not invoiced by the 60th day will be reverted and will no longer be accessible to reimburse late Project invoices.

5.3 Cost Principles. The Subrecipient agrees to comply with Title 2, Code of Federal Regulations (CFR), Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. The Subrecipient agrees that (a) Contract Cost Principles and Procedures, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31, et seq., shall be used to determine the allowability of individual Project costs and (b) the Parties shall comply with Federal administrative procedures in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. The Subrecipient shall comply with Federal administrative procedures in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards to the extent applicable. Prior to the Subrecipient seeking reimbursement of indirect costs, the Subrecipient must have identified the estimated indirect cost rate in Attachment II to the Prime Agreement, prepare and submit annually to the City for review and approval an indirect cost rate

proposal and a central service cost allocation plan (if any) in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards and Chapter 5 of the Local Assistance Procedures Manual. The Subrecipient agrees and shall require that all its agreements with consultants and sub-recipients contain provisions requiring adherence to this section in its entirety.

5.4 Repayment of Unallowable Costs. Any Project costs for which the Subrecipient has received payment or credit that are determined by subsequent audit to be unallowable under 2 CFR, Part 200, and/or Part 48, Chapter 1, Part 31, are subject to repayment by the Subrecipient to the City. Should the Subrecipient fail to reimburse moneys due the City within thirty (30) days of discovery or demand, or within such other period as may be agreed in writing between the parties hereto, the City is authorized to intercept and withhold future payments due the Subrecipient from the City or any third-party source, including, but not limited to, the State Treasurer, the State Controller or any other fund source.

5.5 Americans with Disabilities Act. By signing this Agreement, the Subrecipient assures the City that in the course of performing Project Work, it will fully comply with the applicable provisions of the Americans with Disabilities Act (ADA) of 1990, as amended, which prohibits discrimination on the basis of disability, as well as all applicable regulations and guidelines issued pursuant to the ADA (42 USC Section 12101 et seq.).

5.6 Indemnification. Neither the City, Caltrans, nor any officer or employee thereof is responsible for any injury, damage, or liability occurring by reason of anything done or omitted to be done by the Subrecipient, its officers, employees, agents, contractors, subrecipients, or subcontractors, under or in connection with any work, authority, or jurisdiction conferred upon the Subrecipient under this Agreement. It is understood and agreed that the Subrecipient shall fully defend, indemnify, and save harmless the City, Caltrans, and all of their officers and employees from all claims, suits, or actions of every name, kind, and description brought forth under, including, but not limited to, tortuous, contractual, inverse condemnation, or other theories or assertions of liability occurring by reason of anything done or omitted to be done by the Subrecipient, its officers, employees, agents, contractors, subrecipients, or subcontractors under this Agreement.

5.7 Nondiscrimination Clause. During the performance of this Agreement, the Subrecipient shall not deny the contract's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status. The Subrecipient shall ensure that the evaluation and treatment of employees and applicants for employment are free of such discrimination. The Subrecipient shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code Sections 12900 et seq.), the regulations promulgated thereunder (Cal. Code Regs., Tit. 2, Sections 11000 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code Sections 11135-11139.5), and the regulations or standards adopted by the City or Caltrans to

implement such article. The Subrecipient shall permit access by representatives of the Department of Fair Employment and Housing, the City, and Caltrans upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department, the City, or Caltrans shall require to ascertain compliance with this clause. The Subrecipient shall give written notice of its obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. The Subrecipient shall include the nondiscrimination and compliance provisions of this clause in all agreements with its contractors and subcontractors (preapproved by City), and shall include a requirement in all agreements with all of same that each of them in turn include the nondiscrimination and compliance provisions of this clause in all contracts and subcontracts they enter into to perform work under this Agreement.

5.8 Retention of Records/Audits. The Subrecipient agrees to comply with Title 2, Code of Federal Regulations (CFR), Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. All accounting records and other supporting papers of the Subrecipient, its contractors, subcontractors, and sub-recipients connected with Project performance under this Agreement shall be maintained for a minimum of three (3) years from the date of final payment to the Subrecipient and shall be held open to inspection, copying, and audit by representatives of the City, Caltrans, the California State Auditor, and auditors representing the Federal government. Copies thereof will be furnished by the Subrecipient, its contractors, its subcontractors, and sub-recipients upon receipt of any request made by the City, Caltrans, or its agents. In conducting an audit of the costs and match credits claimed under this Agreement, the City and Caltrans will rely to the maximum extent possible on any prior audit of the Subrecipient pursuant to the provisions of State and City law. In the absence of such an audit, any acceptable audit work performed by the Subrecipient's external and internal auditors may be relied upon and used by the City and Caltrans when planning and conducting additional audits. For the purpose of determining compliance with applicable State and City law in connection with the performance of the Subrecipient's contracts with third parties pursuant to Government Code Section 8546.7, the Subrecipient, the Subrecipient's sub-recipients, contractors, subcontractors, the City, and Caltrans, shall each maintain and make available for inspection all books, documents, papers, accounting records, and other evidence pertaining to the performance of such contracts, including, but not limited to, the costs of administering those various contracts. All the above referenced parties shall make such materials available at their respective offices at all reasonable times during the entire Project period and for three (3) years from the date of final payment to the Subrecipient under this Agreement. The City, Caltrans, the California State Auditor, or any duly authorized representative of the City, Caltrans, or the United States Department of Transportation, shall each have access to any books, records, and documents that are pertinent to a Project for audits, examinations, excerpts, and transactions, and the Subrecipient shall furnish copies thereof if requested. The Subrecipient, its sub-recipients, contractors, and subcontractors will permit access to all records of employment, employment advertisements, employment application forms, and other pertinent data and records by the State Fair Employment Practices and Housing Commission, or any other agency of the State of California designated by the City or Caltrans, for the purpose of any investigation to ascertain compliance with this Agreement. Additionally, all grants may be subject to a pre-award audit prior to execution of this Agreement to ensure the Subrecipient has an adequate financial management system in place to accumulate and segregate reasonable, allowable, and allocable costs. Any contract with a contractor, subcontractor, or sub-recipient entered into as a result of this Agreement shall contain all the provisions of this article.

5.9 Drug-Free Workplace Certification. By signing this Agreement, the Subrecipient hereby certifies under penalty of perjury under the laws of California that the Subrecipient will comply with the requirements of the Drug-Free Workplace Act of 1990 (Gov. Code Sections 8350 et seq.) and will provide a Drug-Free workplace by doing all the following: a) Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations, as required by Government Code Section 8355(a)(1); b) Establish a Drug-Free Awareness Program as required by Government Code Section 8355(a)(2) to inform employees about all the following: 1) The dangers of drug abuse in the workplace; 2) The person's or organization's policy of maintaining a Drug-Free workplace; 3) Any available counseling, rehabilitation, and employee assistance programs; and 4) Penalties that may be imposed upon employees for drug abuse violations; c) Provide, as required by Government Code Section 8355(a)(3), that every employee who works on the proposed contract or grant: 1) Will receive a copy of the company's Drug-Free Policy Statement; and 2) Will agree to abide by the terms of the company's statement as a condition of employment on the contract or grant; d) Failure to comply with these requirements may result in suspension of payments under this Agreement or termination of this Agreement or both, and the Subrecipient may be ineligible for the award of any future State contracts if the City or Caltrans determines that any of the following has occurred: (1) the Subrecipient has made a false certification or, (2) the Subrecipient violates the certification by failing to carry out the requirements as noted above.

5.10 State-Owned Data. The Subrecipient agrees to comply with the following requirements to ensure the preservation, security, and integrity of State-owned data on portable computing devices and portable electronic storage media: 1) Encrypt all State-owned data stored on portable computing devices and portable electronic storage media using government-certified Advanced Encryption Standard (AES) cipher algorithm with a 256-bit or 128-bit encryption key to protect Caltrans data stored on every sector of a hard drive, including temp files, cached data, hibernation files, and even unused disk space; 2) Data encryption shall use cryptographic technology that has been tested and approved against exacting standards, such as FIPS 140-2 Security Requirements for Cryptographic Modules; 3) Encrypt, as described above, all State-owned data transmitted from one computing device or storage medium to another; 4) Maintain confidentiality of all State-owned data by limiting data sharing to those individuals contracted to provide services on behalf of the State, and limit use of State information assets for State purposes only; 5) Install and maintain current anti-virus software, security patches, and upgrades on all computing devices used during the course of the Agreement; 6) Notify the City immediately of any actual or attempted violations of security of State-owned data, including lost or stolen computing devices, files, or portable electronic storage media containing State-owned data; 7) Advise the owner of the State-owned data, the City Manager, and the City Chief Information Officer of vulnerabilities that may present a threat to the security of State-owned data and of specific means of protecting that State-owned data. The Subrecipient agrees to use the State-owned data only for State purposes under this Agreement. The Subrecipient agrees to not transfer State-owned data to any computing system, mobile device, or desktop computer without first establishing the specifications for information integrity and security as established for the original data file(s) (State Administrative Manual (SAM) Section 5335.1).

5.11 Assumption of Risk and Indemnification Regarding Exposure to Environmental Health Hazards. In addition to, and not a limitation of, the Subrecipient's indemnification

obligations contained elsewhere in this Agreement, the Subrecipient hereby assumes all risks of the consequences of exposure of the Subrecipient's employees, agents, subrecipients, contractors, and subcontractors, subcontractors' employees, and any other person, firm, or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement, to any and all environmental health hazards, local and otherwise, in connection with the performance of this Agreement. Such hazards include, but are not limited to, bodily injury and/or death resulting in whole or in part from exposure to infectious agents and/or pathogens of any type, kind or origin. The Subrecipient also agrees to take all appropriate safety precautions to prevent any such exposure to the Subrecipient's employees, agents, subrecipients, contractors, and subcontractors, subcontractors' employees, and any other person, firm or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement. The Subrecipient also agrees to indemnify and hold harmless the City, Caltrans, the State of California, and each and all their officers, agents and employees, from any and all claims and/or losses accruing or resulting from such exposure. Except as provided by law, the Subrecipient also agrees that the provisions of this paragraph shall apply regardless of the existence or degree of negligence or fault on the part of the City, Caltrans, the State of California, and/or any of their officers, agents and/or employees.

5.12 Mandatory Organic Waste Recycling. It is understood and agreed that pursuant to Public Resources Code Sections 42649.8 et seq., if the Subrecipient generates two (2) cubic yards or more of organic waste or commercial solid waste per week, the Subrecipient shall arrange for organic waste or commercial waste recycling services that separate/source organic waste for organic waste recycling. The Subrecipient shall provide proof of compliance, i.e., organic waste recycling services or commercial waste recycling services that separate/source organic waste recycling, upon request from the City.

5.13 ADA Compliance. All entities that provide electronic or information technology or related services that will be posted online by the City or Caltrans must be in compliance with Government Code Sections 7405 and 11135 and the Web Content Accessibility Guidelines (WCAG) 2.0 or subsequent version, published by the Web Accessibility Initiative of the World Wide Web Consortium at a minimum Level AA success. All entities will respond to and resolve any complaints/deficiencies regarding accessibility brought to their attention.

5.14 Executive Order N-6-22 – Russia Sanctions. On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (the EO) regarding Economic Sanctions against Russia and Russian entities and individuals. "Economic Sanctions" refers to sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law unless the contract has been Federalized (i.e., there is federal participation in any phase). The EO directs state agencies to terminate contracts with, and to refrain from entering any new contracts with, individuals or entities that are determined to be a target of Economic Sanctions. Accordingly, should the City or the State determine the Subrecipient is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this agreement. The City shall provide the Subrecipient advance written notice of such termination, allowing the Subrecipient at least 30 calendar days to provide a written response. Termination shall be at the sole discretion of the City.

5.15 The Subrecipient shall ensure that its contractors and subcontractors comply with all pass-through obligations set forth in this Section 5.

5.16 The Subrecipient shall provide quarterly progress reports to the City, detailing progress, expenditures, and any issues, to enable the City's reporting to Caltrans under Section III, Paragraph 17 of the Prime Agreement.

6. INSURANCE

6.1 Time for Compliance. Subrecipient shall not commence work under this Agreement until it has provided evidence satisfactory to the City that it has secured all insurance required under this section. In addition, Subrecipient shall not allow any subconsultant to commence work on any subcontract until it has provided evidence satisfactory to the City that the subconsultant has secured all insurance required under this section. Failure to provide and maintain all required insurance shall be grounds for the City to terminate this Agreement for cause.

6.2 Types of Insurance Required. As a condition precedent to the effectiveness of this Agreement for work to be performed hereunder, and without limiting the indemnity provisions of the Agreement, the Subrecipient, in partial performance of its obligations under such Agreement, shall procure and maintain in full force and effect during the term of the Agreement the following policies of insurance. If the existing policies do not meet the insurance requirements set forth herein, Subrecipient agrees to amend, supplement or endorse the policies to do so.

(a) Commercial General Liability: Commercial General Liability Insurance which affords coverage at least as broad as Insurance Services Office "occurrence" form CG 00 01, or the exact equivalent, with limits of not less than $1,000,000 per occurrence and no less than $2,000,000 in the general aggregate. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions (1) limiting coverage for contractual liability; (2) excluding coverage for claims or suits by one insured against another (cross-liability); (3) products/completed operations liability; or (4) containing any other exclusion(s) contrary to the terms or purposes of this Agreement.

(b) Automobile Liability Insurance: Automobile Liability Insurance with coverage at least as broad as Insurance Services Office Form CA 00 01 covering "Any Auto" (Symbol 1), or the exact equivalent, covering bodily injury and property damage for all activities with limits of not less than $1,000,000 combined limit for each occurrence.

(c) Workers' Compensation: Workers' Compensation Insurance, as required by the State of California and Employer's Liability Insurance with a limit of not less than $1,000,000 per accident for bodily injury and disease.

6.3 Professional Liability (Errors & Omissions): Professional Liability insurance or Errors & Omissions insurance appropriate to Subrecipient's profession with limits of not less than $1,000,000. Covered professional services shall specifically include all work to be performed under the Agreement and delete any exclusions that may potentially affect the work to be performed (for example, any exclusions relating to lead, asbestos, pollution, testing, underground storage tanks, laboratory analysis, soil work, etc.). If coverage is written on a claims-made basis, the retroactive date shall precede the effective date of the initial Agreement and continuous

coverage will be maintained or an extended reporting period will be exercised for a period of at least five (5) years from termination or expiration of this Agreement.

6.4 Insurance Endorsements. Required insurance policies shall contain the following provisions, or Subrecipient shall provide endorsements on forms approved by the City to add the following provisions to the insurance policies:

(a) Commercial General Liability: (1) Additional Insured: The City, its officials, officers, employees, agents, and volunteers shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the Agreement. Additional Insured Endorsements shall not (1) be restricted to "ongoing operations"; (2) exclude "contractual liability"; (3) restrict coverage to "sole" liability of Subrecipient; or (4) contain any other exclusions contrary to the terms or purposes of this Agreement. For all policies of Commercial General Liability insurance, Subrecipient shall provide endorsements in the form of ISO CG 20 10 10 01 and 20 37 10 01 (or endorsements providing the exact same coverage) to effectuate this requirement. (2) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(b) Automobile Liability. (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(c) Professional Liability (Errors & Omissions): 1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium. (2) Contractual Liability Exclusion Deleted: This insurance shall include contractual liability applicable to this Agreement. The policy must "pay on behalf of" the insured and include a provision establishing the insurer's duty to defend.

(d) Workers' Compensation: (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium. (2) Waiver of Subrogation: A waiver of subrogation stating that the insurer waives all rights of subrogation against the City, its officials, officers, employees, agents, and volunteers.

6.5 Primary and Non-Contributing Insurance. All policies of Commercial General Liability and Automobile Liability insurance shall be primary and any other insurance, deductible, or self-insurance maintained by the City, its officials, officers, employees, agents, or volunteers shall not contribute with this primary insurance. Policies shall contain or be endorsed to contain such provisions.

6.6 Waiver of Subrogation. All required insurance coverages, except for the professional liability coverage, shall contain or be endorsed to waiver of subrogation in favor of the City, its officials, officers, employees, agents, and volunteers or shall specifically allow Subrecipient or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. Subrecipient hereby waives its own right of recovery

against City, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

6.7 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be approved in writing by the City and shall protect the City, its officials, officers, employees, agents, and volunteers in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention.

6.8 Evidence of Insurance. The Subrecipient, concurrently with the execution of the Agreement, and as a condition precedent to the effectiveness thereof, shall deliver either certified copies of the required policies, or original certificates on forms approved by the City, together with all endorsements affecting each policy. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for approval. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. At least fifteen (15 days) prior to the expiration of any such policy, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the City. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Subrecipient shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the City evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies.

6.9 Acceptability of Insurers. Each such policy shall be from a company or companies with a current A.M. Best's rating of no less than A:VII and authorized to transact business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law.

6.10 Enforcement of Agreement Provisions (non estoppel). Subrecipient acknowledges and agrees that actual or alleged failure on the part of the City to inform Subrecipient of non-compliance with any requirement imposes no additional obligation on the City nor does it waive any rights hereunder.

6.11 Requirements Not Limiting. Requirement of specific coverage or minimum limits contained in this Section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance.

6.12 Additional Insurance Provisions

(a) The foregoing requirements as to the types and limits of insurance coverage to be maintained by Subrecipient, and any approval of said insurance by the City, is not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Subrecipient pursuant to this Agreement, including but not limited to, the provisions concerning indemnification.

(b) If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, City has the right but not the duty to obtain the insurance it deems necessary and any premium paid by City will be promptly reimbursed by Subrecipient or City will withhold amounts

sufficient to pay premium from Subrecipient payments. In the alternative, City may cancel this Agreement.

(c) The City may require the Subrecipient to provide complete copies of all insurance policies in effect for the duration of the Project.

(d) Neither the City nor any of its officials, officers, employees, agents or volunteers shall be personally responsible for any liability arising under or by virtue of this Agreement.

(e) The limits set forth herein shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Subrecipient from liability in excess of such coverage, nor shall it limit the Subrecipient's indemnification obligations to the City and shall not preclude the City from taking such other actions available to the City under other provisions of the Agreement or law.

(f) Subrecipient shall report to the City, in addition to Subrecipient's insurer, any and all insurance claims submitted by Subrecipient in connection with the Services under this Agreement.

6.13 Insurance for Subconsultants. Subrecipient shall include all subconsultants engaged in any work for Subrecipient relating to this Agreement as additional insureds under the Subrecipient's policies, or the Subrecipient shall be responsible for causing subconsultants to purchase the appropriate insurance in compliance with the terms of these Insurance Requirements, including adding the City, its officials, officers, employees, agents, and volunteers as additional insureds to the subconsultant's policies. All policies of Commercial General Liability insurance provided by Subrecipient's subconsultants performing work relating to this Agreement shall be endorsed to name the City, its officials, officers, employees, agents and volunteers as additional insureds using endorsement form ISO CG 20 38 04 13 or an endorsement providing equivalent coverage. Subrecipient shall not allow any subconsultant to commence work on any subcontract relating to this Agreement until it has received satisfactory evidence of subconsultant's compliance with all insurance requirements under this Agreement, to the extent applicable. The Subrecipient shall provide satisfactory evidence of compliance with this section upon request of the City.

7. TERMINATION

7.1 City reserves the right to terminate this Agreement for any or no reason upon written notice to Subrecipient at least 30 days in advance of the effective date of such termination in the event City determines (at its sole discretion) that Subrecipient failed to proceed or continue with Project Work in accordance with the terms of this Agreement. In the event of termination for convenience, City will reimburse Subrecipient for all allowable, authorized, and non-cancelled costs up to the date of termination.

7.2 This Agreement may be terminated by either party for any or no reason by giving written notice to the other Party at least thirty (30) days in advance of the effective date of such termination. In the event of termination for convenience, City will reimburse Subrecipient for all allowable, authorized, and non-cancelled costs up to the date of termination.

7.3 Subrecipient has sixty (60) days after the Termination Date to submit accurate invoices to City to make final allowable payments for Project costs in accordance with the terms of this Agreement. Failure to submit accurate invoices within this period of time shall result in a waiver by Subrecipient of its right to reimbursement of expended costs.

8. BUDGET CONTINGENCY CLAUSE

8.1 It is mutually agreed that if Caltrans is unable to appropriate or allocate funds during the current year and/or any subsequent years covered under this Agreement and are not able to provide sufficient funds for the Project, this Agreement shall be of no further force and effect. In this event, City shall have no liability to pay any funds whatsoever to Subrecipient or to furnish any other consideration under this Agreement and Subrecipient shall not be obligated to perform any provisions of this Agreement.

8.2 If funding to Caltrans for any fiscal year is reduced or deleted for purposes of this Project, City shall have the option to either terminate this Agreement with no liability occurring to City or offer an Agreement Amendment to Subrecipient to reflect reduced amount.

9. CHANGES/AMENDMENTS

This Agreement may only be amended or modified during the Term of the by mutual written agreement of the Parties. Any proposed modification to this Agreement that requires a formal amendment must be submitted by Subrecipient to City no less than 120 days prior to the expiration of the Term.

10. DISPUTE RESOLUTION

Disputes shall be resolved per Section III, Paragraph 24 of the Prime Agreement, including good faith negotiations and alternative dispute resolution before litigation.

11. INDEPENDENT CONTRACTOR

The Subrecipient is an independent contractor, not an employee or agent of the City.

12. NOTICES

The City's Project Manager for the Project is Kendra Reif. The City's Financial Manager for the Project is Ruben Ramirez. The Subrecipient's Contract Manager is Bernadette Austin, or her designee following notice to the City.

All notices herein provided to be given, or which may be given, by either Party to the other, shall be deemed to have been fully given when made in writing and received by the Parties at their respective addresses:

City of Coachella
Attention: Kendra Reif, Project Manager
53990 Enterprise Way
Coachella, CA 92236
Phone: (760) 398-3502
Email: kreif@coachella.org

TERRA NOVA
Attention: Nicole Sauviat Criste
42635 Melanie Place, Suite 101
Palm Desert, CA 92211
Email: admin@terranovaplanning.com

13. COOPERATION; FURTHER ACTS

The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Agreement.

14. ENTIRE AGREEMENT

This Agreement contains the entire agreement of the Parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements.

15. ATTORNEYS' FEES

If either party commences an action against the other party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorneys' fees and all costs of such action.

16. GOVERNING LAW

This Agreement shall be governed by the laws of the State of California. Venue shall be in Riverside County. In addition to any and all contract requirements pertaining to notices of and requests for compensation or payment for extra work, disputed work, claims and/or changed conditions, Subrecipient must comply with the claim procedures set forth in Government Code sections 900 et seq. prior to filing any lawsuit against the City. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra work, disputed work, claims, and/or changed conditions have been followed by Subrecipient. If no such Government Code claim is submitted, or if any prerequisite contractual requirements are not otherwise satisfied as specified herein, Subrecipient shall be barred from bringing and maintaining a valid lawsuit against the City.

17. TIME OF ESSENCE

Time is of the essence for each and every provision of this Agreement.

18. CITY'S RIGHT TO EMPLOY OTHER SUBRECIPIENTS.

City reserves right to employ other subrecipients in connection with this Project.

19. SUCCESSORS AND ASSIGNS

This Agreement shall be binding on the successors and assigns of the parties.

20. ASSIGNMENT OR TRANSFER

Subrecipient shall not assign, sublet, or transfer this Agreement or any rights under or interest in this Agreement without the written consent of the City, which may be withheld for any reason. Any attempt to so assign or so transfer without such consent shall be void and without legal effect and shall constitute grounds for termination. Subrecipient shall not subcontract any portion of the Services required by this Agreement, except as expressly stated herein, without prior written approval of City. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

21. CONSTRUCTION; REFERENCES; CAPTIONS

Since the Parties or their agents have participated fully in the preparation of this Agreement, the language of this Agreement shall be construed simply, according to its fair meaning, and not strictly for or against any Party. Any term referencing time, days or period for performance shall be deemed calendar days and not work days. All references to Subrecipient include all personnel, employees, agents, and subconsultants of Subrecipient, except as otherwise specified in this Agreement. All references to City include its elected officials, officers, employees, agents, and volunteers except as otherwise specified in this Agreement. The captions of the various articles and paragraphs are for convenience and ease of reference only, and do not define, limit, augment, or describe the scope, content, or intent of this Agreement.

22. WAIVER

No waiver of any default shall constitute a waiver of any other default or breach, whether of the same or other covenant or condition. No waiver, benefit, privilege, or service voluntarily given or performed by a Party shall give the other Party any contractual rights by custom, estoppel, or otherwise.

23. NO THIRD-PARTY BENEFICIARIES

There are no intended third party beneficiaries of any right or obligation assumed by the Parties.

24. INVALIDITY; SEVERABILITY

If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

25. PROHIBITED INTERESTS

Subrecipient maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Subrecipient, to solicit or secure this Agreement. Subrecipient warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Subrecipient, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. Subrecipient further agrees to file, or shall cause its employees or subconsultants to file, a Statement of Economic Interest with the City's Filing Officer as required under state law in the performance of the Services. For breach or violation of this warranty, City shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of City, during the term of his or her service with City, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

26. AUTHORITY TO ENTER AGREEMENT

Subrecipient has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

27. COUNTERPARTS

This Agreement may be signed in counterparts, each of which shall constitute an original.

28. SURVIVAL

All rights and obligations hereunder that by their nature are to continue after any expiration or termination of this Agreement, including, but not limited to, the indemnification obligations, shall survive any such expiration or termination.

EXHIBIT "1"

PRIME AGREEMENT

SUBRECIPIENT AGREEMENT

This Subrecipient Agreement ("Agreement"), effective as of _____, 2026 ("Effective Date") is entered into by and between the CITY OF COACHELLA, a municipal corporation of the State of California with its principal place of business located at 53990 Enterprise Way, Coachella, CA 92236 ("City"), and RAICES CULTURA, a California nonprofit public benefit corporation with its principal place of business located at 1536 7th Street, Coachella, CA 92236 ("Subrecipient"). City and Subrecipient shall be referred to herein individually as "Party" and collectively as "Parties."

RECITALS

A. The City has entered into a Restricted Grant Agreement (RGA) with the California Department of Transportation (Caltrans), Agreement Number 74A1763, dated November 17, 2025 ("Prime Agreement"), for the Cesar Chavez Street Corridor Transformation Plan project (the "Project"), funded pursuant to Budget Act Line Item 2660-102-3290 under California Senate Bill No. 1 (SB-1), also known as the Road Repair and Accountability Act of 2017.

B. The Prime Agreement provides restricted grant funds in the amount of $393,740.00 to the City for the purpose of conducting transportation studies and planning within the Project area, as detailed in the Scope of Work and Project Cost and Schedule (Attachment II to the Prime Agreement), the Grant Application Guide (Attachment III to the Prime Agreement), and other attachments incorporated therein.

C. The City is responsible under the Prime Agreement for timely and satisfactorily completing all Project work within the budget and in accordance with the terms of the Prime Agreement.

D. The Subrecipient has been identified in the Scope of Work (Attachment II to the Prime Agreement) as a sub-applicant and partner to assist the City with Project management, coordination, community engagement, outreach, and other specified tasks essential to the Project.

E. The City desires to pass through a portion of the grant funds and delegate certain Project responsibilities to the Subrecipient, subject to the Subrecipient's compliance with all applicable terms of the Prime Agreement, California law, and this Agreement.

F. This Agreement is intended to ensure that the Subrecipient performs its delegated responsibilities in full compliance with the Prime Agreement and all federal, state, and local laws, regulations, and requirements applicable to the use of SB-1 funds, including but not limited to Government Code Section 14460(a)(1) and 2 CFR Part 200 (Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards).

NOW, THEREFORE, in consideration of the mutual covenants and conditions herein, the parties agree as follows:

1. INCORPORATION OF PRIME AGREEMENT

1.1 The Prime Agreement, including all attachments (e.g., Attachment I: Agency Resolution; Attachment II: Scope of Work and Project Cost and Schedule; Attachment III: Grant Application Guide), is incorporated herein and attached hereto as **Exhibit "1."** The Subrecipient acknowledges receipt of a copy of the Prime Agreement and agrees to comply with all applicable terms, covenants, conditions, and obligations therein as if the Subrecipient were the "AGENCY" under the Prime Agreement, to the extent such terms are applicable to the Subrecipient's scope of services.

1.2 In the event of any conflict between this Agreement and the Prime Agreement, the Prime Agreement shall control, except where this Agreement imposes more stringent requirements to ensure compliance with California law.

2. SCOPE OF SERVICES

2.1 The Subrecipient shall perform the services described in the Scope of Work (Attachment II to the Prime Agreement) assigned to Raices Cultura ("Services" or "Project Work"), including but not limited to:

(a) Assisting with identifying community-based partners to join the Project Advisory Group to direct the development of a comprehensive, inclusive, and effective community outreach and engagement plan.

(b) Leading and participating in community engagement events.

(c) Identifying community stakeholders to include on the Advisory Group.

(d) Developing publicity materials.

(e) Distributing flyer and posters to schools and businesses.

(f) Assisting with the documentation of public input for inclusion in the Cesar Chavez Street Corridor Transformation Plan document.

(g) Staffing and helping to facilitate community engagement activities including workshops, focus group meetings and stakeholder listening sessions (in English and Spanish).

2.2 All Services shall be performed in accordance with the Project timeline in Attachment II to the Prime Agreement, the Grant Application Guide (Attachment III to the Prime Agreement), and all applicable federal, state, and local laws, regulations, ordinances, Caltrans policies and procedures, and published manuals.

2.3 The Subrecipient shall not subcontract any portion of its Services without the prior written approval of the City. Any approved subcontracts shall incorporate all applicable terms of this Agreement and the Prime Agreement.

3. COMPENSATION AND PAYMENT

3.1 The maximum amount payable to the Subrecipient under this Agreement shall not exceed **Fifty Thousand** Dollars (**$50,000**) ("Grant Amount"). This amount is a portion of the Prime Agreement grant funds and is subject to the City's receipt of funds from Caltrans.

3.2 Funds may only be used for the purpose set forth in this Agreement, the Prime Agreement, and the attachments to the Prime Agreement, and funds may only be used for costs and expenses that are directly related to such purpose.

3.3 Compensation shall be based on actual allowable costs incurred by the Subrecipient in performing the Services, in accordance with Section III, Paragraph 15 of the Prime Agreement (Payment and Invoicing). No in-kind contributions are allowed unless identified in advance and approved by both Parties in writing.

3.4 The Subrecipient shall submit invoices to the City at least quarterly but no more frequently than monthly, in arrears, for completed milestones. Invoices shall include:

(a) Names of Subrecipient personnel performing work.

(b) Dates, times, and locations of work.

(c) Itemized costs, including labor rates, hours, travel expenses (limited to State of California Department of Human Resources rates), and receipts.

(d) Certification of compliance with this Agreement and the Prime Agreement.

3.5 Indirect costs are reimbursable only if the Subrecipient has an approved Indirect Cost Allocation Plan or Indirect Cost Rate Proposal per 2 CFR Part 200 and Chapter 5 of the Local Assistance Procedures Manual.

3.6 The City shall reimburse the Subrecipient for allowable costs within thirty (30) days of approval, subject to the City's receipt of corresponding reimbursement from Caltrans. The Subrecipient must have paid for costs before claiming reimbursement.

3.7 All costs must be incurred after the City's issuance of a Notice to Proceed and before the end of the Term.

4. TERM AND PERIOD OF PERFORMANCE

4.1 This Agreement shall become effective on the Effective Date or upon the City's receipt of a Notice to Proceed from Caltrans under the Prime Agreement, whichever occurs later. The term of this Agreement ("Term") shall continue in full force and effect until June 30, 2028, unless earlier terminated in accordance with the provisions of Section 7 (Termination) herein or upon the expiration or termination of the Prime Agreement, whichever occurs first. Notwithstanding the foregoing, the Subrecipient's obligations regarding record retention, audits, indemnification, re-payment of unallowable costs, and any other provisions that by their nature survive termination shall remain in effect beyond the expiration or termination of this Agreement,

as specified in the applicable sections hereof and in the Prime Agreement. The Subrecipient shall commence performance of the Services promptly upon the Effective Date and shall complete all Services in a timely manner consistent with the Project timeline set forth in Attachment II to the Prime Agreement. Time is of the essence in the performance of this Agreement.

4.2 The Subrecipient shall attend a kickoff meeting with the City within one week of the Notice to Proceed.

5. PASS-THROUGH OBLIGATIONS AND COMPLIANCE

5.1 Compliance with Laws, Regulations, and Policies. The Subrecipient shall perform all Services under this Agreement in accordance with California Senate Bill No. 1 (SB-1) (Chapter 5, Statutes of 2017), also known as the Road Repair and Accountability Act of 2017, including, but not limited to, Government Code Section 14460(a)(1), as well as all applicable Federal, State, and Local laws, regulations, and ordinances, all applicable Caltrans policies and procedures, and all applicable Caltrans published manuals, including, but not limited to, the applicable Grant Application Guide (Attachment III to the Prime Agreement). In case of conflict between any applicable Federal, State, and Local laws, regulations, and ordinances, and/or any applicable policies, procedures, or published manuals of either Caltrans or the City, the order of precedence of the applicability of same to this Agreement shall be established in this order: 1) Federal laws and regulations; 2) California laws and regulations; 3) Caltrans policies, procedures, and published manuals; 4) Local ordinances; and 5) City policies, procedures, and published manuals.

5.2 Payment and Invoicing. The Subrecipient shall establish and maintain an accounting system and records that properly accumulate and segregate incurred Project costs by line. The accounting system of the Subrecipient shall conform to Generally Accepted Accounting Principles (GAAP), enable the determination of incurred costs at interim points of completion, and provide support for reimbursement payment vouchers or invoices. Reimbursement of the Subrecipient's expenditures will be authorized only for those allowable costs actually incurred by the Subrecipient in accordance with the provisions of this Agreement and the Prime Agreement and in the performance of the Services. The Subrecipient must not only have incurred the expenditures on or after the start date and the issuance of the Notice to Proceed letter for this Agreement and before the Expiration Date but must have also paid for those costs to claim any reimbursement. Travel expenses and per diem rates are not to exceed the rate specified by the State of California Department of Human Resources for similar employees (i.e., non-represented employees) unless written verification is supplied that government hotel rates were not then commercially available to the Subrecipient at the time and location required as specified in the California Department of Transportation's Travel Guide Exception Process. The Subrecipient shall submit invoices to the City at least quarterly, but no more frequently than monthly, in arrears for completion of milestones in accordance with the Project Cost and Schedule in Attachment II to the Prime Agreement to the satisfaction of the City. Invoices shall reference this Agreement Number and shall be signed and submitted to the City. One-time lump sum invoices for the Grant Amount are not allowed. Invoices shall include the following information: 1) Names of the Subrecipient personnel performing work; 2) Dates and times of Project Work; 3) Locations of Project Work; 4) Itemized costs as set forth in Attachment II to the Prime Agreement, including identification of each employee who provided services during the period of the invoice, the number of hours and hourly rates for each employee, authorized travel expenses with receipts, receipts for authorized

materials or supplies, and contractor, sub-recipient, and subcontractor invoices. Incomplete or inaccurate invoices shall be returned to the Subrecipient unapproved for correction. Failure to submit invoices on a timely basis may be grounds for termination of this Agreement for material breach per Section 7. The Agreement Expiration Date refers to the last date for the Subrecipient to incur valid Project costs or credits and is the date the Agreement expires. The Subrecipient has 60 days after that Expiration Date to make final allowable payments to Project contractors or vendors and submit the Project's Final Product(s) as defined in Attachment II to the Prime Agreement and a final accurate invoice to the City for reimbursement for allowable Project costs. Any unexpended Project funds not invoiced by the 60th day will be reverted and will no longer be accessible to reimburse late Project invoices.

5.3 Cost Principles. The Subrecipient agrees to comply with Title 2, Code of Federal Regulations (CFR), Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. The Subrecipient agrees that (a) Contract Cost Principles and Procedures, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31, et seq., shall be used to determine the allowability of individual Project costs and (b) the Parties shall comply with Federal administrative procedures in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. The Subrecipient shall comply with Federal administrative procedures in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards to the extent applicable. Prior to the Subrecipient seeking reimbursement of indirect costs, the Subrecipient must have identified the estimated indirect cost rate in Attachment II to the Prime Agreement, prepare and submit annually to the City for review and approval an indirect cost rate proposal and a central service cost allocation plan (if any) in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards and Chapter 5 of the Local Assistance Procedures Manual. The Subrecipient agrees and shall require that all its agreements with consultants and sub-recipients contain provisions requiring adherence to this section in its entirety.

5.4 Repayment of Unallowable Costs. Any Project costs for which the Subrecipient has received payment or credit that are determined by subsequent audit to be unallowable under 2 CFR, Part 200, and/or Part 48, Chapter 1, Part 31, are subject to repayment by the Subrecipient to the City. Should the Subrecipient fail to reimburse moneys due the City within thirty (30) days of discovery or demand, or within such other period as may be agreed in writing between the parties hereto, the City is authorized to intercept and withhold future payments due the Subrecipient from the City or any third-party source, including, but not limited to, the State Treasurer, the State Controller or any other fund source.

5.5 Americans with Disabilities Act. By signing this Agreement, the Subrecipient assures the City that in the course of performing Project Work, it will fully comply with the applicable provisions of the Americans with Disabilities Act (ADA) of 1990, as amended, which prohibits discrimination on the basis of disability, as well as all applicable regulations and guidelines issued pursuant to the ADA (42 USC Section 12101 et seq.).

5.6 Indemnification. Neither the City, Caltrans, nor any officer or employee thereof is responsible for any injury, damage, or liability occurring by reason of anything done or omitted to be done by the Subrecipient, its officers, employees, agents, contractors, subrecipients, or

subcontractors, under or in connection with any work, authority, or jurisdiction conferred upon the Subrecipient under this Agreement. It is understood and agreed that the Subrecipient shall fully defend, indemnify, and save harmless the City, Caltrans, and all of their officers and employees from all claims, suits, or actions of every name, kind, and description brought forth under, including, but not limited to, tortuous, contractual, inverse condemnation, or other theories or assertions of liability occurring by reason of anything done or omitted to be done by the Subrecipient, its officers, employees, agents, contractors, subrecipients, or subcontractors under this Agreement.

5.7 Nondiscrimination Clause. During the performance of this Agreement, the Subrecipient shall not deny the contract's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status. The Subrecipient shall ensure that the evaluation and treatment of employees and applicants for employment are free of such discrimination. The Subrecipient shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code Sections 12900 et seq.), the regulations promulgated thereunder (Cal. Code Regs., Tit. 2, Sections 11000 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code Sections 11135-11139.5), and the regulations or standards adopted by the City or Caltrans to implement such article. The Subrecipient shall permit access by representatives of the Department of Fair Employment and Housing, the City, and Caltrans upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department, the City, or Caltrans shall require to ascertain compliance with this clause. The Subrecipient shall give written notice of its obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. The Subrecipient shall include the nondiscrimination and compliance provisions of this clause in all agreements with its contractors and subcontractors (preapproved by City), and shall include a requirement in all agreements with all of same that each of them in turn include the nondiscrimination and compliance provisions of this clause in all contracts and subcontracts they enter into to perform work under this Agreement.

5.8 Retention of Records/Audits. The Subrecipient agrees to comply with Title 2, Code of Federal Regulations (CFR), Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. All accounting records and other supporting papers of the Subrecipient, its contractors, subcontractors, and sub-recipients connected with Project performance under this Agreement shall be maintained for a minimum of three (3) years from the date of final payment to the Subrecipient and shall be held open to inspection, copying, and audit by representatives of the City, Caltrans, the California State Auditor, and auditors representing the Federal government. Copies thereof will be furnished by the Subrecipient, its contractors, its subcontractors, and sub-recipients upon receipt of any request made by the City, Caltrans, or its agents. In conducting an audit of the costs and match credits claimed under this Agreement, the City and Caltrans will rely to the maximum extent possible on any prior audit of the Subrecipient pursuant to the provisions of State and City law. In the absence of such an audit, any acceptable

audit work performed by the Subrecipient's external and internal auditors may be relied upon and used by the City and Caltrans when planning and conducting additional audits. For the purpose of determining compliance with applicable State and City law in connection with the performance of the Subrecipient's contracts with third parties pursuant to Government Code Section 8546.7, the Subrecipient, the Subrecipient's sub-recipients, contractors, subcontractors, the City, and Caltrans, shall each maintain and make available for inspection all books, documents, papers, accounting records, and other evidence pertaining to the performance of such contracts, including, but not limited to, the costs of administering those various contracts. All the above referenced parties shall make such materials available at their respective offices at all reasonable times during the entire Project period and for three (3) years from the date of final payment to the Subrecipient under this Agreement. The City, Caltrans, the California State Auditor, or any duly authorized representative of the City, Caltrans, or the United States Department of Transportation, shall each have access to any books, records, and documents that are pertinent to a Project for audits, examinations, excerpts, and transactions, and the Subrecipient shall furnish copies thereof if requested. The Subrecipient, its sub-recipients, contractors, and subcontractors will permit access to all records of employment, employment advertisements, employment application forms, and other pertinent data and records by the State Fair Employment Practices and Housing Commission, or any other agency of the State of California designated by the City or Caltrans, for the purpose of any investigation to ascertain compliance with this Agreement. Additionally, all grants may be subject to a pre-award audit prior to execution of this Agreement to ensure the Subrecipient has an adequate financial management system in place to accumulate and segregate reasonable, allowable, and allocable costs. Any contract with a contractor, subcontractor, or sub-recipient entered into as a result of this Agreement shall contain all the provisions of this article.

5.9 Drug-Free Workplace Certification. By signing this Agreement, the Subrecipient hereby certifies under penalty of perjury under the laws of California that the Subrecipient will comply with the requirements of the Drug-Free Workplace Act of 1990 (Gov. Code Sections 8350 et seq.) and will provide a Drug-Free workplace by doing all the following: a) Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations, as required by Government Code Section 8355(a)(1); b) Establish a Drug-Free Awareness Program as required by Government Code Section 8355(a)(2) to inform employees about all the following: 1) The dangers of drug abuse in the workplace; 2) The person's or organization's policy of maintaining a Drug-Free workplace; 3) Any available counseling, rehabilitation, and employee assistance programs; and 4) Penalties that may be imposed upon employees for drug abuse violations; c) Provide, as required by Government Code Section 8355(a)(3), that every employee who works on the proposed contract or grant: 1) Will receive a copy of the company's Drug-Free Policy Statement; and 2) Will agree to abide by the terms of the company's statement as a condition of employment on the contract or grant; d) Failure to comply with these requirements may result in suspension of payments under this Agreement or termination of this Agreement or both, and the Subrecipient may be ineligible for the award of any future State contracts if the City or Caltrans determines that any of the following has occurred: (1) the Subrecipient has made a false certification or, (2) the Subrecipient violates the certification by failing to carry out the requirements as noted above.

5.10 State-Owned Data. The Subrecipient agrees to comply with the following requirements to ensure the preservation, security, and integrity of State-owned data on portable

computing devices and portable electronic storage media: 1) Encrypt all State-owned data stored on portable computing devices and portable electronic storage media using government-certified Advanced Encryption Standard (AES) cipher algorithm with a 256-bit or 128-bit encryption key to protect Caltrans data stored on every sector of a hard drive, including temp files, cached data, hibernation files, and even unused disk space; 2) Data encryption shall use cryptographic technology that has been tested and approved against exacting standards, such as FIPS 140-2 Security Requirements for Cryptographic Modules; 3) Encrypt, as described above, all State-owned data transmitted from one computing device or storage medium to another; 4) Maintain confidentiality of all State-owned data by limiting data sharing to those individuals contracted to provide services on behalf of the State, and limit use of State information assets for State purposes only; 5) Install and maintain current anti-virus software, security patches, and upgrades on all computing devices used during the course of the Agreement; 6) Notify the City immediately of any actual or attempted violations of security of State-owned data, including lost or stolen computing devices, files, or portable electronic storage media containing State-owned data; 7) Advise the owner of the State-owned data, the City Manager, and the City Chief Information Officer of vulnerabilities that may present a threat to the security of State-owned data and of specific means of protecting that State-owned data. The Subrecipient agrees to use the State-owned data only for State purposes under this Agreement. The Subrecipient agrees to not transfer State-owned data to any computing system, mobile device, or desktop computer without first establishing the specifications for information integrity and security as established for the original data file(s) (State Administrative Manual (SAM) Section 5335.1).

5.11 Assumption of Risk and Indemnification Regarding Exposure to Environmental Health Hazards. In addition to, and not a limitation of, the Subrecipient's indemnification obligations contained elsewhere in this Agreement, the Subrecipient hereby assumes all risks of the consequences of exposure of the Subrecipient's employees, agents, subrecipients, contractors, and subcontractors, subcontractors' employees, and any other person, firm, or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement, to any and all environmental health hazards, local and otherwise, in connection with the performance of this Agreement. Such hazards include, but are not limited to, bodily injury and/or death resulting in whole or in part from exposure to infectious agents and/or pathogens of any type, kind or origin. The Subrecipient also agrees to take all appropriate safety precautions to prevent any such exposure to the Subrecipient's employees, agents, subrecipients, contractors, and subcontractors, subcontractors' employees, and any other person, firm or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement. The Subrecipient also agrees to indemnify and hold harmless the City, Caltrans, the State of California, and each and all their officers, agents and employees, from any and all claims and/or losses accruing or resulting from such exposure. Except as provided by law, the Subrecipient also agrees that the provisions of this paragraph shall apply regardless of the existence or degree of negligence or fault on the part of the City, Caltrans, the State of California, and/or any of their officers, agents and/or employees.

5.12 Mandatory Organic Waste Recycling. It is understood and agreed that pursuant to Public Resources Code Sections 42649.8 et seq., if the Subrecipient generates two (2) cubic yards or more of organic waste or commercial solid waste per week, the Subrecipient shall arrange for organic waste or commercial waste recycling services that separate/source organic waste for organic waste recycling. The Subrecipient shall provide proof of compliance, i.e., organic waste

recycling services or commercial waste recycling services that separate/source organic waste recycling, upon request from the City.

5.13 ADA Compliance. All entities that provide electronic or information technology or related services that will be posted online by the City or Caltrans must be in compliance with Government Code Sections 7405 and 11135 and the Web Content Accessibility Guidelines (WCAG) 2.0 or subsequent version, published by the Web Accessibility Initiative of the World Wide Web Consortium at a minimum Level AA success. All entities will respond to and resolve any complaints/deficiencies regarding accessibility brought to their attention.

5.14 Executive Order N-6-22 – Russia Sanctions. On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (the EO) regarding Economic Sanctions against Russia and Russian entities and individuals. "Economic Sanctions" refers to sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law unless the contract has been Federalized (i.e., there is federal participation in any phase). The EO directs state agencies to terminate contracts with, and to refrain from entering any new contracts with, individuals or entities that are determined to be a target of Economic Sanctions. Accordingly, should the City or the State determine the Subrecipient is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this agreement. The City shall provide the Subrecipient advance written notice of such termination, allowing the Subrecipient at least 30 calendar days to provide a written response. Termination shall be at the sole discretion of the City.

5.15 The Subrecipient shall ensure that its contractors and subcontractors comply with all pass-through obligations set forth in this Section 5.

5.16 The Subrecipient shall provide quarterly progress reports to the City, detailing progress, expenditures, and any issues, to enable the City's reporting to Caltrans under Section III, Paragraph 17 of the Prime Agreement.

6. INSURANCE

6.1 Time for Compliance. Subrecipient shall not commence work under this Agreement until it has provided evidence satisfactory to the City that it has secured all insurance required under this section. In addition, Subrecipient shall not allow any subconsultant to commence work on any subcontract until it has provided evidence satisfactory to the City that the subconsultant has secured all insurance required under this section. Failure to provide and maintain all required insurance shall be grounds for the City to terminate this Agreement for cause.

6.2 Types of Insurance Required. As a condition precedent to the effectiveness of this Agreement for work to be performed hereunder, and without limiting the indemnity provisions of the Agreement, the Subrecipient, in partial performance of its obligations under such Agreement, shall procure and maintain in full force and effect during the term of the Agreement the following policies of insurance. If the existing policies do not meet the insurance requirements set forth herein, Subrecipient agrees to amend, supplement or endorse the policies to do so.

(a) Commercial General Liability: Commercial General Liability Insurance which affords coverage at least as broad as Insurance Services Office "occurrence" form CG 00

01, or the exact equivalent, with limits of not less than $1,000,000 per occurrence and no less than $2,000,000 in the general aggregate. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions (1) limiting coverage for contractual liability; (2) excluding coverage for claims or suits by one insured against another (cross-liability); (3) products/completed operations liability; or (4) containing any other exclusion(s) contrary to the terms or purposes of this Agreement.

(b) Automobile Liability Insurance: Automobile Liability Insurance with coverage at least as broad as Insurance Services Office Form CA 00 01 covering "Any Auto" (Symbol 1), or the exact equivalent, covering bodily injury and property damage for all activities with limits of not less than $1,000,000 combined limit for each occurrence.

(c) Workers' Compensation: Workers' Compensation Insurance, as required by the State of California and Employer's Liability Insurance with a limit of not less than $1,000,000 per accident for bodily injury and disease.

6.3 Professional Liability (Errors & Omissions): Professional Liability insurance or Errors & Omissions insurance appropriate to Subrecipient's profession with limits of not less than $1,000,000. Covered professional services shall specifically include all work to be performed under the Agreement and delete any exclusions that may potentially affect the work to be performed (for example, any exclusions relating to lead, asbestos, pollution, testing, underground storage tanks, laboratory analysis, soil work, etc.). If coverage is written on a claims-made basis, the retroactive date shall precede the effective date of the initial Agreement and continuous coverage will be maintained or an extended reporting period will be exercised for a period of at least five (5) years from termination or expiration of this Agreement.

6.4 Insurance Endorsements. Required insurance policies shall contain the following provisions, or Subrecipient shall provide endorsements on forms approved by the City to add the following provisions to the insurance policies:

(a) Commercial General Liability: (1) Additional Insured: The City, its officials, officers, employees, agents, and volunteers shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the Agreement. Additional Insured Endorsements shall not (1) be restricted to "ongoing operations"; (2) exclude "contractual liability"; (3) restrict coverage to "sole" liability of Subrecipient; or (4) contain any other exclusions contrary to the terms or purposes of this Agreement. For all policies of Commercial General Liability insurance, Subrecipient shall provide endorsements in the form of ISO CG 20 10 10 01 and 20 37 10 01 (or endorsements providing the exact same coverage) to effectuate this requirement. (2) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(b) Automobile Liability. (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(c) Professional Liability (Errors & Omissions): 1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium. (2) Contractual Liability Exclusion Deleted: This insurance shall include contractual liability applicable to this Agreement. The policy must "pay on behalf of" the insured and include a provision establishing the insurer's duty to defend.

(d) Workers' Compensation: (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium. (2) Waiver of Subrogation: A waiver of subrogation stating that the insurer waives all rights of subrogation against the City, its officials, officers, employees, agents, and volunteers.

6.5 Primary and Non-Contributing Insurance. All policies of Commercial General Liability and Automobile Liability insurance shall be primary and any other insurance, deductible, or self-insurance maintained by the City, its officials, officers, employees, agents, or volunteers shall not contribute with this primary insurance. Policies shall contain or be endorsed to contain such provisions.

6.6 Waiver of Subrogation. All required insurance coverages, except for the professional liability coverage, shall contain or be endorsed to waiver of subrogation in favor of the City, its officials, officers, employees, agents, and volunteers or shall specifically allow Subrecipient or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. Subrecipient hereby waives its own right of recovery against City, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

6.7 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be approved in writing by the City and shall protect the City, its officials, officers, employees, agents, and volunteers in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention.

6.8 Evidence of Insurance. The Subrecipient, concurrently with the execution of the Agreement, and as a condition precedent to the effectiveness thereof, shall deliver either certified copies of the required policies, or original certificates on forms approved by the City, together with all endorsements affecting each policy. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for approval. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. At least fifteen (15 days) prior to the expiration of any such policy, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the City. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Subrecipient shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the City evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies.

6.9 Acceptability of Insurers. Each such policy shall be from a company or companies with a current A.M. Best's rating of no less than A:VII and authorized to transact business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law.

6.10 Enforcement of Agreement Provisions (non estoppel). Subrecipient acknowledges and agrees that actual or alleged failure on the part of the City to inform Subrecipient of non-compliance with any requirement imposes no additional obligation on the City nor does it waive any rights hereunder.

6.11 Requirements Not Limiting. Requirement of specific coverage or minimum limits contained in this Section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance.

6.12 Additional Insurance Provisions

(a) The foregoing requirements as to the types and limits of insurance coverage to be maintained by Subrecipient, and any approval of said insurance by the City, is not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Subrecipient pursuant to this Agreement, including but not limited to, the provisions concerning indemnification.

(b) If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, City has the right but not the duty to obtain the insurance it deems necessary and any premium paid by City will be promptly reimbursed by Subrecipient or City will withhold amounts sufficient to pay premium from Subrecipient payments. In the alternative, City may cancel this Agreement.

(c) The City may require the Subrecipient to provide complete copies of all insurance policies in effect for the duration of the Project.

(d) Neither the City nor any of its officials, officers, employees, agents or volunteers shall be personally responsible for any liability arising under or by virtue of this Agreement.

(e) The limits set forth herein shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Subrecipient from liability in excess of such coverage, nor shall it limit the Subrecipient's indemnification obligations to the City and shall not preclude the City from taking such other actions available to the City under other provisions of the Agreement or law.

(f) Subrecipient shall report to the City, in addition to Subrecipient's insurer, any and all insurance claims submitted by Subrecipient in connection with the Services under this Agreement.

6.13 Insurance for Subconsultants. Subrecipient shall include all subconsultants engaged in any work for Subrecipient relating to this Agreement as additional insureds under the Subrecipient's policies, or the Subrecipient shall be responsible for causing subconsultants to purchase the appropriate insurance in compliance with the terms of these Insurance Requirements, including adding the City, its officials, officers, employees, agents, and volunteers as additional insureds to the subconsultant's policies. All policies of Commercial General Liability insurance provided by Subrecipient's subconsultants performing work relating to this Agreement shall be endorsed to name the City, its officials, officers, employees, agents and volunteers as additional insureds using endorsement form ISO CG 20 38 04 13 or an endorsement providing equivalent coverage. Subrecipient shall not allow any subconsultant to commence work on any subcontract relating to this Agreement until it has received satisfactory evidence of subconsultant's compliance with all insurance requirements under this Agreement, to the extent applicable. The Subrecipient shall provide satisfactory evidence of compliance with this section upon request of the City.

7. TERMINATION

7.1 City reserves the right to terminate this Agreement for any or no reason upon written notice to Subrecipient at least 30 days in advance of the effective date of such termination in the event City determines (at its sole discretion) that Subrecipient failed to proceed or continue with Project Work in accordance with the terms of this Agreement. In the event of termination for convenience, City will reimburse Subrecipient for all allowable, authorized, and non-cancelled costs up to the date of termination.

7.2 This Agreement may be terminated by either party for any or no reason by giving written notice to the other Party at least thirty (30) days in advance of the effective date of such termination. In the event of termination for convenience, City will reimburse Subrecipient for all allowable, authorized, and non-cancelled costs up to the date of termination.

7.3 Subrecipient has sixty (60) days after the Termination Date to submit accurate invoices to City to make final allowable payments for Project costs in accordance with the terms of this Agreement. Failure to submit accurate invoices within this period of time shall result in a waiver by Subrecipient of its right to reimbursement of expended costs.

8. BUDGET CONTINGENCY CLAUSE

8.1 It is mutually agreed that if Caltrans is unable to appropriate or allocate funds during the current year and/or any subsequent years covered under this Agreement and are not able to provide sufficient funds for the Project, this Agreement shall be of no further force and effect. In this event, City shall have no liability to pay any funds whatsoever to Subrecipient or to furnish any other consideration under this Agreement and Subrecipient shall not be obligated to perform any provisions of this Agreement.

8.2 If funding to Caltrans for any fiscal year is reduced or deleted for purposes of this Project, City shall have the option to either terminate this Agreement with no liability occurring to City or offer an Agreement Amendment to Subrecipient to reflect reduced amount.

9. CHANGES/AMENDMENTS

This Agreement may only be amended or modified during the Term of the by mutual written agreement of the Parties. Any proposed modification to this Agreement that requires a formal amendment must be submitted by Subrecipient to City no less than 120 days prior to the expiration of the Term.

10. DISPUTE RESOLUTION

Disputes shall be resolved per Section III, Paragraph 24 of the Prime Agreement, including good faith negotiations and alternative dispute resolution before litigation.

11. INDEPENDENT CONTRACTOR

The Subrecipient is an independent contractor, not an employee or agent of the City.

12. NOTICES

The City's Project Manager for the Project is Kendra Reif. The City's Financial Manager for the Project is Ruben Ramirez. The Subrecipient's Contract Manager is Bernadette Austin, or her designee following notice to the City.

All notices herein provided to be given, or which may be given, by either Party to the other, shall be deemed to have been fully given when made in writing and received by the Parties at their respective addresses:

City of Coachella
Attention: Kendra Reif, Project Manager
53990 Enterprise Way
Coachella, CA 92236
Phone: (760) 398-3502
Email: kreif@coachella.org

Raices Cultura
Attention: Marnie Navarro
1536 7th Street
Coachella, CA 92236
Email: marnie.navarro@raicesdelvalle.org

13. COOPERATION; FURTHER ACTS

The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Agreement.

14. ENTIRE AGREEMENT

This Agreement contains the entire agreement of the Parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements.

15. ATTORNEYS' FEES

If either party commences an action against the other party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorneys' fees and all costs of such action.

16. GOVERNING LAW

This Agreement shall be governed by the laws of the State of California. Venue shall be in Riverside County. In addition to any and all contract requirements pertaining to notices of and requests for compensation or payment for extra work, disputed work, claims and/or changed conditions, Subrecipient must comply with the claim procedures set forth in Government Code sections 900 et seq. prior to filing any lawsuit against the City. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra work, disputed work, claims, and/or changed conditions have been followed by Subrecipient. If no such Government Code claim is submitted, or if any prerequisite contractual requirements are not otherwise satisfied as specified herein, Subrecipient shall be barred from bringing and maintaining a valid lawsuit against the City.

17. TIME OF ESSENCE

Time is of the essence for each and every provision of this Agreement.

18. CITY'S RIGHT TO EMPLOY OTHER SUBRECIPIENTS.

City reserves right to employ other subrecipients in connection with this Project.

19. SUCCESSORS AND ASSIGNS

This Agreement shall be binding on the successors and assigns of the parties.

20. ASSIGNMENT OR TRANSFER

Subrecipient shall not assign, sublet, or transfer this Agreement or any rights under or interest in this Agreement without the written consent of the City, which may be withheld for any reason. Any attempt to so assign or so transfer without such consent shall be void and without legal effect and shall constitute grounds for termination. Subrecipient shall not subcontract any portion of the Services required by this Agreement, except as expressly stated herein, without prior written approval of City. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

21. CONSTRUCTION; REFERENCES; CAPTIONS

Since the Parties or their agents have participated fully in the preparation of this Agreement, the language of this Agreement shall be construed simply, according to its fair meaning, and not strictly for or against any Party. Any term referencing time, days or period for performance shall

be deemed calendar days and not work days. All references to Subrecipient include all personnel, employees, agents, and subconsultants of Subrecipient, except as otherwise specified in this Agreement. All references to City include its elected officials, officers, employees, agents, and volunteers except as otherwise specified in this Agreement. The captions of the various articles and paragraphs are for convenience and ease of reference only, and do not define, limit, augment, or describe the scope, content, or intent of this Agreement.

22. WAIVER

No waiver of any default shall constitute a waiver of any other default or breach, whether of the same or other covenant or condition. No waiver, benefit, privilege, or service voluntarily given or performed by a Party shall give the other Party any contractual rights by custom, estoppel, or otherwise.

23. NO THIRD-PARTY BENEFICIARIES

There are no intended third party beneficiaries of any right or obligation assumed by the Parties.

24. INVALIDITY; SEVERABILITY

If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

25. PROHIBITED INTERESTS

Subrecipient maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Subrecipient, to solicit or secure this Agreement. Subrecipient warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Subrecipient, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. Subrecipient further agrees to file, or shall cause its employees or subconsultants to file, a Statement of Economic Interest with the City's Filing Officer as required under state law in the performance of the Services. For breach or violation of this warranty, City shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of City, during the term of his or her service with City, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

26. AUTHORITY TO ENTER AGREEMENT

Subrecipient has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

27. COUNTERPARTS

This Agreement may be signed in counterparts, each of which shall constitute an original.

28. SURVIVAL

All rights and obligations hereunder that by their nature are to continue after any expiration or termination of this Agreement, including, but not limited to, the indemnification obligations, shall survive any such expiration or termination.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

CITY OF COACHELLA

By: _____

Printed Name: _____

Title: _____

Date: _____

RAICES CULTURA

By: _____

Printed Name: Marnie Navarro

Title: Executive Director

Date: _____

EXHIBIT "1"

PRIME AGREEMENT

SUBRECIPIENT AGREEMENT

This Subrecipient Agreement ("Agreement"), effective as of _____, 2026 ("Effective Date") is entered into by and between the CITY OF COACHELLA, a municipal corporation of the State of California with its principal place of business located at 53990 Enterprise Way, Coachella, CA 92236 ("City"), and RAICES CULTURA, a California nonprofit public benefit corporation with its principal place of business located at 1536 7th Street, Coachella, CA 92236 ("Subrecipient"). City and Subrecipient shall be referred to herein individually as "Party" and collectively as "Parties."

RECITALS

A. The City has entered into a Restricted Grant Agreement (RGA) with the California Department of Transportation (Caltrans), Agreement Number 74A1763, dated November 17, 2025 ("Prime Agreement"), for the Cesar Chavez Street Corridor Transformation Plan project (the "Project"), funded pursuant to Budget Act Line Item 2660-102-3290 under California Senate Bill No. 1 (SB-1), also known as the Road Repair and Accountability Act of 2017.

B. The Prime Agreement provides restricted grant funds in the amount of $393,740.00 to the City for the purpose of conducting transportation studies and planning within the Project area, as detailed in the Scope of Work and Project Cost and Schedule (Attachment II to the Prime Agreement), the Grant Application Guide (Attachment III to the Prime Agreement), and other attachments incorporated therein.

C. The City is responsible under the Prime Agreement for timely and satisfactorily completing all Project work within the budget and in accordance with the terms of the Prime Agreement.

D. The Subrecipient has been identified in the Scope of Work (Attachment II to the Prime Agreement) as a sub-applicant and partner to assist the City with Project management, coordination, community engagement, outreach, and other specified tasks essential to the Project.

E. The City desires to pass through a portion of the grant funds and delegate certain Project responsibilities to the Subrecipient, subject to the Subrecipient's compliance with all applicable terms of the Prime Agreement, California law, and this Agreement.

F. This Agreement is intended to ensure that the Subrecipient performs its delegated responsibilities in full compliance with the Prime Agreement and all federal, state, and local laws, regulations, and requirements applicable to the use of SB-1 funds, including but not limited to Government Code Section 14460(a)(1) and 2 CFR Part 200 (Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards).

NOW, THEREFORE, in consideration of the mutual covenants and conditions herein, the parties agree as follows:

1. INCORPORATION OF PRIME AGREEMENT

1.1 The Prime Agreement, including all attachments (e.g., Attachment I: Agency Resolution; Attachment II: Scope of Work and Project Cost and Schedule; Attachment III: Grant Application Guide), is incorporated herein and attached hereto as **Exhibit "1."** The Subrecipient acknowledges receipt of a copy of the Prime Agreement and agrees to comply with all applicable terms, covenants, conditions, and obligations therein as if the Subrecipient were the "AGENCY" under the Prime Agreement, to the extent such terms are applicable to the Subrecipient's scope of services.

1.2 In the event of any conflict between this Agreement and the Prime Agreement, the Prime Agreement shall control, except where this Agreement imposes more stringent requirements to ensure compliance with California law.

2. SCOPE OF SERVICES

2.1 The Subrecipient shall perform the services described in the Scope of Work (Attachment II to the Prime Agreement) assigned to Raices Cultura ("Services" or "Project Work"), including but not limited to:

(a) Assisting with identifying community-based partners to join the Project Advisory Group to direct the development of a comprehensive, inclusive, and effective community outreach and engagement plan.

(b) Leading and participating in community engagement events.

(c) Identifying community stakeholders to include on the Advisory Group.

(d) Developing publicity materials.

(e) Distributing flyer and posters to schools and businesses.

(f) Assisting with the documentation of public input for inclusion in the Cesar Chavez Street Corridor Transformation Plan document.

(g) Staffing and helping to facilitate community engagement activities including workshops, focus group meetings and stakeholder listening sessions (in English and Spanish).

2.2 All Services shall be performed in accordance with the Project timeline in Attachment II to the Prime Agreement, the Grant Application Guide (Attachment III to the Prime Agreement), and all applicable federal, state, and local laws, regulations, ordinances, Caltrans policies and procedures, and published manuals.

2.3 The Subrecipient shall not subcontract any portion of its Services without the prior written approval of the City. Any approved subcontracts shall incorporate all applicable terms of this Agreement and the Prime Agreement.

3. COMPENSATION AND PAYMENT

3.1 The maximum amount payable to the Subrecipient under this Agreement shall not exceed **Fifty Thousand** Dollars (**$50,000**) ("Grant Amount"). This amount is a portion of the Prime Agreement grant funds and is subject to the City's receipt of funds from Caltrans.

3.2 Funds may only be used for the purpose set forth in this Agreement, the Prime Agreement, and the attachments to the Prime Agreement, and funds may only be used for costs and expenses that are directly related to such purpose.

3.3 Compensation shall be based on actual allowable costs incurred by the Subrecipient in performing the Services, in accordance with Section III, Paragraph 15 of the Prime Agreement (Payment and Invoicing). No in-kind contributions are allowed unless identified in advance and approved by both Parties in writing.

3.4 The Subrecipient shall submit invoices to the City at least quarterly but no more frequently than monthly, in arrears, for completed milestones. Invoices shall include:

(a) Names of Subrecipient personnel performing work.

(b) Dates, times, and locations of work.

(c) Itemized costs, including labor rates, hours, travel expenses (limited to State of California Department of Human Resources rates), and receipts.

(d) Certification of compliance with this Agreement and the Prime Agreement.

3.5 Indirect costs are reimbursable only if the Subrecipient has an approved Indirect Cost Allocation Plan or Indirect Cost Rate Proposal per 2 CFR Part 200 and Chapter 5 of the Local Assistance Procedures Manual.

3.6 The City shall reimburse the Subrecipient for allowable costs within thirty (30) days of approval, subject to the City's receipt of corresponding reimbursement from Caltrans. The Subrecipient must have paid for costs before claiming reimbursement.

3.7 All costs must be incurred after the City's issuance of a Notice to Proceed and before the end of the Term.

4. TERM AND PERIOD OF PERFORMANCE

4.1 This Agreement shall become effective on the Effective Date or upon the City's receipt of a Notice to Proceed from Caltrans under the Prime Agreement, whichever occurs later. The term of this Agreement ("Term") shall continue in full force and effect until June 30, 2028, unless earlier terminated in accordance with the provisions of Section 7 (Termination) herein or upon the expiration or termination of the Prime Agreement, whichever occurs first. Notwithstanding the foregoing, the Subrecipient's obligations regarding record retention, audits, indemnification, re-payment of unallowable costs, and any other provisions that by their nature survive termination shall remain in effect beyond the expiration or termination of this Agreement,

as specified in the applicable sections hereof and in the Prime Agreement. The Subrecipient shall commence performance of the Services promptly upon the Effective Date and shall complete all Services in a timely manner consistent with the Project timeline set forth in Attachment II to the Prime Agreement. Time is of the essence in the performance of this Agreement.

4.2 The Subrecipient shall attend a kickoff meeting with the City within one week of the Notice to Proceed.

5. PASS-THROUGH OBLIGATIONS AND COMPLIANCE

5.1 Compliance with Laws, Regulations, and Policies. The Subrecipient shall perform all Services under this Agreement in accordance with California Senate Bill No. 1 (SB-1) (Chapter 5, Statutes of 2017), also known as the Road Repair and Accountability Act of 2017, including, but not limited to, Government Code Section 14460(a)(1), as well as all applicable Federal, State, and Local laws, regulations, and ordinances, all applicable Caltrans policies and procedures, and all applicable Caltrans published manuals, including, but not limited to, the applicable Grant Application Guide (Attachment III to the Prime Agreement). In case of conflict between any applicable Federal, State, and Local laws, regulations, and ordinances, and/or any applicable policies, procedures, or published manuals of either Caltrans or the City, the order of precedence of the applicability of same to this Agreement shall be established in this order: 1) Federal laws and regulations; 2) California laws and regulations; 3) Caltrans policies, procedures, and published manuals; 4) Local ordinances; and 5) City policies, procedures, and published manuals.

5.2 Payment and Invoicing. The Subrecipient shall establish and maintain an accounting system and records that properly accumulate and segregate incurred Project costs by line. The accounting system of the Subrecipient shall conform to Generally Accepted Accounting Principles (GAAP), enable the determination of incurred costs at interim points of completion, and provide support for reimbursement payment vouchers or invoices. Reimbursement of the Subrecipient's expenditures will be authorized only for those allowable costs actually incurred by the Subrecipient in accordance with the provisions of this Agreement and the Prime Agreement and in the performance of the Services. The Subrecipient must not only have incurred the expenditures on or after the start date and the issuance of the Notice to Proceed letter for this Agreement and before the Expiration Date but must have also paid for those costs to claim any reimbursement. Travel expenses and per diem rates are not to exceed the rate specified by the State of California Department of Human Resources for similar employees (i.e., non-represented employees) unless written verification is supplied that government hotel rates were not then commercially available to the Subrecipient at the time and location required as specified in the California Department of Transportation's Travel Guide Exception Process. The Subrecipient shall submit invoices to the City at least quarterly, but no more frequently than monthly, in arrears for completion of milestones in accordance with the Project Cost and Schedule in Attachment II to the Prime Agreement to the satisfaction of the City. Invoices shall reference this Agreement Number and shall be signed and submitted to the City. One-time lump sum invoices for the Grant Amount are not allowed. Invoices shall include the following information: 1) Names of the Subrecipient personnel performing work; 2) Dates and times of Project Work; 3) Locations of Project Work; 4) Itemized costs as set forth in Attachment II to the Prime Agreement, including identification of each employee who provided services during the period of the invoice, the number of hours and hourly rates for each employee, authorized travel expenses with receipts, receipts for authorized

materials or supplies, and contractor, sub-recipient, and subcontractor invoices. Incomplete or inaccurate invoices shall be returned to the Subrecipient unapproved for correction. Failure to submit invoices on a timely basis may be grounds for termination of this Agreement for material breach per Section 7. The Agreement Expiration Date refers to the last date for the Subrecipient to incur valid Project costs or credits and is the date the Agreement expires. The Subrecipient has 60 days after that Expiration Date to make final allowable payments to Project contractors or vendors and submit the Project's Final Product(s) as defined in Attachment II to the Prime Agreement and a final accurate invoice to the City for reimbursement for allowable Project costs. Any unexpended Project funds not invoiced by the 60th day will be reverted and will no longer be accessible to reimburse late Project invoices.

5.3 Cost Principles. The Subrecipient agrees to comply with Title 2, Code of Federal Regulations (CFR), Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. The Subrecipient agrees that (a) Contract Cost Principles and Procedures, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31, et seq., shall be used to determine the allowability of individual Project costs and (b) the Parties shall comply with Federal administrative procedures in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. The Subrecipient shall comply with Federal administrative procedures in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards to the extent applicable. Prior to the Subrecipient seeking reimbursement of indirect costs, the Subrecipient must have identified the estimated indirect cost rate in Attachment II to the Prime Agreement, prepare and submit annually to the City for review and approval an indirect cost rate proposal and a central service cost allocation plan (if any) in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards and Chapter 5 of the Local Assistance Procedures Manual. The Subrecipient agrees and shall require that all its agreements with consultants and sub-recipients contain provisions requiring adherence to this section in its entirety.

5.4 Repayment of Unallowable Costs. Any Project costs for which the Subrecipient has received payment or credit that are determined by subsequent audit to be unallowable under 2 CFR, Part 200, and/or Part 48, Chapter 1, Part 31, are subject to repayment by the Subrecipient to the City. Should the Subrecipient fail to reimburse moneys due the City within thirty (30) days of discovery or demand, or within such other period as may be agreed in writing between the parties hereto, the City is authorized to intercept and withhold future payments due the Subrecipient from the City or any third-party source, including, but not limited to, the State Treasurer, the State Controller or any other fund source.

5.5 Americans with Disabilities Act. By signing this Agreement, the Subrecipient assures the City that in the course of performing Project Work, it will fully comply with the applicable provisions of the Americans with Disabilities Act (ADA) of 1990, as amended, which prohibits discrimination on the basis of disability, as well as all applicable regulations and guidelines issued pursuant to the ADA (42 USC Section 12101 et seq.).

5.6 Indemnification. Neither the City, Caltrans, nor any officer or employee thereof is responsible for any injury, damage, or liability occurring by reason of anything done or omitted to be done by the Subrecipient, its officers, employees, agents, contractors, subrecipients, or

subcontractors, under or in connection with any work, authority, or jurisdiction conferred upon the Subrecipient under this Agreement. It is understood and agreed that the Subrecipient shall fully defend, indemnify, and save harmless the City, Caltrans, and all of their officers and employees from all claims, suits, or actions of every name, kind, and description brought forth under, including, but not limited to, tortuous, contractual, inverse condemnation, or other theories or assertions of liability occurring by reason of anything done or omitted to be done by the Subrecipient, its officers, employees, agents, contractors, subrecipients, or subcontractors under this Agreement.

5.7 Nondiscrimination Clause. During the performance of this Agreement, the Subrecipient shall not deny the contract's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status. The Subrecipient shall ensure that the evaluation and treatment of employees and applicants for employment are free of such discrimination. The Subrecipient shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code Sections 12900 et seq.), the regulations promulgated thereunder (Cal. Code Regs., Tit. 2, Sections 11000 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code Sections 11135-11139.5), and the regulations or standards adopted by the City or Caltrans to implement such article. The Subrecipient shall permit access by representatives of the Department of Fair Employment and Housing, the City, and Caltrans upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department, the City, or Caltrans shall require to ascertain compliance with this clause. The Subrecipient shall give written notice of its obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. The Subrecipient shall include the nondiscrimination and compliance provisions of this clause in all agreements with its contractors and subcontractors (preapproved by City), and shall include a requirement in all agreements with all of same that each of them in turn include the nondiscrimination and compliance provisions of this clause in all contracts and subcontracts they enter into to perform work under this Agreement.

5.8 Retention of Records/Audits. The Subrecipient agrees to comply with Title 2, Code of Federal Regulations (CFR), Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. All accounting records and other supporting papers of the Subrecipient, its contractors, subcontractors, and sub-recipients connected with Project performance under this Agreement shall be maintained for a minimum of three (3) years from the date of final payment to the Subrecipient and shall be held open to inspection, copying, and audit by representatives of the City, Caltrans, the California State Auditor, and auditors representing the Federal government. Copies thereof will be furnished by the Subrecipient, its contractors, its subcontractors, and sub-recipients upon receipt of any request made by the City, Caltrans, or its agents. In conducting an audit of the costs and match credits claimed under this Agreement, the City and Caltrans will rely to the maximum extent possible on any prior audit of the Subrecipient pursuant to the provisions of State and City law. In the absence of such an audit, any acceptable

audit work performed by the Subrecipient's external and internal auditors may be relied upon and used by the City and Caltrans when planning and conducting additional audits. For the purpose of determining compliance with applicable State and City law in connection with the performance of the Subrecipient's contracts with third parties pursuant to Government Code Section 8546.7, the Subrecipient, the Subrecipient's sub-recipients, contractors, subcontractors, the City, and Caltrans, shall each maintain and make available for inspection all books, documents, papers, accounting records, and other evidence pertaining to the performance of such contracts, including, but not limited to, the costs of administering those various contracts. All the above referenced parties shall make such materials available at their respective offices at all reasonable times during the entire Project period and for three (3) years from the date of final payment to the Subrecipient under this Agreement. The City, Caltrans, the California State Auditor, or any duly authorized representative of the City, Caltrans, or the United States Department of Transportation, shall each have access to any books, records, and documents that are pertinent to a Project for audits, examinations, excerpts, and transactions, and the Subrecipient shall furnish copies thereof if requested. The Subrecipient, its sub-recipients, contractors, and subcontractors will permit access to all records of employment, employment advertisements, employment application forms, and other pertinent data and records by the State Fair Employment Practices and Housing Commission, or any other agency of the State of California designated by the City or Caltrans, for the purpose of any investigation to ascertain compliance with this Agreement. Additionally, all grants may be subject to a pre-award audit prior to execution of this Agreement to ensure the Subrecipient has an adequate financial management system in place to accumulate and segregate reasonable, allowable, and allocable costs. Any contract with a contractor, subcontractor, or sub-recipient entered into as a result of this Agreement shall contain all the provisions of this article.

5.9 Drug-Free Workplace Certification. By signing this Agreement, the Subrecipient hereby certifies under penalty of perjury under the laws of California that the Subrecipient will comply with the requirements of the Drug-Free Workplace Act of 1990 (Gov. Code Sections 8350 et seq.) and will provide a Drug-Free workplace by doing all the following: a) Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations, as required by Government Code Section 8355(a)(1); b) Establish a Drug-Free Awareness Program as required by Government Code Section 8355(a)(2) to inform employees about all the following: 1) The dangers of drug abuse in the workplace; 2) The person's or organization's policy of maintaining a Drug-Free workplace; 3) Any available counseling, rehabilitation, and employee assistance programs; and 4) Penalties that may be imposed upon employees for drug abuse violations; c) Provide, as required by Government Code Section 8355(a)(3), that every employee who works on the proposed contract or grant: 1) Will receive a copy of the company's Drug-Free Policy Statement; and 2) Will agree to abide by the terms of the company's statement as a condition of employment on the contract or grant; d) Failure to comply with these requirements may result in suspension of payments under this Agreement or termination of this Agreement or both, and the Subrecipient may be ineligible for the award of any future State contracts if the City or Caltrans determines that any of the following has occurred: (1) the Subrecipient has made a false certification or, (2) the Subrecipient violates the certification by failing to carry out the requirements as noted above.

5.10 State-Owned Data. The Subrecipient agrees to comply with the following requirements to ensure the preservation, security, and integrity of State-owned data on portable

computing devices and portable electronic storage media: 1) Encrypt all State-owned data stored on portable computing devices and portable electronic storage media using government-certified Advanced Encryption Standard (AES) cipher algorithm with a 256-bit or 128-bit encryption key to protect Caltrans data stored on every sector of a hard drive, including temp files, cached data, hibernation files, and even unused disk space; 2) Data encryption shall use cryptographic technology that has been tested and approved against exacting standards, such as FIPS 140-2 Security Requirements for Cryptographic Modules; 3) Encrypt, as described above, all State-owned data transmitted from one computing device or storage medium to another; 4) Maintain confidentiality of all State-owned data by limiting data sharing to those individuals contracted to provide services on behalf of the State, and limit use of State information assets for State purposes only; 5) Install and maintain current anti-virus software, security patches, and upgrades on all computing devices used during the course of the Agreement; 6) Notify the City immediately of any actual or attempted violations of security of State-owned data, including lost or stolen computing devices, files, or portable electronic storage media containing State-owned data; 7) Advise the owner of the State-owned data, the City Manager, and the City Chief Information Officer of vulnerabilities that may present a threat to the security of State-owned data and of specific means of protecting that State-owned data. The Subrecipient agrees to use the State-owned data only for State purposes under this Agreement. The Subrecipient agrees to not transfer State-owned data to any computing system, mobile device, or desktop computer without first establishing the specifications for information integrity and security as established for the original data file(s) (State Administrative Manual (SAM) Section 5335.1).

5.11 Assumption of Risk and Indemnification Regarding Exposure to Environmental Health Hazards. In addition to, and not a limitation of, the Subrecipient's indemnification obligations contained elsewhere in this Agreement, the Subrecipient hereby assumes all risks of the consequences of exposure of the Subrecipient's employees, agents, subrecipients, contractors, and subcontractors, subcontractors' employees, and any other person, firm, or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement, to any and all environmental health hazards, local and otherwise, in connection with the performance of this Agreement. Such hazards include, but are not limited to, bodily injury and/or death resulting in whole or in part from exposure to infectious agents and/or pathogens of any type, kind or origin. The Subrecipient also agrees to take all appropriate safety precautions to prevent any such exposure to the Subrecipient's employees, agents, subrecipients, contractors, and subcontractors, subcontractors' employees, and any other person, firm or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement. The Subrecipient also agrees to indemnify and hold harmless the City, Caltrans, the State of California, and each and all their officers, agents and employees, from any and all claims and/or losses accruing or resulting from such exposure. Except as provided by law, the Subrecipient also agrees that the provisions of this paragraph shall apply regardless of the existence or degree of negligence or fault on the part of the City, Caltrans, the State of California, and/or any of their officers, agents and/or employees.

5.12 Mandatory Organic Waste Recycling. It is understood and agreed that pursuant to Public Resources Code Sections 42649.8 et seq., if the Subrecipient generates two (2) cubic yards or more of organic waste or commercial solid waste per week, the Subrecipient shall arrange for organic waste or commercial waste recycling services that separate/source organic waste for organic waste recycling. The Subrecipient shall provide proof of compliance, i.e., organic waste

recycling services or commercial waste recycling services that separate/source organic waste recycling, upon request from the City.

5.13 ADA Compliance. All entities that provide electronic or information technology or related services that will be posted online by the City or Caltrans must be in compliance with Government Code Sections 7405 and 11135 and the Web Content Accessibility Guidelines (WCAG) 2.0 or subsequent version, published by the Web Accessibility Initiative of the World Wide Web Consortium at a minimum Level AA success. All entities will respond to and resolve any complaints/deficiencies regarding accessibility brought to their attention.

5.14 Executive Order N-6-22 – Russia Sanctions. On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (the EO) regarding Economic Sanctions against Russia and Russian entities and individuals. "Economic Sanctions" refers to sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law unless the contract has been Federalized (i.e., there is federal participation in any phase). The EO directs state agencies to terminate contracts with, and to refrain from entering any new contracts with, individuals or entities that are determined to be a target of Economic Sanctions. Accordingly, should the City or the State determine the Subrecipient is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this agreement. The City shall provide the Subrecipient advance written notice of such termination, allowing the Subrecipient at least 30 calendar days to provide a written response. Termination shall be at the sole discretion of the City.

5.15 The Subrecipient shall ensure that its contractors and subcontractors comply with all pass-through obligations set forth in this Section 5.

5.16 The Subrecipient shall provide quarterly progress reports to the City, detailing progress, expenditures, and any issues, to enable the City's reporting to Caltrans under Section III, Paragraph 17 of the Prime Agreement.

6. INSURANCE

6.1 Time for Compliance. Subrecipient shall not commence work under this Agreement until it has provided evidence satisfactory to the City that it has secured all insurance required under this section. In addition, Subrecipient shall not allow any subconsultant to commence work on any subcontract until it has provided evidence satisfactory to the City that the subconsultant has secured all insurance required under this section. Failure to provide and maintain all required insurance shall be grounds for the City to terminate this Agreement for cause.

6.2 Types of Insurance Required. As a condition precedent to the effectiveness of this Agreement for work to be performed hereunder, and without limiting the indemnity provisions of the Agreement, the Subrecipient, in partial performance of its obligations under such Agreement, shall procure and maintain in full force and effect during the term of the Agreement the following policies of insurance. If the existing policies do not meet the insurance requirements set forth herein, Subrecipient agrees to amend, supplement or endorse the policies to do so.

(a) Commercial General Liability: Commercial General Liability Insurance which affords coverage at least as broad as Insurance Services Office "occurrence" form CG 00

01, or the exact equivalent, with limits of not less than $1,000,000 per occurrence and no less than $2,000,000 in the general aggregate. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions (1) limiting coverage for contractual liability; (2) excluding coverage for claims or suits by one insured against another (cross-liability); (3) products/completed operations liability; or (4) containing any other exclusion(s) contrary to the terms or purposes of this Agreement.

(b) Automobile Liability Insurance: Automobile Liability Insurance with coverage at least as broad as Insurance Services Office Form CA 00 01 covering "Any Auto" (Symbol 1), or the exact equivalent, covering bodily injury and property damage for all activities with limits of not less than $1,000,000 combined limit for each occurrence.

(c) Workers' Compensation: Workers' Compensation Insurance, as required by the State of California and Employer's Liability Insurance with a limit of not less than $1,000,000 per accident for bodily injury and disease.

6.3 Professional Liability (Errors & Omissions): Professional Liability insurance or Errors & Omissions insurance appropriate to Subrecipient's profession with limits of not less than $1,000,000. Covered professional services shall specifically include all work to be performed under the Agreement and delete any exclusions that may potentially affect the work to be performed (for example, any exclusions relating to lead, asbestos, pollution, testing, underground storage tanks, laboratory analysis, soil work, etc.). If coverage is written on a claims-made basis, the retroactive date shall precede the effective date of the initial Agreement and continuous coverage will be maintained or an extended reporting period will be exercised for a period of at least five (5) years from termination or expiration of this Agreement.

6.4 Insurance Endorsements. Required insurance policies shall contain the following provisions, or Subrecipient shall provide endorsements on forms approved by the City to add the following provisions to the insurance policies:

(a) Commercial General Liability: (1) Additional Insured: The City, its officials, officers, employees, agents, and volunteers shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the Agreement. Additional Insured Endorsements shall not (1) be restricted to "ongoing operations"; (2) exclude "contractual liability"; (3) restrict coverage to "sole" liability of Subrecipient; or (4) contain any other exclusions contrary to the terms or purposes of this Agreement. For all policies of Commercial General Liability insurance, Subrecipient shall provide endorsements in the form of ISO CG 20 10 10 01 and 20 37 10 01 (or endorsements providing the exact same coverage) to effectuate this requirement. (2) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(b) Automobile Liability. (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(c) Professional Liability (Errors & Omissions): 1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium. (2) Contractual Liability Exclusion Deleted: This insurance shall include contractual liability applicable to this Agreement. The policy must "pay on behalf of" the insured and include a provision establishing the insurer's duty to defend.

(d) Workers' Compensation: (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium. (2) Waiver of Subrogation: A waiver of subrogation stating that the insurer waives all rights of subrogation against the City, its officials, officers, employees, agents, and volunteers.

6.5 Primary and Non-Contributing Insurance. All policies of Commercial General Liability and Automobile Liability insurance shall be primary and any other insurance, deductible, or self-insurance maintained by the City, its officials, officers, employees, agents, or volunteers shall not contribute with this primary insurance. Policies shall contain or be endorsed to contain such provisions.

6.6 Waiver of Subrogation. All required insurance coverages, except for the professional liability coverage, shall contain or be endorsed to waiver of subrogation in favor of the City, its officials, officers, employees, agents, and volunteers or shall specifically allow Subrecipient or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. Subrecipient hereby waives its own right of recovery against City, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

6.7 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be approved in writing by the City and shall protect the City, its officials, officers, employees, agents, and volunteers in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention.

6.8 Evidence of Insurance. The Subrecipient, concurrently with the execution of the Agreement, and as a condition precedent to the effectiveness thereof, shall deliver either certified copies of the required policies, or original certificates on forms approved by the City, together with all endorsements affecting each policy. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for approval. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. At least fifteen (15 days) prior to the expiration of any such policy, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the City. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Subrecipient shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the City evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies.

6.9 Acceptability of Insurers. Each such policy shall be from a company or companies with a current A.M. Best's rating of no less than A:VII and authorized to transact business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law.

6.10 Enforcement of Agreement Provisions (non estoppel). Subrecipient acknowledges and agrees that actual or alleged failure on the part of the City to inform Subrecipient of non-compliance with any requirement imposes no additional obligation on the City nor does it waive any rights hereunder.

6.11 Requirements Not Limiting. Requirement of specific coverage or minimum limits contained in this Section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance.

6.12 Additional Insurance Provisions

(a) The foregoing requirements as to the types and limits of insurance coverage to be maintained by Subrecipient, and any approval of said insurance by the City, is not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Subrecipient pursuant to this Agreement, including but not limited to, the provisions concerning indemnification.

(b) If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, City has the right but not the duty to obtain the insurance it deems necessary and any premium paid by City will be promptly reimbursed by Subrecipient or City will withhold amounts sufficient to pay premium from Subrecipient payments. In the alternative, City may cancel this Agreement.

(c) The City may require the Subrecipient to provide complete copies of all insurance policies in effect for the duration of the Project.

(d) Neither the City nor any of its officials, officers, employees, agents or volunteers shall be personally responsible for any liability arising under or by virtue of this Agreement.

(e) The limits set forth herein shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Subrecipient from liability in excess of such coverage, nor shall it limit the Subrecipient's indemnification obligations to the City and shall not preclude the City from taking such other actions available to the City under other provisions of the Agreement or law.

(f) Subrecipient shall report to the City, in addition to Subrecipient's insurer, any and all insurance claims submitted by Subrecipient in connection with the Services under this Agreement.

6.13 Insurance for Subconsultants. Subrecipient shall include all subconsultants engaged in any work for Subrecipient relating to this Agreement as additional insureds under the Subrecipient's policies, or the Subrecipient shall be responsible for causing subconsultants to purchase the appropriate insurance in compliance with the terms of these Insurance Requirements, including adding the City, its officials, officers, employees, agents, and volunteers as additional insureds to the subconsultant's policies. All policies of Commercial General Liability insurance provided by Subrecipient's subconsultants performing work relating to this Agreement shall be endorsed to name the City, its officials, officers, employees, agents and volunteers as additional insureds using endorsement form ISO CG 20 38 04 13 or an endorsement providing equivalent coverage. Subrecipient shall not allow any subconsultant to commence work on any subcontract relating to this Agreement until it has received satisfactory evidence of subconsultant's compliance with all insurance requirements under this Agreement, to the extent applicable. The Subrecipient shall provide satisfactory evidence of compliance with this section upon request of the City.

7. TERMINATION

7.1 City reserves the right to terminate this Agreement for any or no reason upon written notice to Subrecipient at least 30 days in advance of the effective date of such termination in the event City determines (at its sole discretion) that Subrecipient failed to proceed or continue with Project Work in accordance with the terms of this Agreement. In the event of termination for convenience, City will reimburse Subrecipient for all allowable, authorized, and non-cancelled costs up to the date of termination.

7.2 This Agreement may be terminated by either party for any or no reason by giving written notice to the other Party at least thirty (30) days in advance of the effective date of such termination. In the event of termination for convenience, City will reimburse Subrecipient for all allowable, authorized, and non-cancelled costs up to the date of termination.

7.3 Subrecipient has sixty (60) days after the Termination Date to submit accurate invoices to City to make final allowable payments for Project costs in accordance with the terms of this Agreement. Failure to submit accurate invoices within this period of time shall result in a waiver by Subrecipient of its right to reimbursement of expended costs.

8. BUDGET CONTINGENCY CLAUSE

8.1 It is mutually agreed that if Caltrans is unable to appropriate or allocate funds during the current year and/or any subsequent years covered under this Agreement and are not able to provide sufficient funds for the Project, this Agreement shall be of no further force and effect. In this event, City shall have no liability to pay any funds whatsoever to Subrecipient or to furnish any other consideration under this Agreement and Subrecipient shall not be obligated to perform any provisions of this Agreement.

8.2 If funding to Caltrans for any fiscal year is reduced or deleted for purposes of this Project, City shall have the option to either terminate this Agreement with no liability occurring to City or offer an Agreement Amendment to Subrecipient to reflect reduced amount.

9. CHANGES/AMENDMENTS

This Agreement may only be amended or modified during the Term of the by mutual written agreement of the Parties. Any proposed modification to this Agreement that requires a formal amendment must be submitted by Subrecipient to City no less than 120 days prior to the expiration of the Term.

10. DISPUTE RESOLUTION

Disputes shall be resolved per Section III, Paragraph 24 of the Prime Agreement, including good faith negotiations and alternative dispute resolution before litigation.

11. INDEPENDENT CONTRACTOR

The Subrecipient is an independent contractor, not an employee or agent of the City.

12. NOTICES

The City's Project Manager for the Project is Kendra Reif. The City's Financial Manager for the Project is Ruben Ramirez. The Subrecipient's Contract Manager is Bernadette Austin, or her designee following notice to the City.

All notices herein provided to be given, or which may be given, by either Party to the other, shall be deemed to have been fully given when made in writing and received by the Parties at their respective addresses:

City of Coachella
Attention: Kendra Reif, Project Manager
53990 Enterprise Way
Coachella, CA 92236
Phone: (760) 398-3502
Email: kreif@coachella.org

Raices Cultura
Attention: Marnie Navarro
1536 7th Street
Coachella, CA 92236
Email: marnie.navarro@raicesdelvalle.org

13. COOPERATION; FURTHER ACTS

The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Agreement.

14. ENTIRE AGREEMENT

This Agreement contains the entire agreement of the Parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements.

15. ATTORNEYS' FEES

If either party commences an action against the other party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorneys' fees and all costs of such action.

16. GOVERNING LAW

This Agreement shall be governed by the laws of the State of California. Venue shall be in Riverside County. In addition to any and all contract requirements pertaining to notices of and requests for compensation or payment for extra work, disputed work, claims and/or changed conditions, Subrecipient must comply with the claim procedures set forth in Government Code sections 900 et seq. prior to filing any lawsuit against the City. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra work, disputed work, claims, and/or changed conditions have been followed by Subrecipient. If no such Government Code claim is submitted, or if any prerequisite contractual requirements are not otherwise satisfied as specified herein, Subrecipient shall be barred from bringing and maintaining a valid lawsuit against the City.

17. TIME OF ESSENCE

Time is of the essence for each and every provision of this Agreement.

18. CITY'S RIGHT TO EMPLOY OTHER SUBRECIPIENTS.

City reserves right to employ other subrecipients in connection with this Project.

19. SUCCESSORS AND ASSIGNS

This Agreement shall be binding on the successors and assigns of the parties.

20. ASSIGNMENT OR TRANSFER

Subrecipient shall not assign, sublet, or transfer this Agreement or any rights under or interest in this Agreement without the written consent of the City, which may be withheld for any reason. Any attempt to so assign or so transfer without such consent shall be void and without legal effect and shall constitute grounds for termination. Subrecipient shall not subcontract any portion of the Services required by this Agreement, except as expressly stated herein, without prior written approval of City. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

21. CONSTRUCTION; REFERENCES; CAPTIONS

Since the Parties or their agents have participated fully in the preparation of this Agreement, the language of this Agreement shall be construed simply, according to its fair meaning, and not strictly for or against any Party. Any term referencing time, days or period for performance shall

be deemed calendar days and not work days. All references to Subrecipient include all personnel, employees, agents, and subconsultants of Subrecipient, except as otherwise specified in this Agreement. All references to City include its elected officials, officers, employees, agents, and volunteers except as otherwise specified in this Agreement. The captions of the various articles and paragraphs are for convenience and ease of reference only, and do not define, limit, augment, or describe the scope, content, or intent of this Agreement.

22. WAIVER

No waiver of any default shall constitute a waiver of any other default or breach, whether of the same or other covenant or condition. No waiver, benefit, privilege, or service voluntarily given or performed by a Party shall give the other Party any contractual rights by custom, estoppel, or otherwise.

23. NO THIRD-PARTY BENEFICIARIES

There are no intended third party beneficiaries of any right or obligation assumed by the Parties.

24. INVALIDITY; SEVERABILITY

If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

25. PROHIBITED INTERESTS

Subrecipient maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Subrecipient, to solicit or secure this Agreement. Subrecipient warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Subrecipient, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. Subrecipient further agrees to file, or shall cause its employees or subconsultants to file, a Statement of Economic Interest with the City's Filing Officer as required under state law in the performance of the Services. For breach or violation of this warranty, City shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of City, during the term of his or her service with City, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

26. AUTHORITY TO ENTER AGREEMENT

Subrecipient has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

27. COUNTERPARTS

This Agreement may be signed in counterparts, each of which shall constitute an original.

28. SURVIVAL

All rights and obligations hereunder that by their nature are to continue after any expiration or termination of this Agreement, including, but not limited to, the indemnification obligations, shall survive any such expiration or termination.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

CITY OF COACHELLA

By: _____

Printed Name: _____

Title: _____

Date: _____

RAICES CULTURA

By: _____

Printed Name: Marnie Navarro

Title: Executive Director

Date: _____

EXHIBIT "1"

PRIME AGREEMENT

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Celina Jimenez, Director of Economic Development

SUBJECT: Approve a Professional Services Agreement for Communications, Social Media and Website Management Services for Coachella Prospera with DeAztlan Consulting in the Amount of $114,000 and Authorize the City Manager to Execute the Agreement

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STAFF RECOMMENDATION:

Staff recommends that the City of Coachella considers approving a professional services agreement for communications, social media and website management services for Coachella Prospera with DeAztlan Consulting in the amount of $114,000 and authorize the City Manager to execute the agreement.

BACKGROUND:

The grant funds community-led development and infrastructure projects that achieve major environmental, health, and economic benefits in California's most disadvantaged communities. Through this grant, the City was able to implement its Coachella Prospera project, which will improve green spaces, provide affordable housing, increase clean micro-mobility options and electric vehicle car sharing services, install solar panel in income-qualified homes, and create workforce development opportunities all centered on addressing climate change at the local level.

At the time, the City had entered into a contract with Deaztlan Consulting for media, video and event production services in relation to the announcement and rollout of the Coachella Prospera project. Then, the City contracted with DeAztlan Consulting for the first TCC implementation year and the professional support from DeAztlan Consulting was outstanding. This Professional Services Agreement is a continuation of their services where they will help the City to inform residents of Coachella Prospera informed about its projects and the benefits available to them. DeAztlan Consulting has been extremely responsive, professional, and very creative. They have come to know all of the project partners and have been able to conduct geo-fenced outreach to the Coachella Prospera project area. The high-quality support is unmatched.

DISCUSSION/ANALYSIS:

Through this Professional Services Agreement, DeAztlan Consulting will continue to develop and oversee the management of the Coachella Prospera social media channels and project website, aimed at informing current and potential residents and business owners of the benefits of Coachella

Prospera. The proposed services below are for a one-year project timeline; with a year-on-year renewal option for four years, since they have already assisted the city for one year. Staff highly recommends that the City Council considers awarding this contract to DeAztlan Consulting.

The proposed services include continuing the development of a comprehensive social media strategy, creating engaging content (graphics, videos, and photos), and maintaining active community engagement through interactive polls and prompt responses. The project will involve regular performance reporting and data analysis to refine strategies and optimize reach and engagement.

These services will include the following:

Web Hosting & Management Services

- Task 1: Web Hosting
- Task 2: Domain Name & SSL Certificate
- Task 3: Content Management Systems (CMS) Maintenance
- Task 4: Security & Backups
- Task 5: Performance Optimization
- Task 6: Technical Support
- Task 7: Content Updates

Social Media Management & Content Creation

- Task 1: Two Channel Management
- Task 2: Content Creation (Graphic Design, Video Production, Photography, Community and Story Polls)
- Task 3: Community Management
- Task 4: Reporting, Analytics & Strategy Review
-

ALTERNATIVES:

1. Approve a Professional Services Agreement for Communications, Social Media and Website Management Services for Coachella Prospera with DeAztlan Consulting in the Amount of $114,000 and Authorize the City Manager to Execute the Agreement.

2. Not award

FISCAL IMPACT:

Grant funds from the TCC grant have been budgeted to cover the cost of this contract for the duration of the project.

ATTACHMENTS:

1. Professional Services Agreement

DEAZTLAN **CONSULTING**

SUMMARY OF SERVICES

In collaboration with city staff, DeAztlan Consulting will develop and oversee the management of the Coachella Prospera social channels and project website, aimed at informing current and potential residents and business owners of the benefits of Coachella Prospera. The proposed services below are for a one-year project timeline from February 2026, through February 2027.

¡COACHELLA PROSPERA!

WEB HOSTING & MANAGEMENT SERVICES

WEB HOSTING

DOMAIN NAME & SSL CERTIFICATE

CONTENT MANAGEMENT SYSTEM (CMS) MAINTENANCE

SECURITY & BACKUPS

PERFORMANCE OPTIMIZATION

TECHNICAL SUPPORT

CONTENT UPDATES

SOCIAL MEDIA MANAGEMENT & CONTENT CREATION

TWO CHANNEL MANAGEMENT

CONTENT CREATION
- Graphic Design
- Video Production
- Photography
- Community and Story Polls

COMMUNITY MANAGEMENT

REPORTING & ANALYTICS

**Ad buy and print costs not included*
Total Cost: $114,000.00

These services will ensure the management of the Coachella Prospera social channels and project website to inform residents and business owners of its many benefits, highlighting recreational resources, zero-emission transportation, affordable housing, urban forests, solar programs, and infrastructure. The estimated cost covers services from DeAztlan Consulting from February, 2026 to February 2027.

DEAZTLAN **CONSULTING**

WEB HOSTING & MANAGEMENT SERVICES

TASK 1: WEB HOSTING

- Regularly monitor hosting performance to ensure server stability and reliability.
- Perform upgrades or changes to hosting plans as needed to accommodate traffic increases
- Ensures the website remains accessible and performs well under varying traffic loads.
- Evaluate hosting performance quarterly; consider scalability options for future needs.

TASK 2: DOMAIN RENEWAL & SSL CERTIFICATE

- Renew the domain name and SSL certificate annually or as needed.
- Monitor SSL certificate expiration dates and renew them promptly to maintain website security.
- Set up automated reminders for renewals; verify SSL installation post-renewal for any issues.

TASK 3: CMS MAINTENANCE

- Regularly update the CMS (Content Management System) to the latest version, including core files and themes.
- Apply patches and updates to fix bugs and security vulnerabilities.
- Test updates in a staging environment before applying them to the live site to avoid disruptions.

TASK 4: SECURITY & BACKUPS

- Conduct regular security scans to identify potential threats and vulnerabilities.
- Perform automated and manual backups of the entire website, including databases and content.
- Automate backups and store them in multiple locations; perform periodic test restores to ensure backup integrity.

TASK 5: PERFORMANCE OPTIMIZATION

- Monitor and optimize website speed, load times, and server response rates.
- Implement caching, image optimization, and other techniques to improve overall site performance.
- Regularly review performance metrics and adjust optimization strategies as needed.

TASK 6: TECHNICAL SUPPORT

- Provide ongoing technical support for any website-related issues, including server errors, bugs, and downtime.
- Troubleshoot and resolve problems to maintain optimal functionality and user experience.

TASK 7: CONTENT UPDATES

- Update and manage website content regularly, including text, images, and multimedia elements.
- Ensure all content is relevant, up-to-date, and aligned with the city's communication strategies.
- Coordinate with city departments for content input; ensure content meets accessibility standards.

DEAZTLAN **CONSULTING**

PROJECT BUDGET ALLOCATION

Task	Cost
TASK 1: WEB HOSTING	$4,000.00
TASK 2: DOMAIN RENEWAL & SSL CERTIFICATE	$1,000.00
TASK 3: CMS MAINTENANCE	$10,000.00
TASK 4: SECURITY & BACKUPS	$4,500.00
TASK 5: PERFORMANCE OPTIMIZATION	$5,000.00
TASK 6: TECHNICAL SUPPORT	$6,500.00
TASK 7: CONTENT UPDATES	$11,000.00
TOTAL	$42,000.00

DEAZTLAN **CONSULTING**

PROJECT DELIVERABLES

Task	Description
TASK 1: WEB HOSTING SETUP & REVIEW	
	Ensure web hosting is configured correctly and meets performance needs. Conduct quarterly reviews to evaluate hosting requirements
TASK 2: DOMAIN RENEWAL & SSL	
	Renew domain name and SSL certificate to maintain secure and continuous website access.
TASK 3: CMS MAINTENANCE UPDATES	
	Regular updates to the CMS core, themes, and plugins to ensure security and functionality.
TASK 4: SECURITY AUDIT & BACKUPS	
	Perform weekly security audits and backups of the website to ensure data protection and recovery capabilities.
TASK 5: PERFORMANCE OPTIMIZATION	
	Conduct performance optimization checks and provide a report on website speed, load times, and areas for improvement.
TASK 6:TECHNICAL SUPPORT	
	Ongoing technical support to troubleshoot and resolve website issues promptly.
TASK 7: CONTENT UPDATE	
	Regular updates to website content, including news, events, and community information to keep the site current and engaging.
TASK 8: SEO & ANALYTICS REPORT	
	Monthly review of SEO performance and website analytics to assess traffic, user engagement, and SEO effectiveness.
TASK 9: ANNUAL MAINTENANCE REVIEW	
	Comprehensive review of all maintenance activities, performance, and outcomes over the past year, with planning for the next cycle.

The proposed services ensure that all aspects of the Coachella Prospera project website's maintenance are regularly reviewed and updated, keeping the site secure, functional, and optimized for all residents of the City of Coachella. The proposed budget covers services from DeAztlan Consulting from February 2026, through February 2027.

DEAZTLAN **CONSULTING**

SOCIAL MEDIA MANAGEMENT & CONTENT CREATION

TASK 1: TWO CHANNEL MANAGEMENT

- Develop and execute a social media strategy for both channels to align with city goals.
- Schedule and manage posts to ensure consistent messaging and brand voice.
- Monitor trends and adjust strategies to stay relevant and effective.

TASK 2: CONTENT CREATION

- Create visually engaging graphics for posts, stories, and campaigns that align with the city's branding and objectives. This includes designing event promotions, informational posts, and other visual content.
- Develop short, engaging videos, such as event recaps, community highlights, and informational clips, optimized for social media platforms to increase engagement and reach.
- Conduct photoshoots to capture high-quality images of any upcoming projects, events, and activities. These images will be used in social media posts to visually represent the Coachella Prospera ethos.
- Plan and schedule all content creation activities in advance to ensure a steady flow of engaging content throughout the month.
- Create interactive content like polls and quizzes to engage followers.
- Use feedback to improve content and better connect with the community.

TASK 3: COMMUNITY MANAGEMENT

- Respond to comments, messages, and mentions promptly.
- Engage with followers and manage online interactions to foster a positive community.

TASK 4: REPORTING, ANALYTICS, & STRATEGY REVIEW

- Analyze social media performance data and prepare monthly reports.
- Conduct quarterly reviews to refine strategies based on data insights and trends.
- Adjust strategies to improve engagement and reach.

TASK 5: ANNUAL REVIEW & FUTURE PLANNING

- Evaluate the year's social media efforts, highlighting successes and areas for improvement.
- Plan strategies and set new goals for the coming year based on insights and trends.

DEAZTLAN **CONSULTING**

PROJECT BUDGET ALLOCATION

Task	Cost
TASK 1: TWO CHANNEL MANAGEMENT	$12,000.00
TASK 2: GRAPHIC DESIGN	$15,000.00
TASK 3: VIDEO PRODUCTION	$26,000.00
TASK 4: PHOTOGRAPHY	$9,000.00
TASK 5: COMMUNITY MANAGEMENT	$7,000.00
TASK 6: REPORTING, ANALYTICS, & STRATEGY	$3,000.00
TOTAL	$72,000.00

DEAZTLAN **CONSULTING**

PROJECT DELIVERABLES

Task	Description
TASK 1: TWO CHANNEL MANAGEMENT	
	Social Media Strategy Document
	Content Calendar
TASK 2: CONTENT CREATION	
	Ten monthly graphics for social media posts and campaigns.
	Four monthly 0:15-0:30 videos optimized for social media engagement.
	High-quality images captured during scheduled and organized project events.
	Two interactive monthly community polls for Instagram and Facebook.
TASK 3: COMMUNITY MANAGEMENT	
	Community Engagement Report
TASK 4: REPORTING & ANALYTICS	
	Monthly Performance Report
	Quarterly Strategy Review Report

The proposed services include developing a comprehensive social media strategy, creating engaging content (graphics, videos, and photos), and maintaining active community engagement through interactive polls and prompt responses. Additionally, the project involves regular performance reporting and data analysis to refine strategies and optimize reach and engagement. **Average monthly project deliverables*

DeAztlan Consulting will develop and manage the Coachella Prospera social media channels and project website, with the goal of informing current and potential residents and business owners about the benefits of Coachella Prospera. The proposed services below are for a one-year project timeline from February 2026, through February 2027.

CITY OF COACHELLA
PROFESSIONAL SERVICES AGREEMENT

1. PARTIES AND DATE.

This Agreement is made and entered into this __ **day of FEBRUARY, 2026**, by and between the City of Coachella, a municipal corporation organized under the laws of the State of California with its principal place of business at 53990 Enterprise Way, Coachella, California 92236, County of Riverside, State of California ("City") and **DEAZTLAN CONSULTING**, with its principal place of business at **78015 MAIN STREET, SUITE 204, LA QUINTA, CA 92253** ("Consultant"). City and Consultant are sometimes individually referred to herein as "Party" and collectively as "Parties."

2. RECITALS.

2.1 Consultant.

Consultant desires to perform and assume responsibility for the provision of certain professional services required by the City on the terms and conditions set forth in this Agreement. Consultant represents that it is experienced in providing and offering **ARCHITECTURE** services to public clients, is licensed in the State of California, and is familiar with the plans of City.

2.2 Project.

City desires to engage Consultant to render such professional services for the **COACHELLA PROSPERA SOCIAL MEDIA AND WEBSITE MANAGEMENT** project ("Project") as set forth in this Agreement.

3. TERMS.

3.1 Scope of Services and Term.

3.1.1 General Scope of Services. Consultant promises and agrees to furnish to the City all labor, materials, tools, equipment, services, and incidental and customary work necessary to fully and adequately supply the professional **SOCIAL MEDIA AND WEBSITE MANAGEMENT** consulting services necessary for the Project ("Services"). The Services are more particularly described in Exhibit "A" attached hereto and incorporated herein by reference. All Services shall be subject to, and performed in accordance with, this Agreement, the exhibits attached hereto and incorporated herein by reference, and all applicable local, state and federal laws, rules and regulations.

3.1.2 Term. The term of this Agreement shall be from **FEBRUARY __, 2026** to **FEBRUARY __, 2027**, unless earlier terminated as provided herein. **THE CITY SHALL HAVE THE UNILATERAL OPTION, AT ITS SOLE DISCRETION, TO RENEW THIS AGREEMENT WITH A YEAR-ON-YEAR RENEWAL OPTION FOR NO MORE THAN (5) YEARS.** Consultant shall complete the Services within the term of this Agreement, and shall meet any other established schedules and deadlines. The Parties may, by mutual, written consent, extend the

term of this Agreement if necessary to complete the Services.

3.2 Compensation.

3.2.1 Compensation. Consultant shall receive compensation, including authorized reimbursements, for all Services rendered under this Agreement at the rates set forth in Exhibit "C" attached hereto and incorporated herein by reference. The total compensation shall not exceed **ONE HUNDRED FOURTEEN THOUSAND DOLLARS ($114,000)** without written approval of the City Council or City Manager, as applicable. Extra Work may be authorized, as described below, and if authorized, will be compensated at the rates and manner set forth in this Agreement.

3.2.2 Payment of Compensation. Consultant shall submit to City a monthly invoice which indicates work completed and hours of Services rendered by Consultant. The invoice shall describe the amount of Services provided since the initial commencement date, or since the start of the subsequent billing periods, as appropriate, through the date of the invoice. City shall, within 30 days of receiving such invoice, review the invoice and pay all non-disputed and approved charges. If the City disputes any of Consultant's fees, the City shall give written notice to Consultant within thirty (30) days of receipt of an invoice of any disputed fees set forth therein. Payment shall not constitute acceptance of any Services completed by Consultant. The making of final payment shall not constitute a waiver of any claims by the City for any reason whatsoever.

3.2.3 Reimbursement for Expenses. Consultant shall not be reimbursed for any expenses unless authorized in writing by City, or included in Exhibit "C" of this Agreement.

3.2.4 Extra Work. At any time during the term of this Agreement, City may request that Consultant perform Extra Work. As used herein, "Extra Work" means any work which is determined by City to be necessary for the proper completion of the Project, but which the Parties did not reasonably anticipate would be necessary at the execution of this Agreement. Consultant shall not perform, nor be compensated for, Extra Work without written authorization from the City.

3.3 Responsibilities of Consultant.

3.3.1 Independent Contractor; Control and Payment of Subordinates. The Services shall be performed by Consultant or under its supervision. Consultant will determine the means, methods and details of performing the Services subject to the requirements of this Agreement. City retains Consultant on an independent contractor basis and not as an employee. Any personnel performing the Services on behalf of Consultant shall not be employees of City and shall at all times be under Consultant's exclusive direction and control. Neither City, or any of its officials, officers, directors, employees or agents shall have control over the conduct of Consultant or any of Consultants officers, employees or agents, except as set forth in this Agreement. Consultant shall pay all wages, salaries, and other amounts due such personnel in connection with their performance of Services under this Agreement and as required by law. Consultant shall be responsible for all reports and obligations respecting such additional personnel, including, but not limited to: social security taxes, income tax withholding, unemployment insurance, disability insurance, and workers' compensation insurance.

3.3.2 Schedule of Services. Consultant shall perform the Services in a prompt

and timely manner and in accordance with the Schedule of Services set forth in Exhibit "B" attached hereto and incorporated herein by reference. Consultant represents that it has the professional and technical personnel required to perform the Services expeditiously. Upon request of City, Consultant shall provide a more detailed schedule of anticipated performance to meet the Schedule of Services.

3.3.3 Conformance to Applicable Requirements. All work prepared by Consultant shall be subject to the approval of City.

3.3.4 Substitution of Key Personnel. Consultant has represented to City that certain key personnel will perform and coordinate the Services under this Agreement. Should one or more of such personnel become unavailable, Consultant may substitute other personnel of at least equal competence upon written approval of City. In the event that City and Consultant cannot agree as to the substitution of key personnel, City shall be entitled to terminate this Agreement for cause. The key personnel for performance of this Agreement are as follows: **TIZOC DEAZTLAN, OWNER**.

3.3.5 City's Representative. The City hereby designates **WILLIAM B. PATTISON, JR., CITY MANAGER**, or his/her designee, to act as its representative in all matters pertaining to the administration and performance of this Agreement ("City's Representative"). City's Representative shall have the power to act on behalf of the City for review and approval of all products submitted by Consultant but not the authority to enlarge the Scope of Services or change the total compensation due to Consultant under this Agreement. The City Manager shall be authorized to act on City's behalf and to execute all necessary documents which enlarge the Scope of Services or change the Consultant's total compensation subject to the provisions contained in this Agreement. Consultant shall not accept direction or orders from any person other than the City Manager, City's Representative or his/her designee.

3.3.6 Consultant's Representative. Consultant hereby designates **TIZOC DEAZTLAN, OWNER**, or his/her designee, to act as its representative for the performance of this Agreement ("Consultant's Representative"). Consultant's Representative shall have full authority to represent and act on behalf of the Consultant for all purposes under this Agreement. The Consultant's Representative shall supervise and direct the Services, using his/her best skill and attention, and shall be responsible for all means, methods, techniques, sequences, and procedures and for the satisfactory coordination of all portions of the Services under this Agreement.

3.3.7 Coordination of Services. Consultant agrees to work closely with City staff in the performance of Services and shall be available to City's staff, consultants and other staff at all reasonable times.

3.3.8 Standard of Care; Performance of Employees. Consultant shall perform all Services under this Agreement in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California. Consultant represents and maintains that it is skilled in the professional calling necessary to perform the Services. Consultant warrants that all employees and subconsultants shall have sufficient skill and experience to perform the Services assigned to them. Consultant represents that it, its employees and subconsultants have all licenses, permits, qualifications and approvals of whatever nature that are legally required to perform the Services, and that such licenses and approvals shall be maintained throughout the term of this Agreement. Consultant

shall perform, at its own cost and expense and without reimbursement from the City, any services necessary to correct errors or omissions which are caused by the Consultant's failure to comply with the standard of care provided for herein. Any employee of the Consultant or its subconsultants who is determined by the City to be uncooperative, incompetent, a threat to the adequate or timely completion of the Project, a threat to the safety of persons or property, or any employee who fails or refuses to perform the Services in a manner acceptable to the City, shall be promptly removed from the Project by the Consultant and shall not be re-employed to perform any of the Services or to work on the Project.

3.3.9 Period of Performance.

3.3.9.1 Consultant shall perform and complete all Services under this Agreement within the term set forth in Section 3.1.2 above ("Performance Time"). Consultant shall also perform the Services in strict accordance with any completion schedule or Project milestones described in Exhibits "A" or "B" attached hereto, or which may be separately agreed upon in writing by the City and Consultant ("Performance Milestones"). Consultant agrees that if the Services are not completed within the aforementioned Performance Time and/or pursuant to any such Performance Milestones developed pursuant to provisions of this Agreement, it is understood, acknowledged and agreed that the City will suffer damage.

3.3.9.2 Neither City nor Consultant shall be considered in default of this Agreement for delays in performance caused by circumstances beyond the reasonable control of the non-performing Party. For purposes of this Agreement, such circumstances include a Force Majeure Event. A Force Majeure Event shall mean an event that materially affects a Party's performance and is one or more of the following: (1) Acts of God or other natural disasters; (2) terrorism or other acts of a public enemy; (3) orders of governmental authorities (including, without limitation, unreasonable and unforeseeable delay in the issuance of permits or approvals by governmental authorities that are required for the services); (4) strikes and other organized labor action occurring at the site and the effects thereof on the services, only to the extent such strikes and other organized labor action are beyond the control of Consultant and its subcontractors, and to the extent the effects thereof cannot be avoided by use of replacement workers; and (5) pandemics, epidemics or quarantine restrictions. For purposes of this section, "orders of governmental authorities," includes ordinances, emergency proclamations and orders, rules to protect the public health, welfare and safety, and other actions of a public agency applicable to the services and Agreement.

3.3.9.3 Should a Force Majeure Event occur, the non-performing Party shall, within a reasonable time of being prevented from performing, give written notice to the other Party describing the circumstances preventing continued performance and the efforts being made to resume performance of this Agreement. Force Majeure Events and/or delays, regardless of the Party responsible for the delay, shall not entitle Consultant to any additional compensation. Notwithstanding the foregoing in this section, the City may still terminate this Agreement in accordance with the termination provisions of this Agreement.

3.3.10 Laws and Regulations; Employee/Labor Certification.

3.3.10.1 Compliance with Laws. Consultant shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of the Project or the Services, including all Cal/OSHA requirements, and shall give all notices required by law. Consultant shall be liable for all violations

of such laws and regulations in connection with the Services and this Agreement. All violations of such laws and regulations shall be grounds for the City to terminate the Agreement for cause.

3.3.10.2 Employment Eligibility; Consultant. Consultant certifies that it fully complies with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time and shall require all subconsultants and sub-subconsultants to comply with the same. Consultant certifies that it has not committed a violation of any such law within the five (5) years immediately preceding the date of execution of this Agreement, and shall not violate any such law at any time during the term of the Agreement.

3.3.10.3 Equal Opportunity Employment. Consultant represents that it is an equal opportunity employer and it shall not discriminate against any subconsultant, employee or applicant for employment because of race, religion, color, national origin, handicap, ancestry, sex or age. Such non-discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination. Consultant shall also comply with all relevant provisions of City's Minority Business Enterprise program, Affirmative Action Plan or other related programs or guidelines currently in effect or hereinafter enacted.

3.3.10.4 Air Quality. To the extent applicable, Consultant must fully comply with all applicable laws, rules and regulations in furnishing or using equipment and/or providing services, including, but not limited to, emissions limits and permitting requirements imposed by the South Coast Air Quality Management District (SCAQMD) and/or California Air Resources Board (CARB). Consultant shall indemnify City against any fines or penalties imposed by SCAQMD, CARB, or any other governmental or regulatory agency for violations of applicable laws, rules and/or regulations by Consultant, its subconsultants, or others for whom Consultant is responsible under its indemnity obligations provided for in this Agreement.

3.3.10.5 Water Quality Management and Compliance. Consultant shall keep itself and all subcontractors, staff, and employees fully informed of and in compliance with all local, state and federal laws, rules and regulations that may impact, or be implicated by the performance of the Services including, without limitation, all applicable provisions of the City's ordinances regulating water quality and storm water; the Federal Water Pollution Control Act (33 U.S.C. § 1251, *et seq.*); the California Porter-Cologne Water Quality Control Act (Water Code § 13000 *et seq*.); and any and all regulations, policies, or permits issued pursuant to any such authority. Consultant must additionally comply with the lawful requirements of the City, and any other municipality, drainage district, or other local agency with jurisdiction over the location where the Services are to be conducted, regulating water quality and storm water discharges. City may seek damages from Consultant for delay in completing the Services caused by Consultant's failure to comply with the laws, regulations and policies described in this Section, or any other relevant water quality law, regulation, or policy.

3.3.10.6 Safety. Consultant shall execute and maintain its work so as to avoid injury or damage to any person or property. In carrying out its Services, the Consultant shall at all times be in compliance with all applicable local, state and federal laws, rules and regulations, and shall exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed.

3.3.11 Insurance.

3.3.11.1 Time for Compliance. Consultant shall not commence work under this Agreement until it has provided evidence satisfactory to the City that it has secured all insurance required under this section. In addition, Consultant shall not allow any subconsultant to commence work on any subcontract until it has provided evidence satisfactory to the City that the subconsultant has secured all insurance required under this section. Failure to provide and maintain all required insurance shall be grounds for the City to terminate this Agreement for cause.

3.3.11.2 Types of Insurance Required. As a condition precedent to the effectiveness of this Agreement for work to be performed hereunder, and without limiting the indemnity provisions of the Agreement, the Consultant, in partial performance of its obligations under such Agreement, shall procure and maintain in full force and effect during the term of the Agreement the following policies of insurance. If the existing policies do not meet the insurance requirements set forth herein, Consultant agrees to amend, supplement or endorse the policies to do so.

(A) Commercial General Liability: Commercial General Liability Insurance which affords coverage at least as broad as Insurance Services Office "occurrence" form CG 00 01, or the exact equivalent, with limits of not less than $1,000,000 per occurrence and no less than $2,000,000 in the general aggregate. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions (1) limiting coverage for contractual liability; (2) excluding coverage for claims or suits by one insured against another (cross-liability); (3) products/completed operations liability; or (4) containing any other exclusion(s) contrary to the terms or purposes of this Agreement.

(B) Automobile Liability Insurance: Automobile Liability Insurance with coverage at least as broad as Insurance Services Office Form CA 00 01 covering "Any Auto" (Symbol 1), or the exact equivalent, covering bodily injury and property damage for all activities with limits of not less than $1,000,000 combined limit for each occurrence.

(C) Workers' Compensation: Workers' Compensation Insurance, as required by the State of California and Employer's Liability Insurance with a limit of not less than $1,000,000 per accident for bodily injury and disease.

(D) Professional Liability (Errors & Omissions): Professional Liability insurance or Errors & Omissions insurance appropriate to Consultant’s profession with limits of not less than $1,000,000. Covered professional services shall specifically include all work to be performed under the Agreement and delete any exclusions that may potentially affect the work to be performed (for example, any exclusions relating to lead, asbestos, pollution, testing, underground storage tanks, laboratory analysis, soil work, etc.). If coverage is written on a claims-made basis, the retroactive date shall precede the effective date of the initial Agreement and continuous coverage will be maintained or an extended reporting period will be exercised for a period of at least five (5) years from termination or expiration of this Agreement.

3.3.11.3 Insurance Endorsements. Required insurance policies shall contain the following provisions, or Consultant shall provide endorsements on forms approved by the City to add the following provisions to the insurance policies:

(A) Commercial General Liability: (1) Additional Insured: The City, its officials, officers, employees, agents, and volunteers shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the Agreement.

Additional Insured Endorsements shall not (1) be restricted to "ongoing operations"; (2) exclude "contractual liability"; (3) restrict coverage to "sole" liability of Consultant; or (4) contain any other exclusions contrary to the terms or purposes of this Agreement. For all policies of Commercial General Liability insurance, Consultant shall provide endorsements in the form of ISO CG 20 10 10 01 and 20 37 10 01 (or endorsements providing the exact same coverage) to effectuate this requirement. (2) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(B) Automobile Liability. (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium.

(C) Professional Liability (Errors & Omissions): (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium. (2) Contractual Liability Exclusion Deleted: This insurance shall include contractual liability applicable to this Agreement. The policy must “pay on behalf of” the insured and include a provision establishing the insurer’s duty to defend.

(D) Workers' Compensation: (1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the City except ten (10) days shall be allowed for non-payment of premium. (2) Waiver of Subrogation: A waiver of subrogation stating that the insurer waives all rights of subrogation against the City, its officials, officers, employees, agents, and volunteers.

3.3.11.4 Primary and Non-Contributing Insurance. All policies of Commercial General Liability and Automobile Liability insurance shall be primary and any other insurance, deductible, or self-insurance maintained by the City, its officials, officers, employees, agents, or volunteers shall not contribute with this primary insurance. Policies shall contain or be endorsed to contain such provisions.

3.3.11.5 Waiver of Subrogation. All required insurance coverages, except for the professional liability coverage, shall contain or be endorsed to waiver of subrogation in favor of the City, its officials, officers, employees, agents, and volunteers or shall specifically allow Consultant or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. Consultant hereby waives its own right of recovery against City, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

3.3.11.6 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be approved in writing by the City and shall protect the City, its officials, officers, employees, agents, and volunteers in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention.

3.3.11.7 Evidence of Insurance. The Consultant, concurrently with the execution of the Agreement, and as a condition precedent to the effectiveness thereof, shall

deliver either certified copies of the required policies, or original certificates on forms approved by the City, together with all endorsements affecting each policy. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for approval. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. At least fifteen (15 days) prior to the expiration of any such policy, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the City. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Consultant shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the City evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies.

3.3.11.8 Acceptability of Insurers. Each such policy shall be from a company or companies with a current A.M. Best's rating of no less than A:VII and authorized to transact business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law.

3.3.11.9 Enforcement of Agreement Provisions (non estoppel). Consultant acknowledges and agrees that actual or alleged failure on the part of the City to inform Consultant of non-compliance with any requirement imposes no additional obligation on the City nor does it waive any rights hereunder.

3.3.11.10 Requirements Not Limiting. Requirement of specific coverage or minimum limits contained in this Section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance.

3.3.11.11 Additional Insurance Provisions

(A) The foregoing requirements as to the types and limits of insurance coverage to be maintained by Consultant, and any approval of said insurance by the City, is not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Consultant pursuant to this Agreement, including but not limited to, the provisions concerning indemnification.

(B) If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, City has the right but not the duty to obtain the insurance it deems necessary and any premium paid by City will be promptly reimbursed by Consultant or City will withhold amounts sufficient to pay premium from Consultant payments. In the alternative, City may cancel this Agreement.

(C) The City may require the Consultant to provide complete copies of all insurance policies in effect for the duration of the Project.

(D) Neither the City nor any of its officials, officers, employees, agents or volunteers shall be personally responsible for any liability arising under or by virtue of this Agreement.

(E) The limits set forth herein shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Consultant from liability in excess of such coverage, nor shall it limit the Consultant's indemnification obligations to the City and shall not preclude the City from taking such other actions available to the City under other provisions of the Agreement or law.

(F) Consultant shall report to the City, in addition to Consultant's insurer, any and all insurance claims submitted by Consultant in connection with the Services under this Agreement.

3.3.11.12 Insurance for Subconsultants. Consultant shall include all subconsultants engaged in any work for Consultant relating to this Agreement as additional insureds under the Consultant's policies, or the Consultant shall be responsible for causing subconsultants to purchase the appropriate insurance in compliance with the terms of these Insurance Requirements, including adding the City, its officials, officers, employees, agents, and volunteers as additional insureds to the subconsultant's policies. All policies of Commercial General Liability insurance provided by Consultant's subconsultants performing work relating to this Agreement shall be endorsed to name the City, its officials, officers, employees, agents and volunteers as additional insureds using endorsement form ISO CG 20 38 04 13 or an endorsement providing equivalent coverage. Consultant shall not allow any subconsultant to commence work on any subcontract relating to this Agreement until it has received satisfactory evidence of subconsultant's compliance with all insurance requirements under this Agreement, to the extent applicable. The Consultant shall provide satisfactory evidence of compliance with this section upon request of the City.

3.4 Labor Code Requirements.

3.4.1 Prevailing Wages. Consultant is aware of the requirements of California Labor Code Section 1720, et seq., and 1770, et seq., as well as California Code of Regulations, Title 8, Section 16000, et seq., ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on "public works" and "maintenance" projects. If the Services are being performed as part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and if the total compensation is $1,000 or more, Consultant agrees to fully comply with such Prevailing Wage Laws. City shall provide Consultant with a copy of the prevailing rates of per diem wages in effect at the commencement of this Agreement. Consultant shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to execute the Services available to interested parties upon request, and shall post copies at the Consultant's principal place of business and at the project site. It is the intent of the parties to effectuate the requirements of sections 1771, 1774, 1775, 1776, 1777.5, 1813, and 1815 of the Labor Code within this Agreement, and Consultant shall therefore comply with such Labor Code sections to the fullest extent required by law. Consultant shall defend, indemnify and hold the City, its officials, officers, employees, agents, and volunteers free and harmless from any claim or liability arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

3.4.2 Registration/DIR Compliance. If the Services are being performed on a public works project of over $25,000 when the project is for construction, alteration, demolition, installation, or repair work, or a public works project of over $15,000 when the project is for maintenance work, in addition to the foregoing, then pursuant to Labor Code sections 1725.5 and

1771.1, the Consultant and all subconsultants must be registered with the Department of Industrial Relations ("DIR"). Consultant shall maintain registration for the duration of the Project and require the same of any subconsultants.

3.4.3 Compliance Monitoring. This Project may also be subject to compliance monitoring and enforcement by the DIR. It shall be Consultant's sole responsibility to comply with all applicable registration and labor compliance requirements, including the submission of payroll records directly to the DIR. Any stop orders issued by the DIR against Consultant or any subconsultant that affect Consultant's performance of services, including any delay, shall be Consultant's sole responsibility. Any delay arising out of or resulting from such stop orders shall be considered Consultant caused delay and shall not be compensable by the City. Consultant shall defend, indemnify and hold the City, its officials, officers, employees and agents free and harmless from any claim or liability arising out of stop orders issued by the DIR against Consultant or any subconsultant.

3.4.4 Labor Certification. By its signature hereunder, Consultant certifies that it is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of that Code, and agrees to comply with such provisions before commencing the performance of the Services.

3.5 Termination of Agreement.

3.5.1.1 Grounds for Termination. City may, by written notice to Consultant, terminate the whole or any part of this Agreement at any time and without cause by giving written notice to Consultant of such termination, and specifying the effective date thereof, at least seven (7) days before the effective date of such termination. Upon termination, Consultant shall be compensated only for those Services which have been adequately rendered to City, and Consultant shall be entitled to no further compensation. Consultant may not terminate this Agreement except for cause. The rights and remedies of the City provided in this section shall not be exclusive and are in addition to any other rights and remedies provided by law, equity or under this Agreement.

3.5.1.2 Effect of Termination. If this Agreement is terminated as provided herein, City may require Consultant to provide all finished or unfinished Documents and Data and other information of any kind prepared by Consultant in connection with the performance of Services under this Agreement. Consultant shall be required to provide such document and other information within fifteen (15) days of the request.

3.5.1.3 Additional Services. In the event this Agreement is terminated in whole or in part as provided herein, City may procure, upon such terms and in such manner as it may determine appropriate, services similar to those terminated.

3.6 Indemnification.

3.6.1 To the fullest extent permitted by law, Consultant shall defend (with counsel of City's choosing), indemnify and hold the City, its officials, officers, employees, volunteers, and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury of any kind, in law or equity, to property or persons, including wrongful death, in any manner arising out of, pertaining to, or incident to any acts, errors or

omissions, or willful misconduct of Consultant, its officials, officers, employees, subcontractors, consultants or agents in connection with the performance of the Consultant's Services, the Project or this Agreement, including without limitation the payment of all damages, expert witness fees and attorney's fees and other related costs and expenses except such loss or damage caused by the sole negligence or willful misconduct of the City. Consultant's obligation to indemnify shall survive expiration or termination of this Agreement and shall not be restricted to insurance proceeds, if any, received by Consultant, the City, its officials, officers, employees, agents, or volunteers.

3.6.2 If Consultant's obligation to defend, indemnify, and/or hold harmless arises out of Consultant's performance as a "design professional" (as that term is defined under Civil Code section 2782.8), then, and only to the extent required by Civil Code section 2782.8, which is fully incorporated herein, Consultant's indemnification obligation shall be limited to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant, and, upon Consultant obtaining a final adjudication by a court of competent jurisdiction, Consultant's liability for such claim, including the cost to defend, shall not exceed the Consultant's proportionate percentage of fault.

3.7 General Provisions.

3.7.1 Accounting Records. Consultant shall maintain complete and accurate records with respect to all costs and expenses incurred under this Agreement. All such records shall be clearly identifiable. Consultant shall allow a representative of City during normal business hours to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement. Consultant shall allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

3.7.2 Independent Contractors and Subcontracting.

3.7.2.1 Use of Consultants. Consultant is aware of statutory and case law regarding classification of workers as independent contractors, including California Labor Code Section 2750.3 and Dynamex Operations West, Inc. v. Superior Court, 4 Cal. 5th 903 (2018). To ensure that Consultant is in compliance with the California Labor Code, Consultant shall only utilize its employees to provide the Services. Consultant may not provide the services through any independent contractor, subcontractor or subconsultant ("Subcontractor(s)") unless approved by the City as set forth in Section 3.7.2.2 below. Consultant represents and warrants that all personnel who perform the Services on Consultant's behalf are Consultant's employees, and that Consultant complies with all applicable laws, rules and regulations governing its employees, including, but not limited to, the California Labor Code, Unemployment Insurance Code and all applicable Industrial Welfare Commission Wage Orders.

3.7.2.2 Prior Approval Required. Consultant shall not use any Subcontractor to provide the Services, or any portion of the work required by this Agreement, without prior written approval of City. In the event that City authorizes Consultant to use a Subcontractor, Consultant shall enter into a written agreement with the Subcontractor, which must include all provisions of the Agreement, including a restriction on the Subcontractor's use of further independent contractors, subcontractors or subconsultants without the City's prior written consent.

3.7.3 Delivery of Notices. All notices permitted or required under this Agreement shall be given to the respective parties at the following address, or at such other address as the respective parties may provide in writing for this purpose:

Consultant: DeAztlan Consulting
78015 Main Street, Suite 204
La Quinta, CA 92253
ATTN: Tizoc DeAztlan, Owner

City: City of Coachella
53990 Enterprise Way
Coachella, CA 92236
ATTN: William B. Pattison, Jr., City Manager

Such notice shall be deemed made when personally delivered or when mailed, forty-eight (48) hours after deposit in the U.S. Mail, first class postage prepaid and addressed to the party at its applicable address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

3.7.4 Ownership of Materials and Confidentiality.

3.7.4.1 Documents & Data; Licensing of Intellectual Property. This Agreement creates a non-exclusive and perpetual license for City to copy, use, modify, reuse, or sublicense any and all copyrights, designs, and other intellectual property embodied in plans, specifications, studies, drawings, estimates, and other documents or works of authorship fixed in any tangible medium of expression, including but not limited to, physical drawings or data magnetically or otherwise recorded on computer diskettes, which are prepared or caused to be prepared by Consultant under this Agreement ("Documents & Data"). All Documents & Data shall be and remain the property of City, and shall not be used in whole or in substantial part by Consultant on other projects without the City's express written permission. Within thirty (30) days following the completion, suspension, abandonment or termination of this Agreement, Consultant shall provide to City reproducible copies of all Documents & Data, in a form and amount required by City. City reserves the right to select the method of document reproduction and to establish where the reproduction will be accomplished. The reproduction expense shall be borne by City at the actual cost of duplication. In the event of a dispute regarding the amount of compensation to which the Consultant is entitled under the termination provisions of this Agreement, Consultant shall provide all Documents & Data to City upon payment of the undisputed amount. Consultant shall have no right to retain or fail to provide to City any such documents pending resolution of the dispute. In addition, Consultant shall retain copies of all Documents & Data on file for a minimum of fifteen (15) years following completion of the Project, and shall make copies available to City upon the payment of actual reasonable duplication costs. Before destroying the Documents & Data following this retention period, Consultant shall make a reasonable effort to notify City and provide City with the opportunity to obtain the documents.

3.7.4.2 Subconsultants. Consultant shall require all subconsultants to agree in writing that City is granted a non-exclusive and perpetual license for any Documents & Data the subconsultant prepares under this Agreement. Consultant represents and warrants that Consultant has the legal right to license any and all Documents & Data. Consultant makes no such representation and warranty in regard to Documents & Data which were prepared by design

professionals other than Consultant or its subconsultants, or those provided to Consultant by the City.

3.7.4.3 Right to Use. City shall not be limited in any way in its use or reuse of the Documents and Data or any part of them at any time for purposes of this Project or another project, provided that any such use not within the purposes intended by this Agreement or on a project other than this Project without employing the services of Consultant shall be at City's sole risk. If City uses or reuses the Documents & Data on any project other than this Project, it shall remove the Consultant's seal from the Documents & Data and indemnify and hold harmless Consultant and its officers, directors, agents and employees from claims arising out of the negligent use or re-use of the Documents & Data on such other project. Consultant shall be responsible and liable for its Documents & Data, pursuant to the terms of this Agreement, only with respect to the condition of the Documents & Data at the time they are provided to the City upon completion, suspension, abandonment or termination. Consultant shall not be responsible or liable for any revisions to the Documents & Data made by any party other than Consultant, a party for whom the Consultant is legally responsible or liable, or anyone approved by the Consultant.

3.7.4.4 Indemnification. Consultant shall defend, indemnify and hold the City, its directors, officials, officers, employees, volunteers and agents free and harmless, pursuant to the indemnification provisions of this Agreement, for any alleged infringement of any patent, copyright, trade secret, trade name, trademark, or any other proprietary right of any person or entity in consequence of the use on the Project by City of the Documents & Data, including any method, process, product, or concept specified or depicted.

3.7.4.5 Confidentiality. All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written information, and other Documents & Data either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant. Such materials shall not, without the prior written consent of City, be used by Consultant for any purposes other than the performance of the Services. Nor shall such materials be disclosed to any person or entity not connected with the performance of the Services or the Project. Nothing furnished to Consultant which is otherwise known to Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use City's name or insignia, photographs of the Project, or any publicity pertaining to the Services or the Project in any magazine, trade paper, newspaper, television or radio production or other similar medium without the prior written consent of City.

3.7.4.6 Confidential Information. The City shall refrain from releasing Consultant's proprietary information ("Proprietary Information") unless the City's legal counsel determines that the release of the Proprietary Information is required by the California Public Records Act or other applicable state or federal law, or order of a court of competent jurisdiction, in which case the City shall notify Consultant of its intention to release Proprietary Information. Consultant shall have five (5) working days after receipt of the release notice to give City written notice of Consultant's objection to the City's release of Proprietary Information. Consultant shall indemnify, defend and hold harmless the City, and its officers, directors, employees, and agents from and against all liability, loss, cost or expense (including attorney's fees) arising out of a legal action brought to compel the release of Proprietary Information. City shall not release the Proprietary Information after receipt of an objection notice unless either: (1) Consultant fails to fully indemnify, defend (with City's choice of legal counsel), and hold City harmless from any legal

action brought to compel such release; and/or (2) a final and non-appealable order by a court of competent jurisdiction requires that City release such information.

3.7.5 Cooperation; Further Acts. The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Agreement.

3.7.6 Entire Agreement. This Agreement contains the entire agreement of the Parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements.

3.7.7 Attorneys' Fees. If either party commences an action against the other party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorneys' fees and all costs of such action.

3.7.8 Governing Law. This Agreement shall be governed by the laws of the State of California. Venue shall be in Riverside County. In addition to any and all contract requirements pertaining to notices of and requests for compensation or payment for extra work, disputed work, claims and/or changed conditions, Consultant must comply with the claim procedures set forth in Government Code sections 900 et seq. prior to filing any lawsuit against the City. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra work, disputed work, claims, and/or changed conditions have been followed by Consultant. If no such Government Code claim is submitted, or if any prerequisite contractual requirements are not otherwise satisfied as specified herein, Consultant shall be barred from bringing and maintaining a valid lawsuit against the City.

3.7.9 Time of Essence. Time is of the essence for each and every provision of this Agreement.

3.7.10 City's Right to Employ Other Consultants. City reserves right to employ other consultants in connection with this Project.

3.7.11 Successors and Assigns. This Agreement shall be binding on the successors and assigns of the parties.

3.7.12 Assignment or Transfer. Consultant shall not assign, sublet, or transfer this Agreement or any rights under or interest in this Agreement without the written consent of the City, which may be withheld for any reason. Any attempt to so assign or so transfer without such consent shall be void and without legal effect and shall constitute grounds for termination. Consultant shall not subcontract any portion of the Services required by this Agreement, except as expressly stated herein, without prior written approval of City. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

3.7.13 Construction; References; Captions. Since the Parties or their agents have participated fully in the preparation of this Agreement, the language of this Agreement shall be construed simply, according to its fair meaning, and not strictly for or against any Party. Any term referencing time, days or period for performance shall be deemed calendar days and not work days. All references to Consultant include all personnel, employees, agents, and subconsultants

of Consultant, except as otherwise specified in this Agreement. All references to City include its elected officials, officers, employees, agents, and volunteers except as otherwise specified in this Agreement. The captions of the various articles and paragraphs are for convenience and ease of reference only, and do not define, limit, augment, or describe the scope, content, or intent of this Agreement.

3.7.14 Amendment; Modification. No supplement, modification, or amendment of this Agreement shall be binding unless executed in writing and signed by both Parties.

3.7.15 Waiver. No waiver of any default shall constitute a waiver of any other default or breach, whether of the same or other covenant or condition. No waiver, benefit, privilege, or service voluntarily given or performed by a Party shall give the other Party any contractual rights by custom, estoppel, or otherwise.

3.7.16 No Third-Party Beneficiaries. There are no intended third party beneficiaries of any right or obligation assumed by the Parties.

3.7.17 Invalidity; Severability. If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

3.7.18 Prohibited Interests. Consultant maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Consultant warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. Consultant further agrees to file, or shall cause its employees or subconsultants to file, a Statement of Economic Interest with the City's Filing Officer as required under state law in the performance of the Services. For breach or violation of this warranty, City shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of City, during the term of his or her service with City, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

3.7.19 Authority to Enter Agreement. Consultant has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

3.7.20 Counterparts. This Agreement may be signed in counterparts, each of which shall constitute an original.

3.7.21 Survival. All rights and obligations hereunder that by their nature are to continue after any expiration or termination of this Agreement, including, but not limited to, the indemnification obligations, shall survive any such expiration or termination.

[SIGNATURES ON NEXT PAGE]

SIGNATURE PAGE TO PROFESSIONAL SERVICES AGREEMENT

BETWEEN THE CITY OF COACHELLA AND

DEAZTLAN CONSULTING

IN WITNESS WHEREOF, each of the Parties has caused this Agreement to be executed on the day and year first above written.

CITY OF COACHELLA

Approved By:

_____

WILLIAM B. PATTISON, JR.
CITY MANAGER

Approved as to Form:

_____

Best Best & Krieger LLP
City Attorney

Attested By:

_____

City Clerk

DEAZTLAN CONSULTING

By: _____

Its: _____

Printed Name: _____

EXHIBIT "A"
SCOPE OF SERVICES

DEAZTLAN **CONSULTING**

SUMMARY OF SERVICES

In collaboration with city staff, DeAztlan Consulting will develop and oversee the management of the Coachella Prospera social channels and project website, aimed at informing current and potential residents and business owners of the benefits of Coachella Prospera. The proposed services below are for a one-year project timeline from February 2026, through February 2027.

¡COACHELLA PROSPERA!

WEB HOSTING & MANAGEMENT SERVICES

WEB HOSTING

DOMAIN NAME & SSL CERTIFICATE

CONTENT MANAGEMENT SYSTEM (CMS) MAINTENANCE

SECURITY & BACKUPS

PERFORMANCE OPTIMIZATION

TECHNICAL SUPPORT

CONTENT UPDATES

SOCIAL MEDIA MANAGEMENT & CONTENT CREATION

TWO CHANNEL MANAGEMENT

CONTENT CREATION
- Graphic Design
- Video Production
- Photography
- Community and Story Polls

COMMUNITY MANAGEMENT

REPORTING & ANALYTICS

**Ad buy and print costs not included*
Total Cost: $114,000.00

These services will ensure the management of the Coachella Prospera social channels and project website to inform residents and business owners of its many benefits, highlighting recreational resources, zero-emission transportation, affordable housing, urban forests, solar programs, and infrastructure. The estimated cost covers services from DeAztlan Consulting from February, 2026 to February 2027.

78015 Main Street Suite 204, La Quinta, California 92253

EXHIBIT "A"
SCOPE OF SERVICES

DEAZTLAN **CONSULTING**

WEB HOSTING & MANAGEMENT SERVICES

TASK 1: WEB HOSTING

- Regularly monitor hosting performance to ensure server stability and reliability.
- Perform upgrades or changes to hosting plans as needed to accommodate traffic increases
- Ensures the website remains accessible and performs well under varying traffic loads.
- Evaluate hosting performance quarterly; consider scalability options for future needs.

TASK 2: DOMAIN RENEWAL & SSL CERTIFICATE

- Renew the domain name and SSL certificate annually or as needed.
- Monitor SSL certificate expiration dates and renew them promptly to maintain website security.
- Set up automated reminders for renewals; verify SSL installation post-renewal for any issues.

TASK 3: CMS MAINTENANCE

- Regularly update the CMS (Content Management System) to the latest version, including core files and themes.
- Apply patches and updates to fix bugs and security vulnerabilities.
- Test updates in a staging environment before applying them to the live site to avoid disruptions.

TASK 4: SECURITY & BACKUPS

- Conduct regular security scans to identify potential threats and vulnerabilities.
- Perform automated and manual backups of the entire website, including databases and content.
- Automate backups and store them in multiple locations; perform periodic test restores to ensure backup integrity.

TASK 5: PERFORMANCE OPTIMIZATION

- Monitor and optimize website speed, load times, and server response rates.
- Implement caching, image optimization, and other techniques to improve overall site performance.
- Regularly review performance metrics and adjust optimization strategies as needed.

TASK 6: TECHNICAL SUPPORT

- Provide ongoing technical support for any website-related issues, including server errors, bugs, and downtime.
- Troubleshoot and resolve problems to maintain optimal functionality and user experience.

TASK 7: CONTENT UPDATES

- Update and manage website content regularly, including text, images, and multimedia elements.
- Ensure all content is relevant, up-to-date, and aligned with the city's communication strategies.
- Coordinate with city departments for content input; ensure content meets accessibility standards.

78015 Main Street Suite 204, La Quinta, California 92253

EXHIBIT "B"
SCHEDULE OF SERVICES

PROJECT DELIVERABLES

Task	Description
TASK 1: TWO CHANNEL MANAGEMENT	
	Social Media Strategy Document
	Content Calendar
TASK 2: CONTENT CREATION	
	Ten monthly graphics for social media posts and campaigns.
	Four monthly 0:15-0:30 videos optimized for social media engagement.
	High-quality images captured during scheduled and organized project events.
	Two interactive monthly community polls for Instagram and Facebook.
TASK 3: COMMUNITY MANAGEMENT	
	Community Engagement Report
TASK 4: REPORTING & ANALYTICS	
	Monthly Performance Report
	Quarterly Strategy Review Report

The proposed services include developing a comprehensive social media strategy, creating engaging content (graphics, videos, and photos), and maintaining active community engagement through interactive polls and prompt responses. Additionally, the project involves regular performance reporting and data analysis to refine strategies and optimize reach and engagement. **Average monthly project deliverables*

DeAztlan Consulting will develop and manage the Coachella Prospera social media channels and project website, with the goal of informing current and potential residents and business owners about the benefits of Coachella Prospera. The proposed services below are for a one-year project timeline from February 2026, through February 2027.

EXHIBIT "C"
COMPENSATION

WEB HOSTING & MANAGEMENT SERVICES BUDGET ALLOCATION

Task	Cost
TASK 1: WEB HOSTING	$4,000.00
TASK 2: DOMAIN RENEWAL & SSL CERTIFICATE	$1,000.00
TASK 3: CMS MAINTENANCE	$10,000.00
TASK 4: SECURITY & BACKUPS	$4,500.00
TASK 5: PERFORMANCE OPTIMIZATION	$5,000.00
TASK 6: TECHNICAL SUPPORT	$6,500.00
TASK 7: CONTENT UPDATES	$11,000.00
TOTAL	$42,000.00

PROJECT BUDGET ALLOCATION

Task	Cost
TASK 1: TWO CHANNEL MANAGEMENT	$12,000.00
TASK 2: GRAPHIC DESIGN	$15,000.00
TASK 3: VIDEO PRODUCTION	$26,000.00
TASK 4: PHOTOGRAPHY	$9,000.00
TASK 5: COMMUNITY MANAGEMENT	$7,000.00
TASK 6: REPORTING, ANALYTICS, & STRATEGY	$3,000.00
TOTAL	$72,000.00

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Andrew Simmons, Public Works Director / City Engineer

SUBJECT: Authorize The City of Coachella's Tacos, Tequila and Chavelas Festival beer and tequila garden operation on February 7, 2026 at Veterans Memorial Park from 4pm to 8pm and appropriate $55,000 from unallocated general fund reserves.

STAFF RECOMMENDATION:

Authorize The City of Coachella's Tacos, Tequila and Chavelas Festival beer garden operation on February 7, 2026 at Veterans Memorial Park from 4pm to 8pm.

EXECUTIVE SUMMARY:

The City of Coachella's Tacos Tequila and Chavelas Festival has been an event focused on celebrating Coachella's culinary talents and supporting its local eateries. In partnership with the Greater Coachella Chamber of Commerce (Chamber), the City developed and launched this event in 2017. The 2026 event is recommended to take place on Saturday, February 7th from 4pm to 8pm at Veterans Memorial Park.

Staff is working with the Chamber to secure a total of ten to twelve taco vendors for 2026. All participating restaurants will compete for first, second and third place and the People's Choice Award. A cash prize of $1,500 will be awarded to the first-place winner and $500 to the People's Choice winner. Second and third place winners will be awarded trophies.

In addition to the event's food attractions, the event will include live ballet folklorico dancing, a live disc jockey, lawn games and a mechanical bull. The event includes a beer and tequila garden and staff is requesting authorization for the event to permit beer and alcohol at Veterans Memorial Park from 4pm-8pm on Saturday, February 7, 2026.

FISCAL IMPACT:

The Cities fiscal contribution, includes rentals for tents, tables, linens, lights, mechanical bull, hay bales, etc. As well as sound systems, disk jockey and security services. The total combined cost for City fiscal contributions is estimated to total about $55,000 and will be billed to the General Fund (101). With this action, Council authorizes the allocation of $55,000 from unallocated general fund reserves.


FREE ADMISSION
CITY OF COACHELLA
TACOS, TEQUILA, & CHAVELAS
FESTIVAL
4-8 p.m.
OPEN TO ALL
SATURDAY
FEBRUARY 7
Veterans' Memorial Park
Join us for Music | Food | Fun
Visit www.CoachellaTTC.org
COACHELLA
GREATER COACHELLA VALLEY CHAMBER

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Celina Jimenez, Director of Economic Development

SUBJECT: Authorize a One-Time Funding Allocation for the Coachella Branch Library in the Amount of $25,000 to Support Programming

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STAFF RECOMMENDATION:

Staff recommends that the City Council consider authorizing a one-time funding allocation for the Coachella Branch Library in the amount of $25,000 to support programing and activities hosted by them.

BACKGROUND:

The Coachella Library serves as a vital community hub, providing educational, cultural, and family-focused programming that supports literacy, lifelong learning, and community connection. The requested funding allocation will allow the library to continue and expand inclusive programming that reaches residents of all ages.

DISCUSSION/ANALYSIS:

The funding allocation of $25,000 will support a wide range of free public programs, including literacy initiatives, cultural celebrations, educational workshops, and large-scale community events. These programs consistently draw strong attendance and directly align with the City's goals related to education, youth development, cultural enrichment, and community well-being.

PROGRAM HIGHLIGHTS (2025–2026)

- Monthly Spanish Storytime and Baby Social programs
- Cultural and arts programming in partnership with regional institutions
- STEM-focused activities including Robotics Hour and Science Club
- Seasonal family events such as Easter, Mother's Day, Father's Day, and Holiday celebrations
- Summer Reading and Lunch at the Library programs (leveraged with County grants)
- Author talks, opera performances, and special cultural presentations
- Back-to-School Fiesta and Book-or-Treat literacy events

ALTERNATIVES:

1. Authorize a One-Time Funding Allocation for the Coachella Branch Library in the Amount of $25,000 to Support Programming

2. Do not Authorize a One-Time Funding Allocation for the Coachella Branch Library at this time

FISCAL IMPACT:

The total fiscal impact of this action is $25,000, to be funded through the City's General Fund. No additional staffing or ongoing operational costs are associated with this allocation as it is a one-time allocation.

ATTACHMENT(S):

1. Coachella Branch Library Overview

Coachella Branch Library Summary



The Coachella Library continues to serve as a vital community hub by offering free, inclusive, and culturally responsive programming that supports literacy, education, family engagement, and community well-being. Through a diverse range of recurring programs, special events, and strategic partnerships, the Library reaches residents of all ages while fostering life long learning and meaningful community connections.

Throughout 2025, the Library successfully implemented a comprehensive slate of monthly, seasonal, and special programs with strong community participation. Literacy-focused offerings included Spanish Storytime with Sra. Maria, serving approximately 40 attendees each month while celebrating Mexican culture and bilingual literacy, and Baby Socials with Ms. Alondra, engaging 40–50 participants monthly through early literacy, socialization, and book distribution.

Educational and enrichment programming expanded through hands-on learning opportunities such as Robotics Hour, where youth learned programming and engineering skills, and Palm Springs Art Museum Day at Coachella, which introduced attendees to diverse art mediums through museum-affiliated artists. Additional educational programming included Digital Storytime with Animal Samaritans, combining literacy with lessons on humane animal care.

The Library hosted numerous high-attendance community and family events, including the Easter Eggstravaganza (approximately 150 attendees), Mother's Day Princess Party (60 attendees), Daddy Dino Party (60–70 attendees), Back to School Fiesta (approximately 250 attendees), Book or Treat Vendor Event (150 attendees), and a Holiday Party that brought families together for storytelling, crafts, and photos with Santa.

Major literacy and food security initiatives included the Summer Reading Program, featuring an eight-week series of performances and reading challenges, and Lunch at the Library, through which over 1,000 meals and more than 2,000 books were distributed to help families build home libraries and support little free libraries throughout Coachella.

Cultural enrichment remained a core focus through Author Talks with Victor Villaseñor and J.F. Whitaker, drawing over 200 attendees, as well as two free opera performances presented in partnership with the Palm Springs Opera Guild, expanding access to high-quality performing arts within the community.

In early 2026, the Library continued to elevate its cultural and educational impact by hosting a visit from Ms. Mexico, Coachella being her only stop in the United States, and welcoming a Hawaiian author who engaged residents in storytelling and educational discussions related to animal care.

Planned programming for 2026 builds on this success and includes Junk Journaling workshops, expanded Book Clubs now serving approximately 40 participants and uniquely allowing patrons to retain books to build home libraries, a Science Club offering safe hands-on experiments, two monthly Storytime for different age groups, and continued popular family events such as the Egg Hunt, Mother's Day Party, Father's Day Party, Back to School Fiesta, Book or Treat, and Holiday Party. County-wide grant-funded programs, including the Summer Reading Challenge and Lunch at the Library, will continue, ensuring effective use of external funding while maximizing community benefit.

Overall, the Coachella Library remains committed to collaboration, cultural inclusion, and responsive programming that aligns with City priorities and meets the evolving needs of the community.



COACHELLA LIBRARY

Approval of a $25,000 General Fund allocation to support Coachella Library programming for 2026.



Riverside County Library System

* Support free, inclusive educational, cultural, and family-focused programs
* Expand literacy, early childhood, and youth enrichment opportunities
* Strengthen community engagement through the Coachella Library
* Serves residents of all ages
* Culturally responsive and bilingual offerings

- City funding supplements and expands community reach and extra programming



LITERACY

Literacy and early childhood programming (storytimes, baby socials)

STEM

STEM and educational enrichment (robotics, science club)

ARTS

Arts, culture, and author talks

FAMILY

Seasonal and family-centered community events

PROGRAMS

County-funded Summer Reading and Lunch at the Library programs

Maximizing Community Benefit Through City Support



Cultural & Arts Programming – $6,000
• Author talks, opera performances, art workshops

Literacy & Early Childhood Programs – $4,500
• Storytimes, baby socials, literacy materials

Supplies, Materials & Program Support – $3,500
• Event supplies, crafts, outreach materials

Community & Family Events – $5,500
• Seasonal and community celebrations

Youth Education & STEM Programming – $5,500
• Robotics Hour, Science Club, educational supplies

City of COACHELLA EST. 1946



- One-time $25,000 General Fund allocation
- No ongoing staffing or operational costs
- Flexible use aligned with City and community priorities







City of COACHELLA EST. 1946


City of
COACHELLA
EST. 1946

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Celina Jimenez, Director of Economic Development

SUBJECT: Extend the Façade Improvement Program Limits along Cesar Chavez Street to Encompass the Area Between Avenue 54 and Park Lane

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STAFF RECOMMENDATION:

Staff recommends that the City Council considers extending the Façade Improvement Grant Program limits along Cesar Chavez Street to encompass the area between Avenue 54 and Park Lane.

BACKGROUND:

The Commercial Façade Improvement Grant Program ("Program") is an endeavor of the City of Coachella to leverage public funds and private investment to enhance the physical appearance and economic vitality of commercial businesses in the Downtown Pueblo Viejo Area and the segments of:

- Cesar Chavez Street between Avenue 54 and Park Lane;
- Sixth Street between Cesar Chavez Street and Grapefruit Boulevard.

The long-term objective is to upgrade the Downtown Pueblo Viejo Area by improving the physical appearance of the area, encouraging the retention of existing businesses, increasing property values, tenant stability, and lease rates for the properties. The program also seeks to fund improvements which create outdoor dining or gathering spaces to promote activity in the downtown.

Avenue 54 **Park Lane**



DISCUSSION/ANALYSIS:

Extending the Façade Improvement Program limits along Cesar Chavez Street from Avenue 54 to Park Lane will allow small businesses along the City's most vital commercial corridor to be included and supported through the upcoming planning efforts the City is embarking upon through the Caltrans Sustainable Transportation Planning grant for the Cesar Chavez Street Corridor Transformation Plan, the work being conducted by KDI through the TCC-funded Displacement Avoidance Plan, the ATP-funded Connecting Coachella design, and the possible Façade Improvement Program that the City might implement once all of this work is completed.

FISCAL IMPACT

The extension has no fiscal impact at this time.

ALTERNATIVES

1. Extend the Façade Improvement Program Limits along Cesar Chavez Street to Encompass the Area Between Avenue 54 and Park Lane

2. Do Not Extend the Façade Improvement Program Limits along Cesar Chavez Street to Encompass the Area Between Avenue 54 and Park Lane

ATTACHMENTS:

1. Commercial Corridor Façade Improvement Grant Program Guidelines (Revised)

CITY OF COACHELLA

ECONOMIC DEVELOPMENT DEPARTMENT

COMMERCIAL CORRIDOR FAÇADE IMPROVEMENT GRANT PROGRAM GUIDELINES

Commercial Corridor Façade Improvement Grant Program Guidelines

1. PROGRAM OVERVIEW

The Commercial Façade Improvement Grant Program ("Program") is an endeavor of the City of Coachella to leverage public funds and private investment to enhance the physical appearance and economic vitality of commercial businesses in the Downtown Pueblo Viejo District and the segments of Cesar Chavez Street between Avenue 54 and Park Lane *and* Sixth Street between Cesar Chavez Street and Grapefruit Boulevard.

The Program offers two types of façade improvement grants, as well as up to a maximum of ten hours of architectural fees or five hours of design assistance to help cover design costs. The Program runs concurrent to the City's fiscal year schedule (July 1 – June 30). The Program features open enrollment; applications shall be considered on a first-come, first-served basis.

The long-term objective is to upgrade the Downtown Pueblo Viejo District and the segments of Cesar Chavez Street between Avenue 54 and Park Lane *and* Sixth Street between Cesar Chavez Street and Grapefruit Boulevard, by improving the physical appearance of the area, encouraging the retention of existing businesses, increasing property values, tenant stability, and lease rates for the property. The program also seeks to fund improvements which create outdoor dining or gathering spaces to promote activity in the downtown.

2. PROGRAM COMPONENTS

A. Architectural Design or Design Assistance

The City will provide architectural design services to approved applicants, up to a maximum of ten hours, for exterior commercial building façade improvements. The City will also reimburse applicants for the services of a professional designer (for paint/signage/awnings selection) for up to five hours.

B. Façade Improvement Grants

i. Mini-Grant – This grant provides for reimbursement of up to Five Thousand dollars ($5,000) for commercial building façade improvements with no match requirement. Projects must be completed within 12 months of grant approval or Building Permit issuance.

ii. Matching Grant – This grant will provide a reimbursable matching grant of two-thirds (66%) of eligible project costs, up to a maximum of One Hundred Thousand dollars ($100,000) The total cost of the improvement work must be more than Five Thousand dollars ($5,000). Receipt of a matching grant requires the approved applicant to contribute a minimum of one-third of the total cost of the façade improvement costs. Projects must be completed within 18 months of Building Permit issuance.

Grant proceeds are to be used for labor and materials directly related to the façade construction. Tools may not be purchased with grant funds, but tool rental is allowable. Program funds are to be used for exterior building improvements rather than simple routine

maintenance. All improvements completed through the Façade Improvement Program are "public work" as that term is used in Section 1720 of the California Labor Code. In accordance with Labor Code section 1720 et seq., prevailing wages shall be paid for all façade improvements. Use of volunteer labor is not allowed. All estimates and payments for construction and installation of façade improvements shall include prevailing wages, and shall otherwise comply with the provisions of Sections 1773.8, 1775, 1776, 1777.5, 1777.6 and 1813 of the California Labor Code and all other applicable laws and regulations with respect to prevailing wages. Participants in the program are responsible for ensuring that the improvements are in compliance with the Prevailing Wage Law.

Disbursement of grant proceeds to approved applicants will be in a reimbursement payment issued after City deems the project complete, and upon the submission of invoices and proof of payment and subject to approval of those invoices and proofs of payment by City staff. Construction shall be completed within 120 days after the City issued Notice to Proceed. If the project extends beyond the scheduled completion date, prior staff approval is required.

This program is primarily geared toward commercial property owners. However, business owners who have long-term leases (five or more years) wishing to participate in the Façade Improvement Program may also apply. Applications for business owners will be reviewed on a case-by-case basis.

C. Fee Exemption

Applicants for this program are exempt from planning and building permit fees by the City Manager, who is authorized to waive City fees associated with this program. This fee exemption does not apply to fees mandated by the State of California including, but not limited to, the Strong Motion Instrument program fee and the California Green Building fees.

3. ELIGIBILITY

D. Eligible Applicants/Areas

Owners or long term tenants* of commercially zoned property located within one of the following areas are eligible to apply for assistance:

- **Cesar Chavez Street between Avenue 54 and Park Lane**
- **Sixth Street between Cesar Chavez Street and Grapefruit Boulevard**

**Tenants with long-term leases (five or more years remaining on the lease at the time a Program application is submitted) must have the property owner's written consent before any improvements are made. In addition, the grant application must be signed by the property owner.*

E. Eligible Types of Improvements

All improvements shall conform to City Building Codes, Zoning Ordinance, and applicable Design Guidelines. Eligible improvements include, but are not limited to:

- Removal of old signs, awnings and other exterior clutter
- Exterior painting
- Repair or replacement of exterior siding (including the construction of new

façade elements and architectural details)
- Installation of new entry doors that meet ADA accessibility requirements
- Installation of display windows
- Installation of new canvas awnings over windows and entries
- Installation of new signs
- Installation of new exterior lighting
- Installation of permanent landscaping
- Exterior mandatory Title 24 upgrades
- Construction of outdoor dining or gathering spaces
- Awnings and Canopies: Installation of permanent awnings and canopies.
- Exterior Walls: Repair, restore or rebuild vertical or parapet walls, including cleaning, sealing, tuckpointing, patching, painting or replacement of siding or masonry.
- Exterior Building Materials: Removal of exterior building materials on the façade that are not original or are in excess to the building.
- Exterior Doors: Repair, restore, replace, and install doors and hardware used to provide public access.
- Exterior Windows: Install, replace or repair windows, frames, sills, glazing or glass.
- Shutters: Repair, restoration, replacement or addition of exterior shutters, where they relate to exterior windows.
- Gutters and Downspouts: Install, replace or repair gutters and downspouts.
- Stairs, Sidewalks, Porches, Porticos, Railings or Colonnades: Repair, replace or install these exterior elements where they affect access to the building.

F. Other Eligibility Criteria

- Owners and/or tenants of commercial properties in a Program Eligibility Area that meet the Small Business Administration (SBA) definition for a small business in their unique North American Industry Classification (NAICS) codes.

- Non-profit organizations, as defined by Section 501(c) of the Internal Revenue Code, will also be eligible.

- Owners and/or tenants of commercial properties in a Program Eligibility Area.
  - ✓ Tenant must receive approval from property owner.
  - ✓ Owner must have owned the building prior to January 1, 2021.
  - ✓ Tenant must have been in business at the location prior to January 1, 2021.

- Property must currently be in compliance with all Zoning and Unified Development Code requirements or commit to complying prior to completion of the proposed project.

- Applicant and/or property owners must be current on all City property taxes.

- No City liens against applicant and/or property owner.

- Property and all proposed improvements must face and be visible from the public right-of-way.

- Ability to meet program insurance requirements.

G. Additional Improvements - Additional improvements that are deemed to be consistent with the intent of the program will be reviewed and approved/disapproved on a case-by-case basis by the Economic Development Director and Development Services Director.

H. Ineligible Applicants

- Franchisors (local or non-local)
- Gambling/Gaming Businesses
- Sexually oriented Businesses
- Payday or Auto Loan Providers
- Liquor Stores
- Tobacco, CBD, and Vape Stores
- Government-owned and/or occupied buildings
- Any business in which a city employee or elected official has a financial interest, as defined in the City's Ethics Code

4. GRANT PROCESS

I. Submit an application for grant funds. Submit a completed application detailing all exterior improvements and an itemized estimate of the total project cost. Be as specific as possible. The project list may contain improvements beyond what would be funded by the grant. Projects that include conceptual architectural plans shall be considered favorably. All proposed façade projects/remodels must be approved by the Development Services Director prior to being accepted into the program.

J. Informational Meeting. Applicants will meet with representatives from Planning & Building to review the entitlement process and building permit process and to answer any questions that the businesses may have.

K. City Staff will review grant applications. Staff will review the application with the business owner, discuss the scope of work, determine a timeline and review the remaining process for the grant.

L. The Economic Development and Planning Sub-Committee will consider request and select grant awardees. Selection preference will be provided to projects which significantly revitalize and beautify the Cesar Chavez Street corridor between Avenue 52 and Sixth Street AND Sixth Street between Cesar Chavez Street and Grapefruit Boulevard.

M. Grant funds reserved. Upon approval of a grant application, including scope of work and timeline, an agreement will be signed between the applicant and City.

N. Planning Approval**.** If planning approval is required, the applicant is responsible for submitting project plans prepared by a licensed architect through the Planning Division.

O. Building Permit Approval. If a Building Permit is required, the applicant is responsible for submitting plans that meet all Code requirements through the Building Division.

P. Complete Work. After receiving all required approvals and permits the applicant shall complete the improvements within twelve (12) months for Mini-Grants and eighteen (18) months for Matching Grants. The applicant shall be responsible for contacting City staff to request an extension if necessary. An extension is not guaranteed.

Q. Submit invoices, receipts, and proof of payment. The applicant shall save all documentation as required and submit within 30 days of project completion or Building permit final.

5. FUNDING

Funding for this Program is appropriated by the City of Coachella City Council as part of its annual budget process. There is no guarantee of the amount of funds that will be appropriated each year. Funds for the Program are available on a first come, first served basis. If funds are exhausted at the time of application submittal, staff will retain the application. If additional funds become available, staff will contact applicants in the order applications were received.

R. Grant Amounts

Eligible property owners or tenants who propose façade improvements can apply for one of two grants.

1. Mini-Grant
   This grant provides reimbursement for commercial building façade improvements to approved applicants in the amount of up to Five Thousand Dollars ($5,000), with no match requirement.

2. Matching Grant
   This grant provides reimbursement to approved applicants for a reimbursable matching grant of two-thirds (66%) of eligible project costs, up to a maximum of One Hundred Thousand Dollars ($100,000). The total cost of the façade remodel must be more than Five Thousand dollars ($5,000). Receipt of a Matching Grant requires the applicant to contribute one- third of the total cost of the façade remodel, and to document its expenditures.

Leveraging. The Façade Improvement Program allows improvement done to the interior of the property to count as leveraging for the exterior improvements.

The City of Coachella reserves the right to cancel or modify this Program at any time prior to grant approval, without notice. Continuation of the Program is subject to sufficient funding as appropriated by the City of Coachella City Council.

6. IMPLEMENTATION WORK

All improvements shall conform to the City of Coachella Building Codes, Zoning Ordinance, and applicable Design Guidelines. Proposed façade remodels are required to comply with Chapter 17 of the City's Zoning Ordinance. Project improvements commenced prior to the City's issuance of a Notice to Proceed are not eligible for this Program.

City staff will be available to work with approved applicants to assist in the coordination of the project. City staff will carry out periodic inspections.

I, _____ have read and received a copy of these guidelines.
Printed Name

_____ _____
Date Signature

Commercial Corridor Façade Improvement Grant Program Application

Please fill out this application completely and submit or send

to: City of Coachella
Attention: Economic Development Department
53462 Enterprise Way
Coachella, CA 92236
(760) 262-6263
cjimenez@coachella.org

SECTION 1. APPLICANT INFORMATION

Name: _____

Circle All That Apply: Property Owner Business Owner/Tenant

Business Name: _____

Property Address: _____

Mailing Address: _____

Assessor's Parcel Number: _____

Daytime Phone Number: _____

Email: _____

Total Number of Businesses in Building: _____

Name(s) of Other Businesses: _____

_____

SECTION 2. PROPERTY OWNER INFORMATION *(complete if tenant is applicant)*

Property Owner Name: _____

Property Owner Mailing Address: _____

Property Owner Daytime Phone Number: _____

As the legal owner of the above property, I hereby grant authorization to complete the façade improvements indicated on this application.

Signature: _____ Date: _____

SECTION 3. FUNDING

Grant (please check one):

- □ Mini-Grant *(Reimbursement in the amount up to $5,000)*
- □ Matching Grant *(Reimbursement of two-thirds the total project cost up to $100,000 with a minimum total project cost above $5,000)*

Grant Amount Requested: $_____

Estimated Total Project Cost: $_____

Leveraging: $_____

SECTION 4. SCOPE OF WORK

General Description of Work:

_____

_____

_____

_____

_____

SECTION 5. ACKNOWLEDGMENT

We certify that the owner is the property owner of record and that there are no current code enforcement actions pending against the property.

I have read and understand the Program Guidelines and accept them.

I certify that I am qualified and will abide by such conditions set forth in this application and all reasonable conditions which may be issued by the City of Coachella in the implementation of this project.

Property Owner(s) Signature: _____ Date: _____

_____ Date: _____

Business Owner(s) Signature: _____ Date: _____

_____ Date: _____

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Kendra Reif, Community Development Director

Adrian Moreno, Associate Planner

SUBJECT: A Public Hearing to Consider Resolution No.2026-01, Resolution No.2026-02, and Resolution No.2026-03 of the City Council of the City of Coachella: Request for conditional approval for Tentative Tract Map No. 39051 for the subdivision of 39.98 acres of land (Assessor's Parcel Number 612-260-010) into 257 lots and request for conditional approval of Conditional Use Permit No. 390 for a 257-lot single-family home planned unit development subdivision with associated improvements located at the southwest corner of Calhoun Street and Avenue 49 and certifying that the projects Initial Study with Mitigated Negative Declaration is in compliance with Section 15074 of the California Environmental Quality Act Guidelines. Applicant: Rod Vandenburg, Pacific Modern Builders, LLC.

STAFF RECOMMENDATION

Staff recommends that the City Council open the public hearing, receive public testimony, and conditionally approve Tentative Tract Map No. 39051 for the subdivision of 39.98 acres of land (Assessor's Parcel Number 612-260-010) into 257 lots and request for conditional approval of Conditional Use Permit No. 390 for a 257-lot single-family home planned unit development subdivision with associated improvements located at the southwest corner of Calhoun Street and Avenue 49 and certifying that the projects Initial Study with Mitigated Negative Declaration is in compliance with Section 15074 of the California Environmental Quality Act Guidelines.

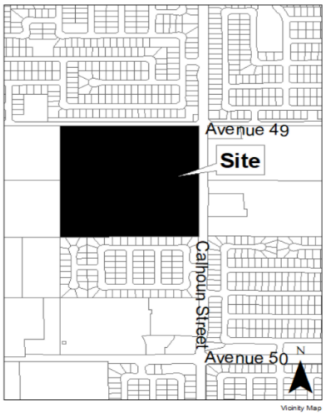


Figure 1 - Vicinity Map

EXECUTIVE SUMMARY:

The applicant, Rod Vandenburg on behalf of Pacific Modern Builders, LLC., requests that the City Council approve:

- **TTM No. 39051** which proposes to subdivide 39.98 acres of land into 257 single family lots with 144 lots each encompassing a minimum of 3,400 square feet (sf), and 113 lots each encompassing a minimum of 4,050 sf;

- **CUP No. 390** which proposes to utilize the provisions of Section 17.38 (Planned Unit Developments) of the Coachella Municipal Code;

- **EA No. 25-02** which was prepared to address the direct, indirect, and cumulative environmental effects of the proposed project on a 39.98-acre site located at the southwest Calhoun Street and Avenue 49, (APN 612-260-010).

The Architectural style of the homes will be determined through an architectural review application at a later date. The Initial Study assumes the houses proposed will conform to the minimum standards established in the Project PUD.

The Planning Commission voted to conditionally approve Tentative Tract Map No. 39051, Conditional Use Permit No. 390, and Environmental Assessment 25-02 at the December 17th meeting with a vote of 4-0.



Figure 2 - Vicinity Map

BACKGROUND:

On March 25, 2025, applicant Rod Vandenburg on behalf of Pacific Modern Builders, LLC., submitted an application for a Conditional Use Permit (Planned Unit Development), Tentative Tract Map, and Environmental Assessment, proposing the subdivision of 39.98 acres of land for a gated residential neighborhood consisting of 257 single-family homes and associated improvements located east of Calhoun Street and south of Avenue 49 (APN 612-260-010).

The Project site currently has a land use and zoning designation of "General Neighborhood" in the City's General Plan 2035 Update (General Plan) which allows for single- and multi-family residences. Multi-family residences are to be constructed in a "house-form" such as duplexes, rowhouses, and garden apartments. Residential neighborhoods encourage small blocks, parks and green spaces, and walkability or short drives to services such as schools and shopping. Between 7 and 25 dwelling units per acre are permitted in General Neighborhood areas. The applicant proposes a Planned Unit Development (PUD) that would permit flexible standards for smaller lot sizes and a higher density for a private gated community. The PUD requires the completion of a conditional use permit (CUP), which will establish the land use regulations and minimum development standards for the development, to be approved by the City Council.

Table 1

General Plan, Zoning, and Surrounding Existing Uses

	General Plan	Zoning	Surrounding Existing Uses
Site:	General Neighborhood	(G-N) General Neighborhood	Vacant Lot
North:	Suburban Neighborhood	(S-N) Suburban Neighborhood	Single-Family Residences
South:	Suburban Neighborhood	(S-N) Suburban Neighborhood	Single-Family Residences
East:	Suburban Neighborhood	(S-N) Suburban Neighborhood	Vacant Lot
West:	City of Indio	City of Indio	Single-Family Residences

The gross acreage for the Project parcel is 39.98 acres. With approximately 1.21 acres of right of way dedications, the net parcel area is 35.24 acres. The applicant proposes to subdivide the Project site for a future build out of a private, gated residential community containing 257 single-family homes and a public park with a total area of 3.53 acres – 3.13 acres for recreational open space and a 0.40-acre landscaped retention basin.

The residential use consists of 144 lots each encompassing a minimum of 3,400 square feet (sf), and 113 lots each encompassing a minimum of 4,050 sf. The lots will be eligible for Accessory Dwelling Units (ADU) and Junior Dwelling Units (JADU).

The 3.13-acre recreational area of the park includes a tot lot, basketball court, ramadas with picnic tables, a turf grass area, and a small parking lot. Connected to the south side of the park is a 0.40-

acre retention basin that is partially landscaped with turf grass for recreational use and encircled by a decomposed granite trail. The public can access the park from Calhoun Street by either entering the parking lot at the north end or the trail at the south end. A security fence surrounding the park will prevent public access to the residential section of the Project.

Two vehicular access points include one located on the north side from Avenue 49 and one on the east side from Calhoun Street. The proposed Project would include right-of-way allowances for future road improvements. Currently, Avenue 49 east of Calhoun is designated as a Primary Arterial, but west of Calhoun to Jackson Street Avenue 49 is an unimproved path. For 1,300 linear feet from Calhoun Street to the Project's northwest corner, the applicant proposes 84-foot-wide full-street improvements including curbs, gutters, and sidewalks on both sides. At buildout, Avenue 49 street improvements would include 46 feet of travel lanes with curbs and gutters, six-foot sidewalks on both sides, and a 26-foot-wide landscaped area along the Project site Avenue 49 frontage.

Along 1,300 linear feet of Calhoun Street from the intersection of Avenue 49 to the southeast corner of the Project, the applicant proposes half-width improvements consisting of new pavement, curb, gutter, undergrounding of existing overhead utilities, new streetlights, a six-foot-wide sidewalk, and a 26-foot-wide landscape setback along the Project site frontage. Figure 3 shows the site plan Tentative Tract Map No. 39051 and Figure 4 provides the Conceptual Landscape Plan for the development.

Four retention basins will accept all on-site flows from a 100-year storm event. A fifth basin located at the northwest corner of the Project would accept off-site flows from Avenue 49. The basins will be landscaped to maintain openness and reduce visual massing of the development.

Table 2

Project Information

Total Project Area	39.98 ac (gross), 35.24 (net), 1,688,821 sf
Residential Lots	257 lots
144 lots	40 ft wide (3,600 sf)
113 lots	45 ft wide (4,050sf)
Landscaped Common Areas	
Public Park	3.213 ac (136,343 sf including parking lot)
Five Retention Basins	2.82 ac (122,839 sf)

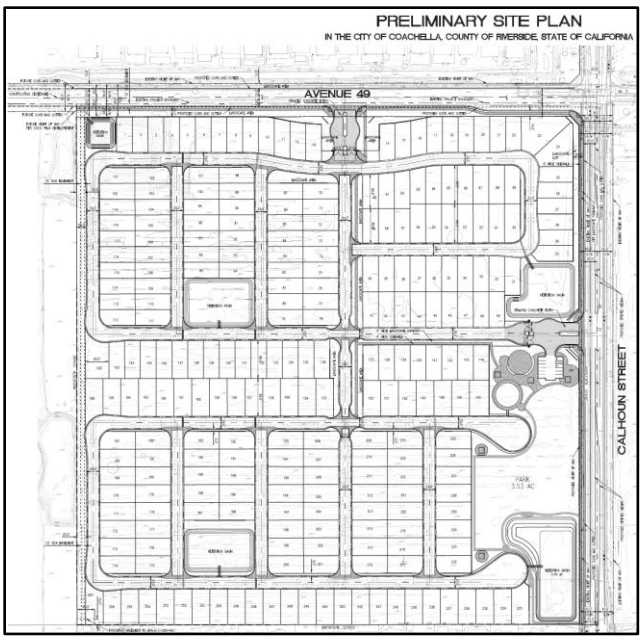


Figure 3 - Site Plan TTM 39051

LANDSCAPE DESIGN:

The landscape plan for the Calhoun Subdivision Project addresses the proposed landscaping along Avenue 49, project entries, the overall project wall and fence plan, and park and retention area landscaping.

As required by Section 17.14.030(K) of the Coachella Municipal Code (CMC), a minimum 20-foot landscape frontage area is provided on Calhoun Street and Avenue 49, with the addition of a 6-foot sidewalk to provide a minimum 26-foot total common area frontage for the project on Calhoun Street and Avenue 49. On Avenue 49, the common area frontage is reduced to a total of 14 feet to accommodate a right-hand turn lane as required by the City Engineering Department. On Calhoun Street there is significant landscape along the frontage common area provided by the proposed retention basin and public park. Along both perimeter streets, a 4-foot curb adjacent landscape planter is provided in compliance with General Plan Mobility Element guidelines. Shade Trees are provided along Avenue 49 and Calhoun Street to provide ample shade tree coverage. The project includes completion of street improvements for the northern portion of Avenue 49 along project frontage to be compatible with the street improvements completed on Avenue 49 between Jackson Street and the proposed project.

Tree uplighting is implemented along the project perimeter streets, internal streets, and project retention basins. All palm trees in the community will provide palm ring lights, and entry sign lighting is also provided. The public park will include bollard lighting.



Figure 4 - Conceptual Landscape Plan

The project entry includes enhanced pavement, an entry monument sign at each project entry and landscaping on either side of the project entry. The project entry also includes a landscaped median that will include date palm trees and a variety of shrubs and ground cover.

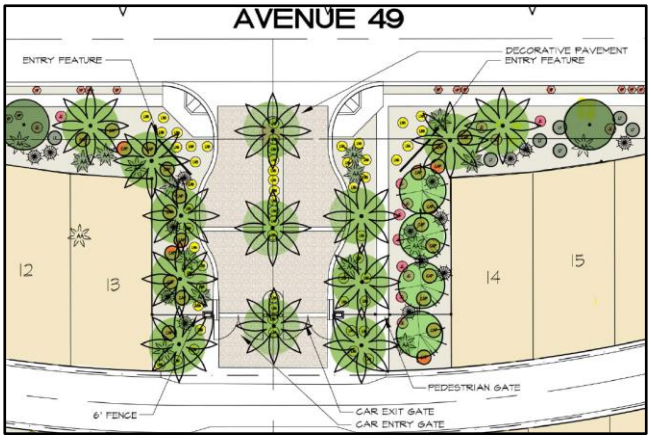


Figure 5 – Avenue 49 Entry

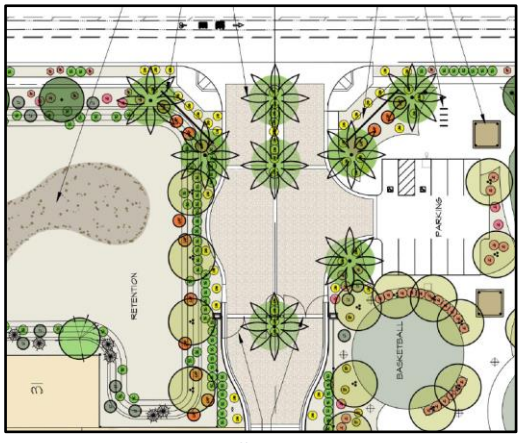


Figure 6 – Calhoun Street Entry

The project includes a separated sidewalk design center north-south street, and the center east-west street connecting the two community entrances as seen in Figure 4 above. The project includes landscape areas along internal streets, landscaped retention basin, and a landscape CVWD easement along the western portion of the project. The community will be landscaped

with drought tolerant plants and ¾ inch California Gold decorative gravel. Figure 7 below provides example images of the proposed landscape plant list.

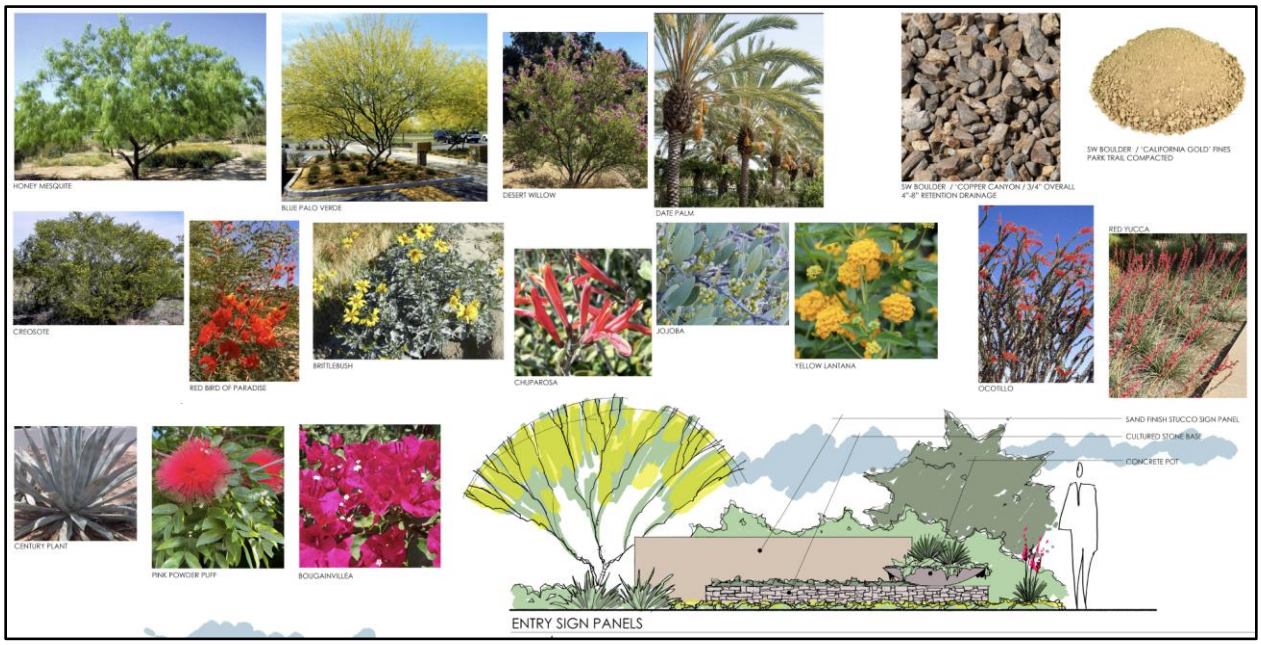


Figure 7 - Landscape Plant List

PARK:

The Project is proposing an approximate 3.13-acre public park that will be maintained by the Landscape and Lighting Maintenance District (LLMD). The park will include both active and passive uses including a half-court basketball court, lawn area, picnic tables, tot lot and desert garden. Staff has conditioned that the park be installed prior to the issuance of the 101st certificate of occupancy permit. A site plan for the park and plant palette are provided in the exhibits below.



Figure 8 - Public Park

WALL AND FENCE PLAN:

A copy of the proposed wall and fence plan is illustrated in Figure 9 below. A 6 ft high smooth face block wall with a center score will be constructed with stone veneer panels and stone veneer columns placed in strategic areas along the perimeter streets and all street facing fencing within the community. Interior fencing not visible from the public right of way (R.O.W) will be vinyl fencing. Adjacent to retention basins and the public park along perimeter streets, there will be metal facing with stone veneer columns.

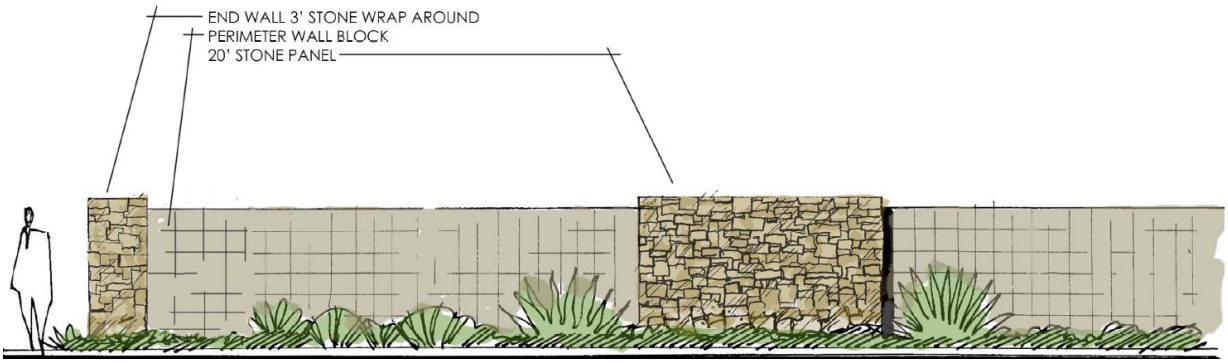


Figure 9 Fence and Wall Plan



Figure 10 Block Wall Detail

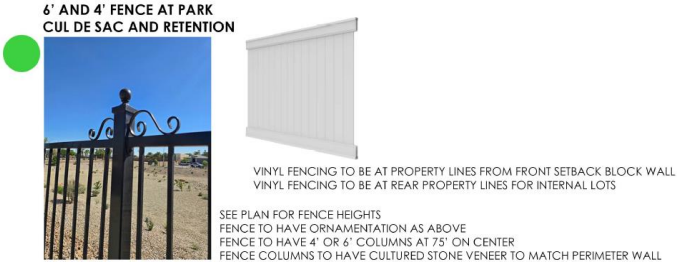


Figure 11 - Fencing Details

CONSISTENCY WITH GENERAL PLAN

The project site is within the General Neighborhood land use designation. General Neighborhoods are intended to provide a diversity of housing that meets the needs of the city's many household sizes, incomes, and lifestyle preferences. General Neighborhoods include a range of single family and multi-family housing options within a green, walkable neighborhood that offers parks and playgrounds for their residents and access to schools and basic shopping needs within a comfortable walk, bike ride or short drive.

The fundamental character of these neighborhoods is defined by tree-lined streets and small blocks, well-landscaped front yards and welcoming entries to each residence. Vehicular access and parking on each lot should not intrude into the front yards, primarily places for children to play and neighbors to meet. Although most of the residences are single-family detached houses, multi-family housing is also provided in "house-form" building types – such as duplexes, garden apartments and rowhouses – that are compatible in scale and character with houses. Large apartment buildings or complexes are not compatible with this sort of neighborhood setting

Allowed land uses include residential land uses at a development intensity of 7-25 DU/AC. The general plan also includes standards for network and connectivity, street design, parks and open space and urban form guidelines.

The Calhoun Subdivision project proposes 257 single family homes on a 39.98-acre site that equates to a net density of 7.29 DUA. The calculation for net density does not include acreage for the public park (includes retention basin), Avenue 49 and Calhoun Street dedications, and CVWD USBR easement on the west side of the property. The project meets the general plan density requirements and meets the design standards for network connectivity, street design, parks and open space and urban form guidelines.

CONSISTENCY WITH ZONING

The project site is currently zoned General Neighborhood (G-N) which implements the General Neighborhood land use designation of the General Plan. The G-N zone permits detached single family detached subdivisions with a minimum density of 7 dwelling units per acre on lots with a on minimum lot size of 4,000 square feet with a minimum interior lot width of 40 feet and minimum lot depth of 75 feet. The minimum width of corner lots is 45 feet. The minimum front yard requirement is 15 feet and the minimum side yard requirement for interior and corner lots is

10% of the lot width, but not less than 5 feet. A rear yard setback of 20 feet is required in the G-N zone.

The applicant proposes a Planned Unit Development (PUD) that would permit flexible standards for smaller lot sizes and a higher density for a private gated community. The applicant

The project is consistent with Section 17.19 of the Municipal Code, Supplemental Standards for Single-Family Residential recently adopted by the City Council.

Table 3 – General Neighborhood Development Standards

	Zoning Ordinance	**Proposed**	**Complies with Code**
Density	7-25 du/acre	7.29 du/ac	Yes
Parking (Minimum)	Two spaces per dwelling unit, both to be in an enclosed garage	Two spaces per dwelling unit, both to be in an enclosed 400 square foot garage	Yes. Each unit includes a 2-car garage
Lot Requirements	4,000 sq. ft. Minimum Lot width 40' Minimum Lot width (corner lot) 45' Minimum Lot depth 75'	3,400 sq. ft. Minimum Lot width 40' Minimum Lot width (corner lot) 40' Minimum Lot depth 85'	No. However, the proposal is consistent with PUD flexible design standards
Minimum Yard Requirement	Front Yard: 15 feet Side Yard: 5 feet Rear Yard: 20 feet	Front Yard: 15 feet Side Yard: 5 feet Rear Yard: 15 feet	No. However, the proposal is consistent with PUD flexible design standards
Height (maximum)	45 feet	45 feet	Yes. The maximum height proposed is less than 45 feet

PROPOSED FINDINGS:

Tentative Map

Pursuant to Coachella Municipal Guidelines Chapter 16.12, Tentative Map, subject to the provisions of this chapter, the City Council must make the following findings for Tentative Map approval:

The City Council shall deny approval of a tentative map, as required by the Subdivision Map Act, if it makes the following findings:

1. That the proposed map is not consistent with applicable general and specific plans;

The location of the project site has a General Plan land use designation of General Neighborhood which permits the development of single-family residential homes and community amenities. Further, the General Neighborhood land use designations allow for the development of 7-25 dwelling units per acre. As such, the Tentative Tract Map is consistent with the permitted land use designation of single-family homes, as it is proposing 7.29 du/ac. The project further proposes the development of community amenities such as a community park with tot lot, basketball court, ramadas with picnic tables, a turf grass area, and a partially landscaped retention basis with passive walking trails. The open-space parks planned within the project area fulfill the Planned Unit Development and General Neighborhood open space requirements. For the foregoing reasons, the Tentative Map is consistent with the General Plan and is not inconsistent with any element of its General Plan designation.

2. That the design or improvement of the proposed subdivision is not consistent with applicable general and specific plans;

The location of the project site has a General Plan land use designation of General Neighborhood which permits the development of single-family residential homes and community amenities. Further, the General Neighborhood land use designations allow for the development of 7-25 dwelling units per acre. As such, the Tentative Tract Map is consistent with the permitted land use designation of single-family homes, as it is proposing 7.29 du/ac and is consistent with the General Plan. The project is proposing a PUD that would permit flexible standards for smaller lot sizes. The PUD is proposing 257 units in total with 144 lots each encompassing a minimum of 3,400 sf lots and 113 lots each encompassing a minimum of 4,050 sf. If the PUD is approved, the Tentative Map would be consistent with the applicable PUD development standards.

3. That the site is not physically suitable for the type of development;

The proposed project has a General Plan land use designation and zoning designation of General Neighborhood which permits the development of single-family residential homes and community amenities of 7-25 dwelling units per acre. As such, the Tentative Tract Map is consistent with the permitted land use designation and zoning designation of single-family homes, as it is proposing 7.29 du/ac. In addition to meeting the proposed density requirements, two vehicular access points include one located on the north side from Avenue 49 and one on the east side from Calhoun Street would provide access to the project that has been determined to be suitable by the City Engineer/ Public Works Director and the Riverside County Office of the Fire Marshal. Infrastructure to serve the proposed parcels have been assessed and determined to be

available from the water and electrical utilities. Furthermore, the site has no topographical constraints and the proposed uses are consistent with that has been analyzed in the General Plan, the Coachella Municipal Code, and Planned Unit Development. Therefore, it can be determined that the proposed subdivision is physically suitable for the site.

4. That the site is not physically suitable for the proposed density of development;

The proposed project has a General Plan land use designation and zoning designation of General Neighborhood which permits the development of single-family residential homes and community amenities of 7-25 dwelling units per acre. As such, the Tentative Tract Map is consistent with the permitted land use designation and zoning designation of single-family homes, as it is proposing 7.29 du/ac. Therefore, it can be determined that the proposed subdivision is physically suitable for the proposed density of development.

5. That the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and unavoidably injure fish or wildlife or their habitat;

An Initial Study with Mitigated Negative Declaration (IS/MND) was completed to address the potential impacts from the implementation of the project. The environmental analysis includes but is not limited to the analysis of environmentally sensitive areas, potential impacts to natural vegetation and significant trees, watercourses, historic buildings and places, and other features of value to the community. The proposed project will develop currently vacant highly disturbed land in west Coachella. The existing setting does not contain any significant trees, watercourses, or historic buildings or places. The parcel has minimal natural vegetation, and what is there is common to many vacant parcels within the City of Coachella and the greater Coachella Valley. The scarce natural vegetation will be removed during the preliminary grading phase of the development of the site, and the IS/MND found that with the adoption of mitigation measures, any potential impact will be mitigated to have a less than significant impact. The project will adopt a Mitigation and Monitoring Reporting Program (MMRP) that will certify mitigation measures to protect environmentally sensitive land uses and species within the project area.

6. That the design of the subdivision or the type of improvements is likely to cause serious public health problems; and

Tentative Tract Map No. 39051 proposes the subdivision of a net acreage of 35.24-acre parcels into 257 parcels. As reviewed and conditioned by the City of Coachella Public Works Department and Coachella Water Authority and Sanitation District, adequate sewer and water systems are currently available and will be accessible to the resultant parcels. As conditioned by the City of Coachella Public Works Department, Coachella Water Authority and Sanitation District, and Imperial Irrigation District, the project has the necessary infrastructure to

adequately serve the resultant parcels and all proposed uses as allowed by the City of Coachella General Plan and the Coachella Municipal Code.

7. That the design of the subdivision or the type of improvements will conflict with easements, acquired by the public at large, for access through or use of property within the proposed subdivision. In this connection, the governing body may approve a map if it finds that alternate easements, for access or for use, will be provided, and that these will be substantially equivalent to ones previously acquired by the public.

As proposed, TTM No. 39051 will not conflict with any public easements acquired for access or use by the public at large within the proposed subdivision. The Riverside County Office of the Fire Marshal and Engineering Department/Public Works Department have reviewed and approved the access points to the site. The subdivision of land will not conflict with easements for access through or use of property and as such, the subdivision's design is confirmed to be in harmony with existing public easements.

Conclusion:

Staff concludes that the findings set forth in Government Code Section 66474 and Coachella Municipal Code Chapter 17.14.030 can affirmatively be made for the proposed Tentative Tract Map No. 39051. The proposed parcel subdivision is consistent with the City of Coachella General Plan and the Coachella Municipal Code. The parcel subdivision will not conflict with easements acquired by the public at large, for access through or use of property within the proposed parcel subdivision, and it will not cause substantial environmental damage or substantially avoidably injure fish, wildlife, or their habitat. The required conditions of approval ensure the Project will not be detrimental to the public health, safety, or welfare, and the conditions prevent material injury to properties or improvements in the vicinity.

Planned Unit Development

Pursuant to Coachella Municipal Guidelines Chapter 17.38, Planned Unit Development, subject to the provisions of this chapter, the City Council must make the following findings for Planned Unit Development approval:

1. The proposed use will not be in conflict with, but will be in harmony with and in accordance with the objectives of the general plan.

The location of the project site has a General Plan land use designation of General Neighborhood which permits the development of single-family residential homes and community amenities. Further, the General Neighborhood land use designations allow for the development of 7-25 dwelling units per acre. As such, the Tentative Tract Map is consistent with the permitted land

use designation of single-family homes, as it is proposing 7.29 du/ac. The project further proposes the development of community amenities such as a community park with tot lot, basketball court, ramadas with picnic tables, a turf grass area, and a partially landscaped retention basis with passive walking trails. The open-space parks planned within the project area fulfill the Planned Unit Development and General Neighborhood open space requirements. For the foregoing reasons, the Tentative Map is consistent with the General Plan and is not inconsistent with any element of its General Plan designation.

2. The proposed use will be located, designed, constructed, operated and maintained so as to be compatible with the existing or intended character of the general vicinity and shall not change the essential character of the same area.

The proposed project has a General Plan land use designation and zoning designation of General Neighborhood which permits the development of single-family residential homes and community amenities of 7-25 dwelling units per acre. The project complies with Chapter 17.14 General Neighborhood zoning standards and complies with Chapter 17.38 PUD Planned Unit Development standards. The project will be operated and maintained by an HOA, and the community CC&R's shall be submitted for City review and the City shall be a third-party beneficiary to the CC&R's. The perimeter landscaping, park, and the retention basin adjacent to Calhoun Street will be maintained by the City LLMD. As a result, the project will be compatible with the existing or intended character of the general vicinity and shall not change the essential character of the same area.

3. Consideration is to be given to harmony in scale, bulk, coverage and density, to the availability of public facilities and utilities, to harmful effect, if any, upon desirable neighborhood character, to the generation of traffic and the capacity of surrounding streets, and to any other relevant impact of the development.

The proposed project has a General Plan land use designation and zoning designation of General Neighborhood which permits the development of single-family residential homes and community amenities of 7-25 dwelling units per acre. In addition to meeting the proposed density requirements, two vehicular access points include one located on the north side from Avenue 49 and one on the east side from Calhoun Street would provide access to the project that has been determined to be suitable by the City Engineer/ Public Works Director and the Riverside County Office of the Fire Marshal. The project will include the completion of street improvements on both sides of Avenue 49 adjacent to the northern permitter of the project and determined to be suitable by the City Engineer. Infrastructure to serve the proposed parcels have been assessed and determined to be available from the water and electrical utilities. Furthermore, the site has no topographical constraints and the proposed uses are consistent with that has been analyzed in the General Plan, the Coachella Municipal Code, and Planned Unit Development. Therefore, it can be determined that the proposed subdivision is physically suitable for the site.

4. Where the proposed use may be potentially hazardous or disturbing to existing or reasonably expected neighboring uses, it must be justified by the common public interest as a benefit to the community as a whole.

The intent and purpose of the General Neighborhood designation, as described in the City of Coachella General Plan, is to provide a diversity of housing that meets the needs of Coachella's many household sizes, incomes and lifestyle preferences. General Neighborhoods integrate a range of single- and multi-family housing options within a green, walkable neighborhood environment that offers parks and playgrounds for their residents and access to schools and basic shopping needs within a comfortable walk, bike ride or short drive. The project proposes the development of community amenities such as a community park, and shaded sidewalks along the perimeter and interior of community with a separated sidewalk design per the guidance of the City of Coachella General Plan Mobility Element. The project will be operated and maintained by an HOA, and the community CC&Rs shall be submitted for City review and the City shall be a third-party beneficiary to the CC&R's. An Initial Study with Mitigated Negative Declaration (IS/MND) was completed to address the potential impacts from the implementation of the project. The environmental analysis includes but is not limited to the analysis of environmentally sensitive areas, potential impacts to air quality, watercourses, historic buildings and places, noise, hazards and hazardous materials and other features of value to the community. The proposed project will develop currently vacant highly disturbed land in west Coachella. The IS/MND found that with the adoption of mitigation measures on Biological Resources, Cultural Resources, Transportation, and Tribal Cultural Resources, any potential impact will be mitigated to have a less than significant impact. The project will adopt a Mitigation and Monitoring Reporting Program (MMRP) that will certify mitigation measures to protect environmentally sensitive land uses and species within the project area. Therefore, it can be determined that the project is not anticipated to be potentially hazardous or disturbing to existing or reasonably expected neighboring uses, and it can be determined that the project is a benefit to the community as a whole.

5. The proposed use will include vehicular approaches to the property designed for reasonable minimal interference with traffic on surrounding public streets or roads.

The project will include two vehicular access points include one located on the north side from Avenue 49 and one on the east side from Calhoun Street would provide access to the project that has been determined to be suitable by the City Engineer/ Public Works Director and the Riverside County Office of the Fire Marshal. The project will include the completion of street improvements on both sides of Avenue 49 adjacent to the northern permitter of the project and determined to be suitable by the City Engineer. As a result, the proposed project is designed to provide reasonable minimal interference with traffic on surrounding public streets or roads.

Conclusion:

Staff concludes that the findings set forth in Coachella Municipal Code Chapter 17.74.020 can affirmatively be made for the proposed Tentative Tract Map No. 39051. The proposed parcel subdivision is consistent with the City of Coachella General Plan and the Coachella Municipal Code. The parcel subdivision will be compatible with the existing or intended character of the general vicinity and shall not change the essential character of the same area, and consideration was given to the potential impacts of the development. It is determined that the project is justified by the common public interest as a benefit to the community as a whole. The proposed use will include vehicular approaches to the property designed for reasonable minimal interference with traffic on surrounding public streets or roads. The required conditions of approval ensure the Project will not be detrimental to the public health, safety, or welfare, and the conditions prevent material injury to properties or improvements in the vicinity.

PUBLIC HEARING NOTICE:

A notice of public hearing to consider the Project was published in the Desert Sun, the newspaper of record, on January 18, 2026, and a public hearing notice was mailed to property owners within a radius of 300- feet of the subject property on January 6, 2026, pursuant to Section 17.74.010G of the Coachella Municipal Code. At the time of issuance of this staff report, staff had not received public comments on this application.

ENVIRONMENTAL REVIEW:

Chapter 8.24 of the Coachella Municipal Code states that all projects shall be reviewed for compliance with or exemption from the California Environmental Quality Act (CEQA). Pursuant to CEQA Guidelines Section 15063, the applicant's consultant, Terra Nova Planning & Research Inc., completed an Initial Study with Mitigated Negative Declaration (IS/MND) in compliance with the California Environmental Quality Act (CEQA) to adequately analyze the Project's potential impacts on the environment for the Calhoun Street Subdivision Project. The Initial Study concluded that the project would result in less than significant impacts to Aesthetics, Air Quality, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Recreation, Utilities and Service Systems.

The Initial Study concluded that the project would result in a less than significant impact with mitigation incorporated to Biological Resources, Cultural Resources, Transportation, and Tribal Cultural Resources.

Terra Nova Planning & Research, Inc. has developed appropriate mitigation measures to address the potentially significant impacts, and with the implementation and adherence to the mitigation measures, the Project will have a less than significant impact on Biological Resources, Cultural Resources, Transportation, and Tribal Cultural Resources. The mitigation measures will be listed as a condition of Project approval.

A 20-day public review period ran from November 18, 2025, to December 8, 2025. 3 comment letters were submitted during the comment period. Responses to comments have been prepared for the comments received and are included in Resolution No. 2026-03 Exhibit C.

A Mitigation Monitoring and Reporting Program (MMRP) has been prepared and is attached in Resolution No. 2026-03 Exhibit B.

TTM NO. 39051 ALTERNATIVES:

1) Approve Resolution No. 2026-01 recommending that the City Council approve TTM No. 39051 with the findings and conditions as recommended by Staff.

2) Approve Resolution No. 2026-01 recommending that the City Council approve TTM No. 39051 with the findings and conditions as recommended by Staff, with modifications as proposed by the City Council.

3) Deny Resolution No. 2026-01.

4) Continue this item and provide staff and the applicant with direction.

CUP NO. 390 ALTERNATIVES:

1) Approve Resolution No. 2026-02 recommending that the City Council approve CUP No. 390 with the findings and conditions as recommended by Staff.

2) Approve Resolution No. 2026-02 recommending that the City Council approve CUP No. 390 with the findings and conditions as recommended by Staff, with modifications as proposed by the City Council.

3) Deny Resolution No. 2026-02.

4) Continue this item and provide staff and the applicant with direction.

EA NO. 25-02 ALTERNATIVES:

1) Approve Resolution No. 2026-03 recommending that the City Council adopt a mitigated negative declaration for EA No. 25-02 with the findings and conditions as recommended by Staff.

2) Approve Resolution No. 2026-03 recommending that the City Council adopt a mitigated negative declaration for EA No. 25-02 with the findings and conditions as recommended by Staff. with modifications as proposed by the City Council.

3) Deny Resolution No. 2026-03.

4) Continue this item and provide staff and the applicant with direction.

RECOMMENDED ALTERNATIVE(S):

Staff recommends Alternative #1 for TTM. No 39051, CUP No. 390, and EA No. 25-02.

Attachments:

1. Resolution No. 2026-01 (TTM)
    a. Exhibit A – Conditions of Approval
    b. Exhibit B – Tentative Tract Map
    c. Exhibit E – Development Plan Set
2. Resolution No. 2026-02 (PUD)
    a. Exhibit A – Conditions of Approval
    b. Exhibit B – Planned Unit Development
3. Resolution No. 2026-03 (EA)
    a. Exhibit A – Conditions of Approval
    b. Exhibit B – Initial Study Mitigated Negative Declaration (ISMND)
    c. Exhibit C – ISMND Response to Comments
4. Calhoun Street PUD Justification Statement
5. Calhoun Street LLMD_CCR Exhibit
6. Calhoun Street Park Area Exhibit
7. Preliminary Grading
8. Preliminary Site plan
9. Density Exhibit
10. Published Copy of the Notice of Public Hearing

RESOLUTION NO. 2026-01

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF COACHELLA CONDITIONALLY APPROVING TENTATIVE TRACT MAP NO. 39051, FOR THE PROPOSED 257-LOT SINGLE FAMILY RESIDENTIAL SUBDIVISION PROJECT LOCATED ON THE 39.98 ACRES SITE AT THE SOUTHWEST CORNER OF CALHOUN STREET AND AVENUE 49, APN 612-260-010; AND DETERMINING THAT THE PROJECT IS COMPLIANT WITH SECTION 15073 OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) GUIDELINES. APPLICANT: ROD VANDENBURG, PACIFIC MODERN BUILDERS LLC.

WHEREAS, on April 15, 2025, the applicant, Rod Vandenburg on behalf of Pacific Modern Builders, LLC., submitted a Tentative Tract Map application, Conditional Use Permit application, and associated environmental documentation for the subdivision of 39.98 acres of land for the development of a 257 single family home planned unit development and associated improvements on the southwest corner of Calhoun Street and Avenue 49 ("the Project"); and,

WHEREAS, the Site is located within the City of Coachella off of Calhoun Street and Avenue 49 within Riverside County, California (Assessor Parcel Numbers 612-260-010) ("Property"); and,

WHEREAS, the site has a zoning designation of General Neighborhood and a General Plan 2035 land use designation of General Neighborhood; and,

WHEREAS, the Project is consistent with and intended to implement the vision of the Coachella Municipal Code and the General Plan 2035 pertaining to land use patterns, building and site design, and public right-of-way improvements; and

WHEREAS, pursuant to the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and CEQA Guidelines Section § 15070 (Decision to Prepare a Negative or Mitigated Negative Declaration), a public agency shall prepare or have prepared a proposed negative declaration or a mitigated negative declaration for a project subject to CEQA when the initial study identifies potentially significant impacts but revisions in the project plan or proposals made by or agreed to by the applicant would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and,

WHEREAS, pursuant to CEQA Guidelines Section § 15070 (Decision to Prepare a Negative or Mitigated Negative Declaration), an initial study with mitigated negative declaration was prepared for the Proposed Project ("Initial Study/Mitigated Negative Declaration), and mitigation measures have been incorporated into the Mitigated Negative Declaration and will be imposed on the Proposed Project through the City's adoption of a Mitigation Monitoring and Reporting Program ("MMRP") in compliance with CEQA Guidelines Section 15070(d); and,

WHEREAS, pursuant to CEQA Guidelines Section § 15073 (Public Review of a Proposed Negative Declaration or Mitigated Negative Declaration), comments were received pertaining to the Initial Study/Mitigated Negative Declaration and added to the administrative record; and,

WHEREAS, the Subdivision Map Act also requires that, prior to any map approval, the City must find that the proposed subdivision, together with the provisions for its design and improvement of any tentative map or a parcel map, is consistent with the general plan and any applicable specific plan, and that the site is physically suitable for that type of development and the proposed density, and that the design of the subdivision is not likely to cause serious public health problems, conflict with easements, or cause substantial environmental damage or substantially and avoidably injure fish, wildlife, or their habitat (Government Code Section 66473.5); and

WHEREAS, the Tentative Tract Map is consistent with the General Plan 2035 and meets the General Neighborhood land use designation requirements and is consistent with the requirements outlined in the Coachella Municipal Code; and

WHEREAS, the Tentative Tract Map will not conflict with easements acquired by the public at large, for access through or use of property within the proposed parcel subdivision as all such improvements will be constructed to be adequate for the Project, and it will not cause substantial environmental damage or substantially avoidably injure fish, wildlife, or their habitat; and

WHEREAS, the proposed design of the subdivision improvements contemplated by the proposed parcel subdivision is not likely to be detrimental to public health, safety, or welfare as adequate sewer and water systems will be available to the two resultant parcels. The parcels have the necessary infrastructure to adequately serve the proposed development and all proposed uses as allowed by the zoning ordinances that regulate the Project Site; and

WHEREAS, a notice of a public hearing to consider Tentative Tract Map No. 39051, Conditional Use Permit No. 390, and Environmental Assessment 2025-02 was issued in accordance with Coachella Municipal Code Section 17.74.010G, inclusive of the publication on December 7, 2025, of a legal public hearing notice which was published in the Desert Sun, the City's newspaper of record and mailing of a public hearing notice to a certified list of property owners within 300 feet of the subject properties on December 2, 2025; and,

WHEREAS, on December 17, 2025, the Planning Commission held a duly noticed public hearing to consider the application for the Project during which evidence, both written and oral, including the staff report and supporting documents, was presented at said hearing; and,

WHEREAS, at the conclusion of the public hearing and following discussion, the Planning Commission approved Resolution No. PC2025-22 recommending the City

Council conditionally approve the Calhoun Subdivision Project as conditioned with the motion vote outcome specified in the meeting minutes for the December 17, 2025, Planning Commission meeting.

WHEREAS, a notice of a public hearing to consider Tentative Tract Map No. 39051, Conditional Use Permit No. 390, and Environmental Assessment 2025-02 was issued in accordance with Coachella Municipal Code Section 17.74.010G, inclusive of the publication on January 18, 2026, of a legal public hearing notice which was published in the Desert Sun, the City's newspaper of record and mailing of a public hearing notice to a certified list of property owners within 300 feet of the subject properties on January 6, 2026; and,

WHEREAS, on January 28, 2026, the City Council held a duly noticed public hearing to consider the application for the Project during which evidence, both written and oral, including the staff report and supporting documents, was presented at said hearing; and,

WHEREAS, at the conclusion of the public hearing and following discussion, the City Council approved this Resolution for the conditional approval of the Calhoun Subdivision Project as conditioned with the motion vote outcome specified in the meeting minutes for the January 28, 2026, City Council meeting.

NOW, THEREFORE, BE IT RESOLVED, THE CITY COUNCIL OF THE CITY OF COACHELLA, CALIFORNIA DOES HEREBY FIND DETERMINE AND RESOLVE AS FOLLOWS:

SECTION 1. **Incorporation of Recitals.** The City Council hereby specifically finds that all of the facts set forth in the recitals of this Resolution are true and correct and are incorporated into this Resolution by reference and constitute a material part of this Resolution.

SECTION 2. **Environmental Findings.** The City Council has independently reviewed the Initial Study with Mitigated Negative Declaration and the administrative record for the proposed project, including all oral and written comments received during the document circulation period, public hearing, the staff report, and all attachments thereto, which are all incorporated herein by reference and are on file with the Community Development Department for the City of Coachella, and the City Council finds that:

A. The Initial Study with Mitigated Negative Declaration (EA 2025-02) has been completed in compliance with CEQA and reflects the agency's independent judgment and analysis.

B. All environmental impacts of the Proposed Project are either insignificant or can be mitigated to a level of insignificance pursuant to the mitigation measures outlined in the Mitigated Negative Declaration and the Mitigation Monitoring Reporting Program.

C. There is no substantial evidence in the administrative record supporting a fair argument that the Proposed Project, as revised, may result in significant environmental impacts.

D. The City Council hereby approves and adopts the Initial Study with Mitigated Negative Declaration (EA 2025-02) pursuant to Public Resources Code section 21080(c)(2).

E. Pursuant to Public Resources Code section 21081.6, the City Council approves and adopts the MMRP prepared for the Project, which shall be fully complied with as specified in this Resolution and the Conditions of Approval set forth herein.

SECTION 3. Tentative Tract Map Findings. Based upon the evidence presented at the hearing, including the staff report, the City Council hereby finds and determines the Project complies with the necessary findings as required by Coachella Municipal Code Section 16.12 and the Subdivision Map Act. The Subdivision Map Act, in Government Code Section 66474, sets forth the findings required for tentative maps and are summarized as follows:

1. The location of the project site has a General Plan land use designation of General Neighborhood which permits the development of single-family residential homes and community amenities. Further, the General Neighborhood land use designations allow for the development of 7-25 dwelling units per acre. As such, the Tentative Tract Map is consistent with the permitted land use designation of single-family homes, as it is proposing 7.29 du/ac. The project further proposes the development of community amenities such as a community park with tot lot, basketball court, ramadas with picnic tables, a turf grass area, and a partially landscaped retention basis with passive walking trails. The open-space parks planned within the project area fulfill the Planned Unit Development and General Neighborhood open space requirements. For the foregoing reasons, the Tentative Map is consistent with the General Plan and is not inconsistent with any element of its General Plan designation.

2. The location of the project site has a General Plan land use designation of General Neighborhood which permits the development of single-family residential homes and community amenities. Further, the General Neighborhood land use designations allow for the development of 7-25 dwelling units per acre. As such, the Tentative Tract Map is consistent with the permitted land use designation of single-family homes, as it is proposing 7.29 du/ac and is consistent with the General Plan. The project is proposing a PUD that would permit flexible standards for smaller lot sizes. The PUD is proposing 257 units in total with 144 lots each encompassing a minimum of 3,400 sf lots and 113 lots each encompassing a minimum of 4,050 sf. If the PUD is approved, the Tentative Map would be consistent with the applicable PUD development standards.

3. The proposed project has a General Plan land use designation and zoning designation of General Neighborhood which permits the development of single-family residential homes and community amenities of 7-25 dwelling units per acre. As such, the Tentative Tract Map is consistent with the permitted land use designation and zoning designation of single-family homes, as it is proposing 7.29 du/ac. In addition to meeting the proposed density requirements, two vehicular access points include one located on the north side from Avenue 49 and one on the east side from Calhoun Street would provide access to the project that has been determined to be suitable by the City Engineer/ Public Works Director and the Riverside County Office of the Fire Marshal. Infrastructure to serve the proposed parcels have been assessed and determined to be available from the water and electrical utilities. Furthermore, the site has no topographical constraints and the proposed uses are consistent with that has been analyzed in the General Plan, the Coachella Municipal Code, and Planned Unit Development. Therefore, it can be determined that the proposed subdivision is physically suitable for the site.

4. The proposed project has a General Plan land use designation and zoning designation of General Neighborhood which permits the development of single-family residential homes and community amenities of 7-25 dwelling units per acre. As such, the Tentative Tract Map is consistent with the permitted land use designation and zoning designation of single-family homes, as it is proposing 7.29 du/ac. Therefore, it can be determined that the proposed subdivision is physically suitable for the proposed density of development.

5. An Initial Study with Mitigated Negative Declaration (IS/MND) was completed to address the potential impacts from the implementation of the project. The environmental analysis includes but is not limited to the analysis of environmentally sensitive areas, potential impacts to natural vegetation and significant trees, watercourses, historic buildings and places, and other features of value to the community. The proposed project will develop currently vacant highly disturbed land in west Coachella. The existing setting does not contain any significant trees, watercourses, or historic buildings or places. The parcel has minimal natural vegetation, and what is there is common to many vacant parcels within the City of Coachella and the greater Coachella Valley. The scarce natural vegetation will be removed during the preliminary grading phase of the development of the site, and the IS/MND found that with the adoption of mitigation measures, any potential impact will be mitigated to have a less than significant impact. The project will adopt a Mitigation and Monitoring Reporting Program (MMRP) that will certify mitigation measures to protect environmentally sensitive land uses and species within the project area.

6. Tentative Tract Map No. 39051 proposes the subdivision of a net acreage of 35.24-acre parcels into 257 parcels. As reviewed and conditioned by the City of Coachella Public Works Department and Coachella Water Authority and Sanitation District, adequate sewer and water systems are currently available and will be accessible to the

resultant parcels. As conditioned by the City of Coachella Public Works Department, Coachella Water Authority and Sanitation District, and Imperial Irrigation District, the project has the necessary infrastructure to adequately serve the resultant parcels and all proposed uses as allowed by the City of Coachella General Plan and the Coachella Municipal Code.

7. As proposed, TTM No. 39051 will not conflict with any public easements acquired for access or use by the public at large within the proposed subdivision. The Riverside County Office of the Fire Marshal and Engineering Department/Public Works Department have reviewed and approved the access points to the site. The subdivision of land will not conflict with easements for access through or use of property and as such, the subdivision's design is confirmed to be in harmony with existing public easements.

SECTION 4. Location and Custodian of Records. The documents and materials that constitute the record of proceedings on which these findings are based are located at Coachella Civic Center. The Development Services Director is the custodian of the record of proceedings.

SECTION 5. Execution of Resolution. The Mayor shall sign this Resolution and the City Clerk shall attest and certify to the passage and adoption thereof.

SECTION 6. City Council Approval. Based on the foregoing recitals and findings above, and the written and oral comments, facts and evidence presented, the City of Coachella City Council conditionally approves Tentative Tract Map No. 39051, for the proposed 257-lot single family residential subdivision project located on the 39.98 acres site at the southwest corner of Calhoun Street and Avenue 49, APN 612-260-010; and determining that the project is compliant with Section 15073 Of The California Environmental Quality Act (CEQA) Guidelines. The applicant shall demonstrate compliance with ALL Conditions of Approval, as set forth in Exhibit "A", Tentative Tract Map in "Exhibit B", and Development Plan Set in "Exhibit C" of this Resolution. Failure to demonstrate compliance with these conditions of approval may result in the delay of the Proposed Use or the rescinding of the City of Coachella's conditional use permit approval. Where the term "Applicant" is used in any condition of approval, this term shall also apply to the Property Owner, any developer, or any successor in the interest of the Applicant. It is the Applicant's or Applicant's successor in interest responsibility to fully comply with the conditions of approval unless subsequently modified in accordance with the City's required processes and procedures.

PASSED APPROVED and ADOPTED this 28th day of January 2026.

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
Steven Hernandez, Mayor
City of Coachella

ATTEST:

_____
Angela M. Zepeda, City Clerk
City of Coachella

APPROVED AS TO FORM:

_____
Best Best & Krieger
City Attorney

Exhibit A – Resolution No. 2026-01

CONDITIONS OF APPROVAL FOR TENTATIVE TRACT MAP NO. 39051

General Conditions

1. Tentative Tract Map 39051 with a minimum lot size of 3,400 square feet, for the proposed 257-lot single family residential subdivision project located on the 39.98-acres site at the southwest corner of Calhoun Street and Avenue 49, APN 612-260-010, and the determination that the proposed project is compliant with California Environmental Quality Act (CEQA) Guidelines Section 15073 - Public Review of a Proposed Negative Declaration or Mitigated Negative Declaration.

2. The applicant shall defend, indemnify and hold harmless the City of Coachella, its officials, officers, employees, and agents from and against any claim, action, or proceeding against the City, its officials, officers, employees or agents to attack, set aside, void or annul any project approval or condition of approval of the city concerning this project, including but not limited to any approval or condition of approval or mitigation measure imposed by the City Council or Planning Commission. The City shall promptly notify the applicant of any claim, action, or proceeding concerning the project and the City shall cooperate fully in the defense of the matter. The City reserves the right, at its own option, to choose its own attorney to represent the City, its officials, officers, employees and agents in the defense of the City Attorney, within five days of the effective date of this approval.

3. The working drawings shall include within the first four pages a list of all conditions of approval included in this resolution.

4. CFD. The applicant shall be subject to further requirements that it participate in the Community Facilities District for residential lots within Tentative Tract Map 39051 that the City proposed to establish under the Mello-Roos Community Facilities Act of 1982, Section 13311 of the California Government Cod, as amended, for all undeveloped property within the boundaries of the City, including the subject property subject to this development approval (Tentative Tract Map No. 39051), to finance police and fire services for such property. The applicant shall do everything necessary for inclusion of the property subject to this development approval within such District upon its establishment. This development approval is subject to such requirement as a condition, unless such District is established prior to the effectiveness of this development approval in which case, it shall be a condition precedent. The Community Facilities District shall be established before issuance of the first certificate of occupancy.

5. LLMD. The owner shall agree to the formation of a Landscape and Lighting Maintenance District(LLMD) for the maintenance of the lighting, landscaping and irrigation. The owner shall prepare the improvement plans, Engineer's Report, Estimated Costs, and submit to the City Engineer as required for the formation of the LLMD. The funds to be deposited shall be a minimum of $1,000. Costs over $1,000 shall be billed by the City to the owner for payment prior to the recordation of the Final Map. The LLMD shall be formed before issuance of the first certificate of occupancy.

6. CC&R's. The owner shall agree to the formation of a Homeowner's Association for maintenance of all common areas including streets, retention basins, block walls, fencing, and on-site amenities.

7. CC&R's. The Homeowner's Association shall adopt Conditions, Covenants and Restrictions (CC&R's), and act as a liaison to the City for review of the placement, type, architectural style, materials, and landscaping of all units and lots. The proposed CC&Rs shall be submitted for City and Riverside County Fire review prior to recordation of final map and the City shall be a third-party beneficiary to the CC&Rs.

8. The neighborhood park shall complete construction and be open to the public prior to the issuance of the 101st occupancy permit and shall be constructed in accordance with the conceptual landscape plans contained in the attached Development Set to the satisfaction of the Community Development Director.

9. Prior to the recordation of the final map the applicant shall submit detailed landscaping irrigation plans and sign plans for review, including plans for the neighborhood park and retention basin for approval by the City Engineer and Development Services Director.

10. The proposed subdivision shall be improved with a decorative masonry perimeter wall consisting of a smooth face CMU block that includes stone veneer, tan slumpstone, splitface block, or precision with smooth stucco finish wall, and a decorative cap, and/or equivalent high-quality design approved by the City Engineer and Community Development Director. The entire block perimeter wall on Calhoun Street and Avenue 49 shall be a smooth face CMU block with a stone veneer and/or equivalent design added at certain sections of the perimeter wall to be approved by the City Engineer and Community Development Director. A minimum of one 12-inch square masonry pilaster at every 75 feet along Calhoun Street and Avenue 49 shall be used along any fencing facing a public street as shown on the conceptual landscape plans.

11. Interior fencing for single family lots shall utilize block wall with metal view obscured access gates. Any street visible block shall be decorative block including a smooth CMU block and/or equivalent approved by the City Engineer and Community Development Director.

12. Identification signs for the subdivision shall include high quality and durable design with accent lighting. A detailed sign plan shall be submitted to the Community Development Director for review and the final design shall be approved by the Community Development Director.

13. All street names and addressing shall be consistent with City and USPS policies.

14. The applicant shall submit, and must obtain approval from the Community Development Director, a letter from a registered landscape architect confirming that landscaping and irrigation have been installed in accordance with the approved plans prior to issuance of a certificate of occupancy. Any damaged, dead or decayed landscape areas shall be replaced per approved landscape plans upon landscape inspection by the Community Development Director and prior to issuance of a certificate of occupancy.

15. Stamped concrete or decorative pavers shall be provided at the surface of both project entryways with a terracotta color or equivalent and identified on both Civil and Landscape Plans. Pavers types shall be approved by the Community Development Director and City Engineer.

16. Landscaping and irrigation shall be provided in accordance with Section 17.54.010(J) of the Municipal Code and in accordance with the State Model Water Efficient Landscape Ordinance (AB 1881). Water budget calculations, including the Maximum Applied Water Allowance (MAWA) and Estimated Total Water Use (ETWU) shall be provided as part of the landscaping and irrigation plan.

17. The applicant shall work with the Development Services Department to provide utility stub outs to enable the development of community garden plots for the park, at the direction and feasibility as determined by the Community Development Director. The implementation of the community garden is at the discretion of the Community Development Director.

18. The internal open space landscape plan for the park shall be revised to incorporate native landscaping for both groundcover, shrubs, and trees, at the direction and feasibility as determined by the Community Development Director. The implementation of the community garden is at the discretion of the Community Development Director.

19. Soil sampling results for agricultural chemicals shall be provided with the submittal of grading permits.

20. The landscape improvements on the northern portion of Avenue 49 shall match the landscaping on the northern portion of Avenue 49 between Jackson Street and the proposed project, to the satisfaction of the Community Development Director. This may include a requirement to provide metal edging to match the northern portion of Avenue 49.

21. Shade tree plantings shall be installed to provide shade of thirty (30) percent of landscape area within ten (10) years. California native species shall be incorporated in at least forty (40) percent of required landscape areas. Compliance with these requirements shall be identified on project landscape plans to the satisfaction of the Community Development Director.

22. The Community Development Director may request landscape plans to be revised to incorporate street trees within the landscape parkway separating the sidewalk from the street curb line, unless determined unfeasible due to utility easements. The applicant may relocate existing proposed shade trees to accomplish this condition. This condition shall be met to the satisfaction and discretion of the Community Development Director.

23. All street and internal street facing fence and walls shall be block wall per the attached development plan set. Vinyl fencing is only allowed for internal property lines not visible from the street.

Building

24. Recommend providing a shade structure over the playground.

25. Proposed bench shall be equipped with an area for a wheelchair user.

26. All features all be in an accessible path of travel.

27. Trail must be accessible propose a walkable surface. The proposed ¼" gravel does not meet the requirement. CBC11B-302

28. Passing space shall be provided on the proposed trail. CBC11B-403.5.3

29. Provide verification that shade trees are proposed in compliance with California Green Building Standards Code section 5.106.12 Shade Trees.

Utilities

30. The project is located within the service area of the City's Coachella Water Authority and Coachella Sanitary District.

31. The applicant shall submit water and sewer plans for approval.

32. The first submittal shall not be accepted without the completion of the hydraulic model.

33. A $5,000 deposit is required to initiate hydraulic modeling.

34. The City of Coachella may need additional facilities to provide for the orderly expansion of its domestic water and sanitation systems. These facilities may include pipelines, wells, reservoirs, booster pumping stations, lift stations and other facilities. The developer may be required to install these facilities and provide land and/or easements on which some of these facilities will be located.

35. New water and sewer connections are subject to the collection of impact fees.

36. All fire lines require the installation of Double Check Detector Assemblies.

37. Backflow devices are required on all non-residential connections installed within 12" of the meter box.

38. All buildings may require individual meters.

39. Irrigation may require its own meter.

40. All water connections shall install 4G AMI master meters.

41. All service lines shall be copper tubing per the approved list of materials.

42. All materials shall be per the approved list of materials provided by the Engineering Department or the Utilities Department.

43. No new water connections shall be shown on landscaping plans, all connections shall be in the water improvement plans.

44. Trees/shrubs must have a minimum of 15’ separation distance from the Utilities water/sewer laterals. Or minimum 10’ separation distance from water/sewer laterals with root barrier.

45. Provide plumbing blueprints depicting sanitary, industrial, and/or grease waste line. (all lines that are applicable)

46. Illustrate domestic water and sewer point of connection to the City’s utilities.

47. Provide plumbing code fixture schedule with total DFU’s listed.

48. Business establishments must complete Utilities Department’s wastewater discharge survey and submit to Development Services.

    a. For tenant improvements, current and proposed plumbing code fixture schedule must be provided

49. Pretreatment equipment/Sample box: (if applicable) Provide manufacture specifications and sizing chart.
    a. Pretreatment Equipment Minimum Requirements:
        i. 750 gal minimum

        ii. Clean outs and vents before and after pretreatment equipment

        iii. Sample box immediately downstream of the pretreatment equipment

        iv. Multi suite buildings requesting pretreatment installation require separate sewer lateral connection per pretreatment device

        v. Made from precast concrete form

50. Outside drains connected to the sanitary sewer are prohibited unless drains are protected from rain water by having a permanent berm within a shade structure. Storm water is prohibited from entering the sanitary sewer.

Engineering

PRIOR TO APPROVAL OF ENGINEERING PLANS or ISSUANCE OF ENGINEERING PERMITS:

Tentative Map

51. A focused Traffic Impact Analysis (TIA) shall be prepared for the project by an appropriately licensed professional engineer. Prior to the preparation of the TIA, the engineer shall submit a scoping letter for the TIA for the City Engineer’s approval. The TA shall include but not limited to identification of trip generation, traffic distribution and impact on existing transportation facilities and at time of General Plan build-out, all relevant, ingress and egress movements, lines of sight, queuing analysis, and alignment studies (preliminary signing and striping plan). Applicant shall obtain approval of site access and circulation from the Fire Marshall.

52. A preliminary soils report shall be prepared for the project by an appropriately licensed professional engineer. At a minimum, the soils report shall provide specific analyses and recommendations for grading, pavement structural sections, and infiltration.

53. A comprehensive drainage report, prepared by California Registered Civil Engineer, shall be submitted for review and approval by the City Engineer prior to issuance of any permits. The report shall contain pre- and post-development hydrology maps showing on-site and off-site tributary drainage areas and shall be prepared in accordance with the requirements of the Riverside County Flood Control District. Adequate provisions shall be made to accept and conduct the existing tributary drainage flows around or through the site in a manner which will not adversely affect adjacent or downstream properties. If the design of the project includes a retention basin, it shall be sized to contain the runoff resulting from a 10-year storm event and the runoff from a 100-year storm event shall be contained within basin with shallow ponding (3.5' max.). The basin shall be designed to evacuate a 10-year storm event within 72 hours. The size of the retention basin(s) shall be determined by the hydrology report and be approved by the City Engineer. Retention basin shall be provided with a minimum of 2.00 feet sandy soil if determined to contain silt or clay materials. Maximum allowable percolation rate for design shall be 10 gal./s.f./day unless otherwise approved by the City Engineer. A percolation test for this site is required to be submitted. A combination drywell vertical drain field shall be constructed at all points where runoff enters the retention basin. Drywell & vertical drain field design shall be based on soils borings made at the proposed drywell locations after the retention basins have been rough graded. Minimum depth shall be 45-feet. A log that includes sieve analysis for each strata of the borings shall be submitted to the City Engineer for confirmation of depth of the vertical drain fields. Underground retention under the proposed parking area will be considered as an alternative to surface retention subject to the approval of the City Engineer.

54. Identify and clearly show all necessary drainage easements to implement the project in accordance with drainage law.

55. Applicant shall submit for review and approval by the City Engineer all documents related to any existing and proposed on-site and off-site easements that may affect the development of the site. All easements shall be identified on the engineering plans.

56. Applicant shall obtain approval of site access and circulation from Fire Marshall.

Final Map

57. The Final Map shall comply with the Subdivision Map Act and City of Coachella Subdivision Ordinance.

58. All public streets shall be dedicated to City of Coachella.

59. Prior to submittal of the final map to the City Council for approval, the applicant shall post securities (Bonds) to guarantee the installation of required improvements and a Subdivision Improvement Agreement shall be submitted to Engineering Division for City Engineer and City Attorney approval.

60. Prior to approval of the Final Map, the applicant shall resolve potential CVWD issues related to existing tile drains or irrigation mains located within the tract boundary or along the streets adjacent to the tract. If necessary, tile drains and irrigation lines shall be relocated and easement documents prepared for the new location of any such lines. The easement shall be shown on the final map. Plans for the tile drain or irrigation relocation shall be submitted to CVWD for approval and a copy of the plans shall be submitted to the City for evaluation regarding possible conflict with City facilities. The applicant shall submit to the City approved copies of any such relocation plans.

61. All Primary streets, including 49nd Avenue, Calhoun Street and Residential street shall be completed prior to final occupancy for the first structure at the Tract.

62. Prepare and record necessary drainage easements, access easements and utility easements to implement the project in accordance with drainage law and site conditions to the satisfaction of the City Engineer prior to approval of the Final Maps.

63. Full Street Improvements plans, Street Improvements Bonds and Monument Bonds shall be approved prior to Approval of the Final Maps. Street improvement plans shall be in conformance with recommendations outlined in an approved Traffic Impact Analysis and may include off site intersection improvements, engineering analysis of fair share off site improvements and fully executed agreements for phasing of fair share payments if needed per the Traffic Impact analysis.

64. Internal roads shall be complete prior to final occupancy of any adjacent house.

General:

65. All proposed development shall conform to the approved engineering studies and environmental migration measures as identified in the approved traffic, drainage, soils, hydrology, etc. studies developed under the tentative and final map process.

66. A storm water quality management plan shall be prepared for the project by California Registered Civil Engineer in compliance with NPDES and State Water Quality Control Board regulations. The project shall be designed to specify preferential use of Low Impact Development Best Management Practices that reduce pollutants and runoff volume.

67. Applicant shall comply with the valley wide NPDES permit requirements including but not limited to submittal of a WQMP for plan review accompanied by a $3,000 plan check deposit for approval including executed maintenance agreement. All unused plan check fees will be refunded to the applicant upon approval of the Final WQMP.

68. The developer shall submit a Fugitive Dust Control and Erosion Control plan in accordance with Guidelines set forth by CMC and SCAQMD to maintain wind and drainage erosion and dust control for all areas disturbed by grading. Exact method(s) of such control shall be subject to review and approval by the City Engineer. No sediment is to leave the site. Additional securities, in bond form, in amount of $2,000.00 per acre of gross area, and a one-time cash deposit of $2,000.00 are required to insure compliance with this requirement. No work may be started on or off site unless the PM-10 plan has been approved, the original plans, and executed dust control agreement, are filed in the engineering department at the City of Coachella.

69. Site access improvements shall be in conformance with the requirements of Title 24 of the California Administrative Code. This shall include access ramps for off-site and on-site streets as required.

70. The applicant shall provide necessary utility easements for IID and underground overhead distribution lines within the project boundaries. Applicant shall submit to the City a letter from IID that satisfies this requirement.

71. The applicant shall pay all necessary plan check, permit and inspection fees. Fees will be determined when plans are submitted to the City Engineering Department for plan check.

ROUGH GRADING:

72. Prepare and submit rough grading and erosion control plans for the project.

73. The project's soils engineer shall certify to the adequacy of the grading plan.

74. All projects developing one (1) acre or more of total land area, or which are part of a larger phased development that will disturb one acre of land, are required to obtain coverage under the State Water Resources Control Board's (SWRCB) General Permit for storm water discharges associated with construction activity. Proof of filing a Notice of Intent (NOI) with the SWRCB for coverage under this permit is required. The Waste Discharger's Identification Number (WDID), issued by the SWRCB, must be shown on the grading plans. The project's Storm Water Pollution Prevention Plan shall be submitted for the City's review and approval.

PRECISE GRADING:

75. A precise grading/improvement plan, prepared by a California Registered Civil Engineer, showing building footprints, pad elevations, finished grades, drainage routes, retaining walls, erosion control, slope easements, and all other pertinent information shall be submitted for review and approval by the City Engineer.

76. Rough grading shall be certified by the project soils engineer prior to issuance of a permit for precise grading or building construction.

77. Provide and record a reciprocal use and maintenance agreement to assure common ingress and egress and joint maintenance of all common access, parking areas and drives.

78. If applicant is planning to build a wall, separate permits shall be required for wall construction. The maximum height of any wall shall be limited to six (6) feet as measured from an average of the ground elevations on either side.

STREET IMPROVEMENTS:

79. Street improvement plans prepared by a California Registered Civil Engineer shall be submitted for review and approval by the City Engineer. All street improvements including street lights shall be designed and constructed in conformance with City Municipal Code, General Plan, and Standards and Specifications. Street flow line grade shall have a minimum slope of 0.35 %.

80. Applicant shall construct all off-site and on-site improvements including street pavement, curb, gutter, sidewalk, street trees, perimeter walls, perimeter landscaping and irrigation, storm drain, street lights, and any other incidental works necessary to complete the improvements. Driveways

shall conform to City of Coachella standards for commercial driveways with a minimum width of 24.00 feet and curbed radius entrances.

81. Applicant shall construct and dedicate the following streets and street improvements to conform to the General Plan and/or requirements of Traffic Study.

1. 49th Avenue- Public Roadway as shown on the RAC and per these comments shall include the following:

a. Dedication of land within project limits is required. This street will be required to be dedicated to the ultimate General Plan width as a Primary Arterial with Bicycle Lanes with 94 feet of right-of-way as per City of Coachella General Plan.
b. Ultimate right-of-way improvements shall not be required at this time. Street improvements along the westerly portion of the project shall include full street pavement of both east and west bound lanes and a painted median with a measured street width of 46-foot from curb to curb. Curb, gutter, sidewalk and landscape parkway improvements shall be required on both the north and south side of Ave 49 including all necessary relocations and appurtenances as needed to complete the work. Improvements shall match existing modified Ave 49 cross section improvements that exist between the proposed project and Jackson Street on the east of the proposed development.

c. The eastern portion of Ave 49 shall include intersection improvements, turn lanes and fair share contributions towards future signalized intersections as determined by an approved Traffic Impact Analysis.

d. Applicant shall construct all appurtenant roadway components within project limits such as, but not limited to: sidewalk, ADA ramps, Traffic control striping, legends, Traffic control signs, turn left or right pocket, Street Lights, street name signs, full improvements for street median and Traffic Signal Light to the satisfaction of the City Engineer.

e. Applicant shall install curb and gutter transitions to uniformly connect to existing adjacent improvements and coordinate installation and/or relocation of fire hydrants, water meters, storm drains, wells, street lights, any kind of tree and all other appurtenances as required to the satisfaction of the City Engineer.

f. Applicant shall underground all existing dry utilities if existing within project limits such as, but not limited to: power poles, telecommunication poles and all other existing dry utilities.

g. Additional offsite improvements, such as intersection improvements, installation of turning lanes, lane widening, etc. shall be installed to the Satisfaction of the City Engineer and per the requirements of an approved Traffic Impact Analysis.

2. Calhoun Street- Public Roadway as shown on the RAC and per these comments shall include the following:

   a. Dedication of land along southbound lane within the entire project limits is required. This street is classified as Collector with Bicycle Lanes with 90 feet of right-of-way as per City of Coachella General Plan.

   b. Street measured at Center line to Westerly curb shall have a width of 35-foot.

   c. Applicant shall construct all appurtenant roadway components within project limits such as, but not limited to: sidewalk, ADA ramps, Traffic control striping, legends, Traffic control signs, Street Lights, street name signs, full improvements for Street median and Traffic signal light to the satisfaction of the City Engineer.

   d. Applicant shall construct transition street lanes south of the property limits as required to the satisfaction of the City Engineer and per the requirements of an approved Traffic Impact Analysis.

   e. Applicant shall install curb and gutter transitions to uniformly connect to existing adjacent improvements and coordinate installation and/or relocation of fire hydrants, water meters, storm drains, wells, street lights, any kind of tree and all other appurtenances as required to the satisfaction of the City Engineer.

   f. Applicant shall underground all existing dry utilities if existing at southbound lane within project limits such as, but not limited to: power poles, telecommunication poles and all other existing dry utilities.

   g. Additional offsite improvements, such as intersection improvements, installation of turning lanes, lane widening, etc. shall be installed to the Satisfaction of the City Engineer and per the requirements of an approved Traffic Impact Analysis.

3. Interior Street - Private Roadway as shown on the RAC and per these comments shall include the following:

a. Interior streets within project limits shall be maintained by Homeowners association and classified as Private Streets. These streets are classified as Suburban Residential with Parking with 56 feet of right-of-way as per City of Coachella General Plan.

b. Applicant shall construct all appurtenant roadway components within project limits such as, but not limited to: sidewalk, ADA ramps, Traffic control striping, legends, Traffic control signs, Street Lights and street name signs to the satisfaction of the City Engineer.

c. Applicant shall install curb and gutter transitions to uniformly connect to existing adjacent improvements and coordinate installation and/or relocation of fire hydrants, water meters, storm drains, wells, street lights Traffic signal, and all other appurtenances as required to the satisfaction of the City Engineer.

d. Applicant shall underground all existing dry utilities within project limits such as, but not limited to: power poles, telecommunication poles and all other existing dry utilities.

SEWER and WATER IMPROVEMENTS:

82. Sewer & Water Improvement Plans prepared by a California Registered Civil Engineer shall be submitted for engineering plan check and City Engineer approval.

83. Applicant shall construct all off-site and on-site water improvements and any other incidental works necessary to complete the improvements. Size and location of sewer and water improvements shall be approved by the City Engineer.

PRIOR TO ISSUANCE OF BUILDING PERMITS:

84. A final soils report, compaction report and rough grading certificate shall be submitted and approved prior to issuance of any building permits.

85. Provide a set of proposed Covenants, Conditions and Restrictions (CC&R) for review and approval. The proposed CC&Rs shall contain the Association's/Owner's maintenance obligations with respect to various facilities including, but not limited to, right-of-way and private landscaping, private streets, sidewalks, utilities, street lights, and Water Quality Management Plan (WQMP) features. This document must be submitted to and approved by the City before it is submitted to any other governmental entity.

86. Prior to issuance of building permits, all required public improvements, including landscaping and lighting of the retention basins, and landscaped areas along the exterior streets, shall be completed or secured with appropriate sureties to the satisfaction of the City Engineer. An engineering final

inspection is required. "As-built" plans shall be submitted to and approved by the City Engineer. Prior to acceptance of the improvements by the City, such plans, once approved, shall be given to the city on compact disk in AutoCad format. All off-site and on-site improvements shall be completed to the satisfaction of the City Engineer prior to acceptance of improvements for maintenance by the City.

87. The applicant's Civil Engineer shall field verify and certify that all BMPs are designed, constructed, and functional in accordance with the approved WQMP.

PRIOR TO RELEASE OF OCCUPANCY PERMITS/ACCEPTANCE OF PUBLIC IMPROVEMENTS:

88. Prior to issuance of certificate of occupancy, all public improvements, including landscaping and lighting of the retention basins, and landscaped areas along the exterior streets, shall be completed to the satisfaction of the City Engineer. An engineering final inspection is required. "As-built" plans shall be submitted to and approved by the City Engineer. Prior to acceptance of the improvements by the City, such plans, once approved, shall be given to the city on compact disk in AutoCad format. All off-site and on-site improvements shall be completed to the satisfaction of the City Engineer prior to acceptance of improvements for maintenance by the City.

Fire

89. Fire Protection Water Supplies/Fire Flow - Minimum fire flow for the construction of all buildings is required per CFC Appendix B. Prior to building permit issuance for new construction, the applicant shall provide documentation to show a (existing/proposed) water system capable of delivering the required fire flow. Specific design features may increase or decrease the required fire flow.

90. Fire Protection Water Supplies/Hydrants - The minimum number of fire hydrants required, as well as the location and spacing of fire hydrants, shall comply with CFC Appendix C and NFPA 24. Fire hydrants shall be located no more than 400 feet from all portions of the exterior of the building along an approved route on a fire apparatus access road, unless otherwise approved by the Fire Department. Where new water mains are extended along streets where hydrants are not needed for protection of structures, standard fire hydrants shall be provided at spacing not to exceed 1000 feet along streets for transportation hazards. Fire hydrants shall be at least 40 feet from the building it is serving. A fire hydrant shall be located within 20 to 100 feet of the fire department connection for buildings protected with a fire sprinkler system. The size and number of outlets required for the approved fire hydrants are 4" x 2 ½" x 2 ½" (super hydrant). Reference CFC as amended and NFPA 24.

91. Fire Department Access - Fire apparatus access roads shall be provided to within 150 feet of all exterior portions of buildings, unless otherwise approved by the Fire Department. Fire apparatus access roads shall have an unobstructed width of not less than 24 feet. Dead-end fire apparatus access roads in excess of 150 feet shall be provided with an approved turn around. The minimum required turning radius of a fire apparatus access road is 45 feet outside radius and 24 feet inside radius.

92. Fire Department Building Construction Plan Review - Submittal of construction plans to the Fire Department will be required. Final fire and life safety conditions will be addressed when the Fire Department reviews the plans. These conditions will be based on California Fire Code, California Building Code (CBC), and related codes/standards adopted at the time of construction plan submittal. Reference CFC as amended.

93. Fire Department Fire Protection Water Supply and Access Review – The Fire Department will require a submittal of a site plan, building information and other supporting documentation for the review of required fire protection water supply and access. Reference CFC as amended.

94. Fire Protection Water Supplies/Fire Flow - Minimum fire flow for the construction of all buildings is required per CFC Appendix B or other approved method. Prior to building permit issuance for new construction, the applicant shall provide documentation to show there exists a water system capable of delivering the required fire flow. Specific design features may increase or decrease the required fire flow. Reference CFC as amended.

95. Fire Protection Water Supplies/Hydrants - Fire hydrants shall be located no more than 400 feet from all portions of the exterior of all buildings, or 600 feet from all portions of the exterior of the building equipped with an approved fire sprinkler system, along an approved route on a fire apparatus access road/driveway, unless otherwise approved by the Fire Department. The maximum distance to a fire hydrant can be increased utilizing direction from the Riverside County Office of the Fire Marshal Policies and Standards. Reference CFC as amended.

96. Fire Department Access - Fire apparatus access roads/driveways shall be provided within 150 feet of all exterior portions of buildings, unless otherwise approved by the Fire Department. When the building is equipped throughout with an approved automatic fire sprinkler system, this distance is permitted to be extended from 150 feet to 300 feet. Access shall comply with requirements from the Riverside County Fire Department Policies and Standards. Reference CFC as amended.

97. Fire Department Access Turn Around – On-parcel dead-end fire apparatus access roads exceeding 150 feet in length shall provide a bulb turnaround at the terminus measuring a minimum of 38 feet outside radius and 14 feet inside radius. Parallel parking around the perimeter of the bulb is acceptable provided the bulb outside turning radius is increased by 8 feet. In-lieu of a bulb, a hammer-head type turnaround is acceptable where the top of the "T" dimension is 120 feet with the stem in the center. Additional turnaround designs may be acceptable as approved by the Fire Department. Reference CFC as amended and Riverside County Fire Department Policies and Standards.

98. Residential Fire Sprinklers: Residential fire sprinklers are required in all one and two-family dwellings per the California Residential Code (CRC). Plans must be submitted to the Office of the Fire Marshal for review and be approved prior to installation. Ref. CRC.

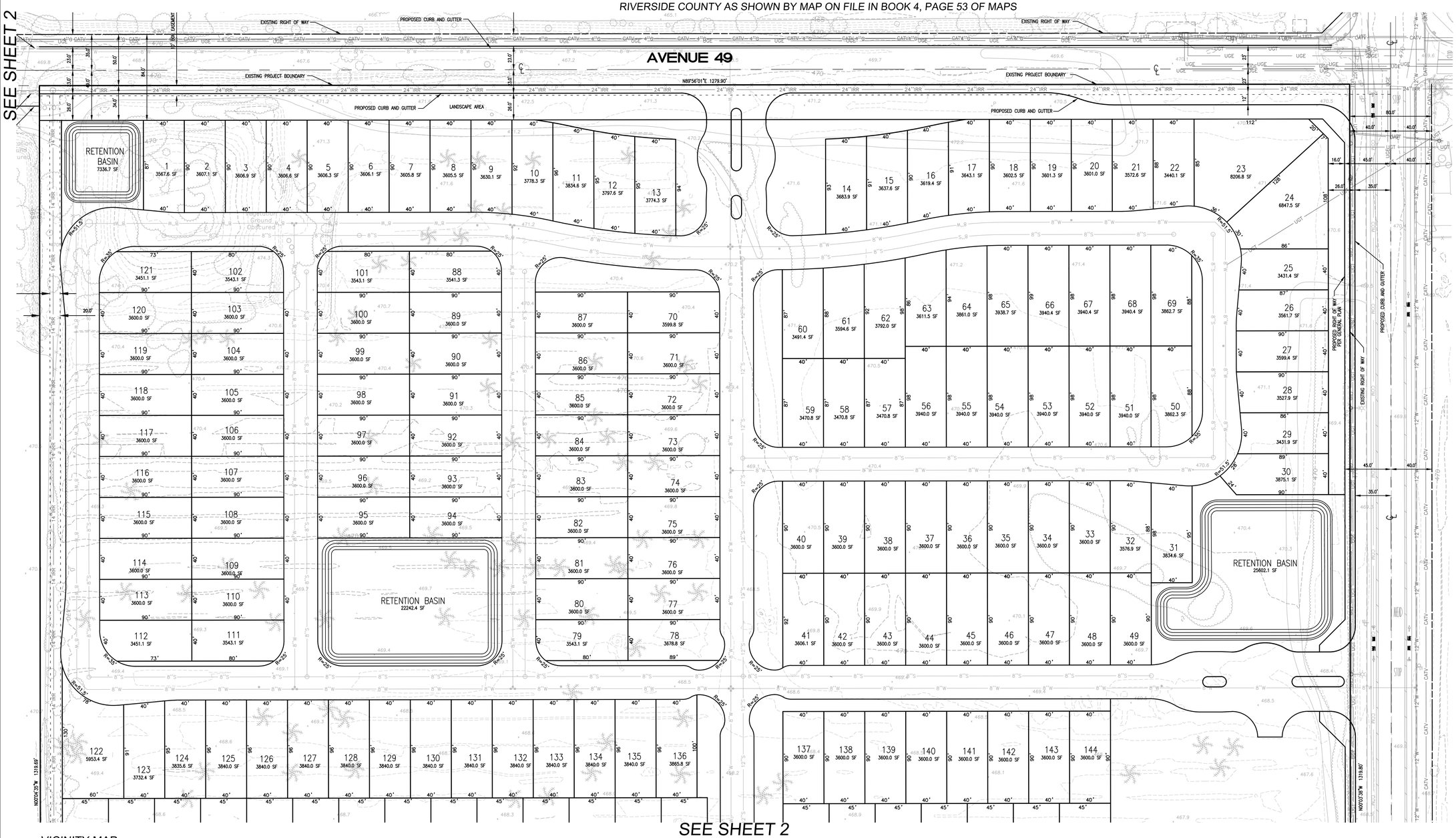
CEQA

99. The applicant shall comply with all mitigation measures and the mitigation monitoring reporting program of the project Initial Study Mitigated Negative Declaration as adopted and attached to the Resolution approval for EA No. 25-02.

IN THE CITY OF COACHELLA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

TENTATIVE TRACT MAP NO. 39051

LOT 11 OF THE SUBDIVISION OF SECTION 36, TOWNSHIP 5 SOUTH, RANGE 7 EAST, IN THE RIVERSIDE COUNTY AS SHOWN BY MAP ON FILE IN BOOK 4, PAGE 53 OF MAPS

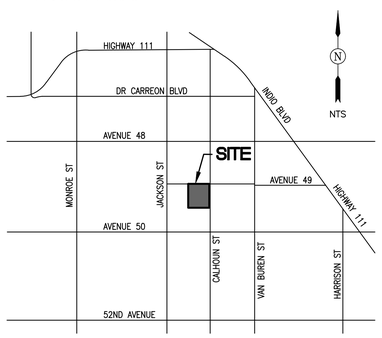


LEGEND

- EASEMENT
- RIGHT OF WAY LINES
- STREET CENTERLINE
- W — EXISTING WATER LINE
- S — EXISTING SEWER LINE
- UG CATV — EXISTING CABLE TV LINE
- 5"TD — EXISTING DRAIN TILE
- W — PROPOSED WATER LINE
- S — PROPOSED SEWER LINE
- P.C. CONCRETE PAVEMENT

GRAPHIC SCALE
SCALE 1"=40'
0 20 40 80 120 160

VICINITY MAP



EASEMENT NOTES

1. THE EFFECT OF AN EASEMENT 30 FEET ON EACH SIDE OF SECTION LINES IN FAVOR OF THE PUBLIC FOR PUBLIC HIGHWAYS, AS EVIDENCED BY PETITION DATED JANUARY 9, 1901 AND RECORDED APRIL 17, 1959 AS INSTRUMENT NO. 1959-32692 OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.
2. RIGHTS OF WAY AND RESERVATIONS, AFFECTING LOT 7, HEREIN DESCRIBED, REFERRED TO IN DEEDS FROM THE COACHELLA VALLEY COUNTY WATER DISTRICT TO THE DISTRICT BOND COMPANY, DATED SEPTEMBER 27, 1940 AND RECORDED OCTOBER 30, 1941 IN BOOK 518, PAGE 586 OFFICIAL RECORDS. (NOT PLOTTABLE)
3. AN EASEMENT FOR FOR WATER LINES AND MAINTENANCE OF SAID WATER LINES PURPOSES IN FAVOR OF DAVID H. MITCHELL AND CONSTANCE ANN COWAN, TRUSTEES OF THE DONALD H. AND CATHERINE H. MITCHELL FAMILY TRUST DATED JUNE 6, 1979 RECORDED SEPTEMBER 04, 1998, AS INSTRUMENT NO. 1998-377990 OFFICIAL RECORDS.
4. PROPOSED LANDSCAPE EASEMENT

GENERAL NOTES

1. *TOTAL AREA – 38.72 AC± ACRES, GROSS.*
2. *EXISTING SITE – VACANT.*
3. *SEWAGE DISPOSAL AND WATER SUPPLY TO BE PROVIDED BY CITY OF COACHELLA.*
4. *FEMA FLOOD ZONE– FLOOD ZONE X: AREA OF MINIMAL FLOOD HAZARD PER FIRM MAP NO. 06065C2254H EFFECTIVE DATE MARCH 6, 2018.*
5. *TENTATIVE TRACT MAP NO. 39051 CONTAINS 255 RESIDENTIAL LOTS.*

SERVICES

SEWER AND WATER:	
CITY OF COACHELLA	PHONE: (760) 398-3502
GAS:	
THE GAS COMPANY	PHONE: (909) 335-7706
ELECTRIC:	
IMPERIAL IRRIGATION DISTRICT	PHONE: (760) 335-3640
TELEPHONE:	
FRONTIER COMMUNICATIONS	PHONE: (760) 778-3620
CABLE TV:	
SPECTRUM	PHONE: (760) 340-2225
USA:	
UNDERGROUND SERVICE ALERT	PHONE: (800) 422-4133
SCHOOL:	
COACHELLA VALLEY UNIFIED SCHOOL DISTRICT	PHONE: (760) 399-5137

OWNER/DEVELOPER

ROD VANDENBURG, MANAGING PARTNER
PACIFIC MODERN BUILDERS, LLC
43584 VIA MAGELLAN DRIVE
PALM DESERT, CA 92211
ROD4REAL@AOL.COM
TEL: (760) 799-8227

ENGINEER/SURVEYOR

TUNG HSIEH, PE, PLS
THE ALTUM GROUP
44600 VILLAGE COURT, SUITE 100
PALM DESERT, CA 92260
TEL: (760) 346-4750

APN

612-260-010

ZONING

EXISTING: GENERAL NEIGHBOUR (G-N)
PROPOSED: PUD, PLANNED UNIT DEVELOPMENT

GENERAL PLAN

EXISTING: LOW DENSITY RESIDENTIAL (R-L)
PROPOSED: LOW DENSITY RESIDENTIAL (R-L)

LAND USE

EXISTING: VACANT
PROPOSED: SINGLE FAMILY DWELLING

LEGAL DESCRIPTION

LOT 11 OF COACHELLA LAND AND WATER COMPANY'S SUBDIVISION OF SECTION 36, TOWNSHIP 5 SOUTH, RANGE 7 EAST, SBM, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN BY MAP ON FILE IN BOOK 4 PAGE 53 OF MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

EXCEPTING THAT PORTION WITHIN THE PUBLIC HIGHWAY ALONG THE EAST SIDE OF SAID LOT 11.

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS THE CALIFORNIA STATE PLANE COORDINATE SYSTEM CCS83, ZONE 6, BASED LOCALLY ON CONTROL STATION "P600" AND "DHLG" NAD 83(NSRS 2011) EPOCH 2010.00 AS PER NGS DATE SHEET.
BEING N 36°49'01" W

BENCH MARK

CITY OF INDIO BM 127
RIVERSIDE COUNTY BRASS DISC ON A CONCRETE POST NEAR THE INTERSECTION OF AVE. 48 & VAN BUREN ST.

ELEVATION= 464.82' NGVD 29 + 500'
THE ELEVATION LISTED ABOVE IS ACTUAL ELEVATION PLUS 500'

AERIAL TOPOGRAPHY

AEROTECH MAPPING, INC.
200 SPECTRUM CENTER DRIVE, SUITE 300
IRVINE CA 92618 (619) 606-5020 INFO@ATMLV.COM
AERIAL PHOTOGRAPHY DATED: 10-27-2021

PREPARED BY:
• Engineering • Planning
• Survey • Environmental
The Altum Group
44-600 Village Court, Suite 100, Palm Desert, CA 92260
t. 760.346.4750 TheAltumGroup.com f. 760.340.0089

SHEET NO. 1 OF 2

Dec 05, 2025 – TENTATIVE TRACT MAP NO. 39051 SUBMITTAL

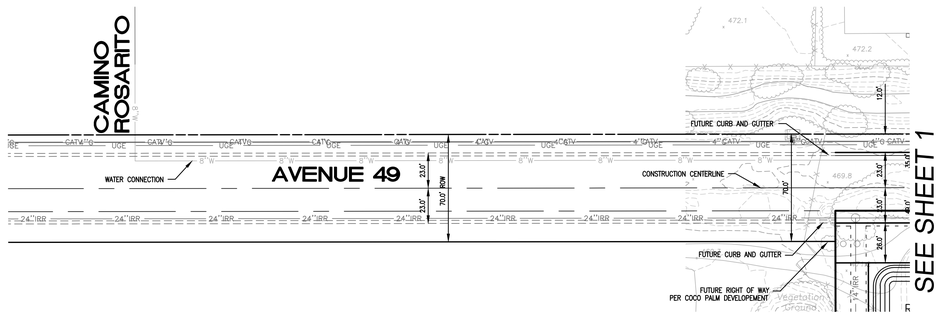
IN THE CITY OF COACHELLA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

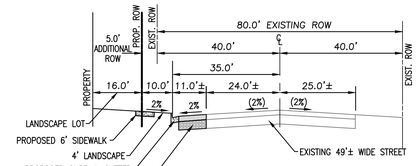
TENTATIVE TRACT MAP NO. 39051

LOT 11 OF THE SUBDIVISION OF SECTION 36, TOWNSHIP 5 SOUTH, RANGE 7 EAST, IN THE RIVERSIDE COUNTY AS SHOWN BY MAP ON FILE IN BOOK 4, PAGE 53 OF MAPS

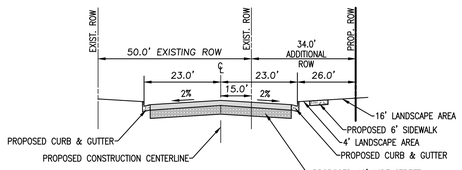
SEE SHEET 1



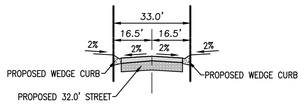




CALHOUN STREET
NTS



AVENUE 49
NTS



PRIVATE ON-SITE STREETS
(ONE SIDED STREET PARKING ONLY)
NTS

LEGEND

- EASEMENT
- RIGHT OF WAY LINES
- STREET CENTERLINE
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING CABLE TV LINE
- EXISTING DRAIN TILE
- PROPOSED WATER LINE
- PROPOSED SEWER LINE
- P.C. CONCRETE PAVEMENT

N

GRAPHIC SCALE
SCALE 1"=40'
0 20 40 80 120 160

AERIAL TOPOGRAPHY

AEROTECH MAPPING, INC.
200 SPECTRUM CENTER DRIVE, SUITE 300
IRVINE CA 92618 (619) 606-5020 INFO@ATMLV.COM
AERIAL PHOTOGRAPHY DATED: 10-27-2021

PREPARED BY:
The Altum Group
• Engineering • Planning
• Survey • Environmental
44-600 Village Court, Suite 100, Palm Desert, CA 92260
t. 760.346.4750 TheAltumGroup.com f. 760.340.0089

SHEET NO. 2 OF 2

Dec 05, 2025 - TENTATIVE TRACT MAP NO. 39051 SUBMITTAL

CALHOUN STREET SUBDIVISION
CONCEPTUAL LANDSCAPE PLAN

IN THE CITY OF COACHELLA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

OWNER:
PACIFIC MODERN BUILDERS LLC
P.O. BOX 3075, RANCHO MIRAGE, CA 92270
760.799.8227
rod4real@AOL.com

APPLICANT:
RODNEY VANDENBURG, MANAGING MEMBER
PACIFIC MODERN BUILDERS
P.O. BOX 3075, RANCHO MIRAGE, CA 92270
760.799.8227
rod4real@AOL.com

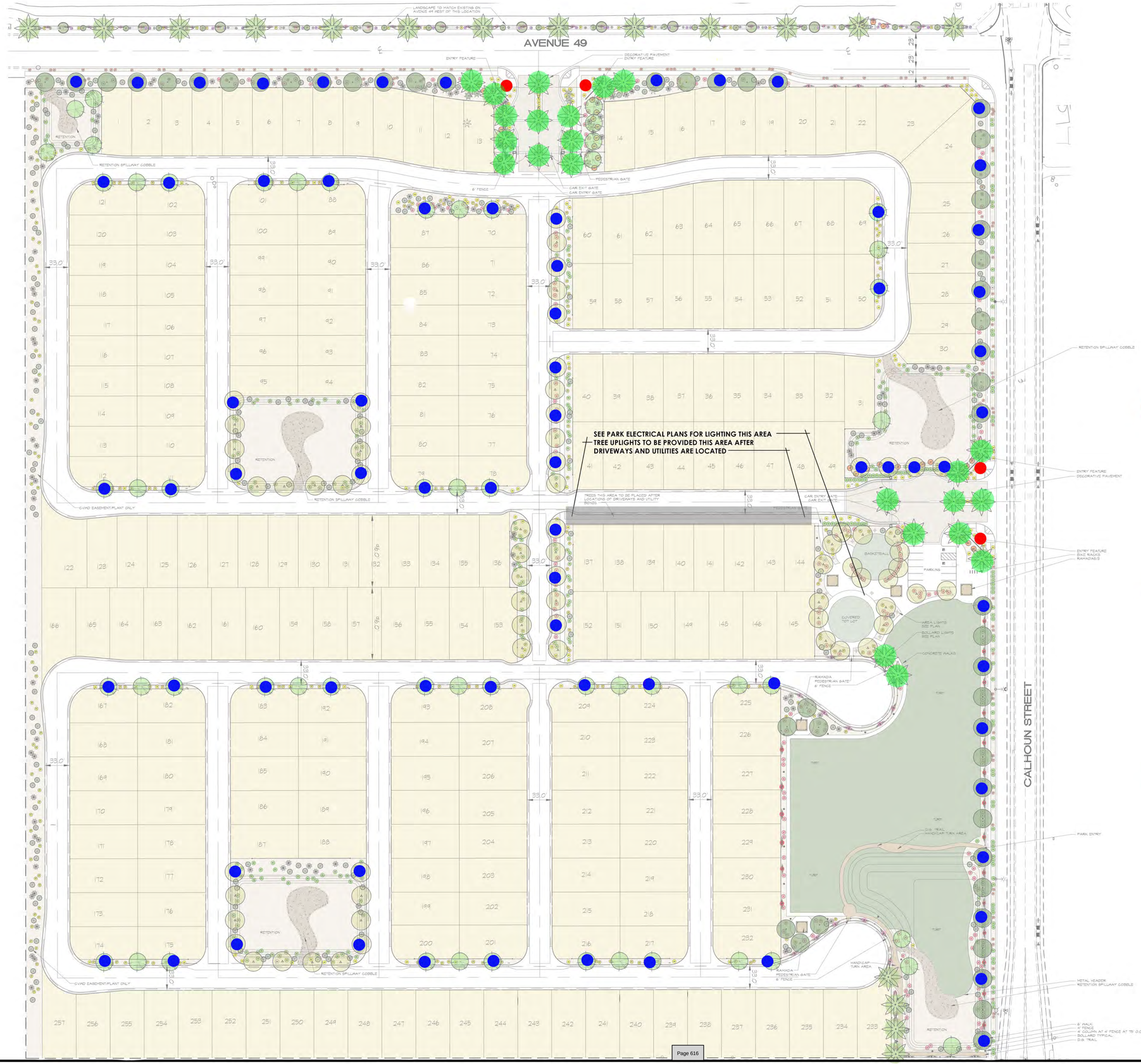
ENGINEER/PLANNER:
THE ALTUM GROUP
JAMES BAZUA PE
james.bazua@the altumgroup.com

MR. RICH MALACOFF
rich.malacoff@thealtumgroup.com

44-600 VILLAGE COURT, SUITE 100
PALM DESERT,CA 92260
T/760.346.4750
F/760.340/0089



VICINITY MAP/N.T.S.



ENTRY SIGN LIGHTING

VISTA MODEL **1045** | Specification Sheet
Commercial Series • Floodlight • LED

TYPE: MODEL:
PROJECT:

PRODUCT FEATURES

Wattage	14 – 26 W
Voltage	120 – 277 VAC
Lumens	1100 – 2400 Delivered Lumens
Distribution	17° (VNL), 18° (NEL), 30° (WF), 50° (WF)
CCT	2700K, 3000K, 3500K, 4000K, 5000K
CRI	80 CRI min.
Dimming	0-10V or Phase Cut (TRIAC/ELV-120VAC only) available
Driver	Multi-Volt 120-277VAC with tri-modal dimming capabilities
Dimensions	4½" DIA x 10⅛" D

IP66 BAA BABA



Click on image for alternate shields
(within Adobe Acrobat or Acrobat Reader)

TREE UPLIGHTING

VISTA MODEL **1185TG** | Specification Sheet
Commercial Series • In-Grade • LED

TYPE: MODEL:
PROJECT:

PRODUCT FEATURES

Wattage	15 – 26 W
Voltage	120 – 277 VAC
Lumens	917 – 1766 Delivered Lumens
Distribution	NEMA type (W x V): 2x2 (WN), 2x2 (NE), 3x3 (WF), 4x4 (WF), 5x5 (WW)
CCT	2700K, 3000K, 3500K, 4000K, 5000K
CRI	80 CRI min.
Dimming	0-10V or Phase Cut (TRIAC/ELV-120VAC only) available
Driver	Multi-Volt 120-277VAC with tri-modal dimming capabilities
Dimensions	8 ⅞" DIA x 8" D

IP66 BAA BABA



PALM LIGHTING RINGS





NORTH
60'

12.1.2025

RUSSELL MACDONALD RLA
PALM SPRINGS, CALIFORNIA
760.898.3969
RUSSR@MACDONALDLA.COM

4/5
LANDSCAPE LIGHTING PLAN

CALHOUN STREET SUBDIVISION
CONCEPTUAL LANDSCAPE PLAN

IN THE CITY OF COACHELLA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

OWNER:
PACIFIC MODERN BUILDERS LLC
P.O. BOX 3075, RANCHO MIRAGE, CA 92270
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rod4real@AOL.com

APPLICANT:
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760.799.8227
rod4real@AOL.com

ENGINEER/PLANNER:
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JAMES BAZUA PE
james.bazua@the altumgroup.com

MR. RICH MALACOFF
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44-600 VILLAGE COURT, SUITE 100
PALM DESERT, CA 92260
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HALF COURT BASKETBALL



BASKETBALL HOOP
AMERICAN SUPERSPORTS
RUFFNECK MODEL
QTY 1



CLASSIC RECREATION SYSTEMS / TOT LOT SHADE





RAMADAS / CLASSIC RECREATION SYSTEMS /MESA MODEL / QTY 5



TOT LOT / WILLYGOAT / GRANITE MOUNTAIN PLAY SYSTEM
KEEGANS CASTLE / QTY 1



RAMADA PICNIC TABLES / GLOBAL INDUSTRIAL 6'
MODEL #WB694553GN / QTY 5



BARCO WHEELCHAIR ACCESSABLE PICNIC TABLE
07SA2614-GN /QTY 1



CONCRETE AREA AROUND TOT LOT AND RAMADAS
BROOM FINISH WITH ALTERNATING PANELS



BIKE RACKS / MONMADE / A2 TRANSITION BIKE RACK / QTY 4



VICINITY MAP/N.T.S.

PLANT LIST

SYM.	NAME	SIZE	WATER USAGE	QUANTITY
	Neltuma odorata Honey Mesquite	24" Box Low Branch	L .2	51
	Parkinsonia floridum Blue Palo Verde	24" Box Low Branch	L .2	70
	Chilopsis linearis Desert Willow	24" Box	L .2	55
	Phoenix dactylifera Date Palm	Site Salvage	M .5	27
	Larrea tridentata Creosote	5 gal.	L .2	209
CAP	Caesalpinia pulcherrima Red Bird of Paradise	5 gal.	M .5	38
EF	Encilia farinosa Chuparosa	5 gal.	L .2	220
JC	Justicia californica Chuparosa	5 gal.	L .2	211
SC	Simmondsia chinensis Jojoba	5 gal.	M .5	407
LM	Lantana x. 'New Gold' New Gold Lantana	1 gal.	M .5	226
	Fouquieria splendens Ocotillo	6-8 Canes	L .2	94
	Hesperaloe parviflora Red Yucca	5 gal.	L .2	136
	Agave americana Century Plant	15 gal.	L .2	19
	Calliandra haematocephala Pink Powder Puff	5 gal.	M .5	24
	Bougainvillea 'Barbara Karst' Barbara Karst Bougainvillea	5 gal.	M .5	21

NORTH 40°

12.1.2025

RUSSELL MACDONALD RLA
PALM SPRINGS, CALIFORNIA
760.898.3969
RUSS@MACDONALDLA.COM

CALHOUN STREET SUBDIVISION
CONCEPTUAL LANDSCAPE PLAN

IN THE CITY OF COACHELLA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

OWNER:
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ENGINEER/PLANNER:
THE ALTUM GROUP
JAMES BAZUA PE
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MR. RICH MALACOFF
rich.malacoff@thealtumgroup.com

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PALM DESERT,CA 92260
T/760.346.4750
F/760.340/0089



VICINITY MAP/N.T.S.

AVENUE 49 PLANT LIST ONLY

SYM.	NAME	SIZE	WATER USAGE	QUANTITY
	Acacia aneura Mulga	24" Box	L .2	12
	Phoenix dactylifera Date Palm	Site Salvage	M .5	13
	Agave americana Century Plant	15 gal.	L .2	9
GAP	Caesalpinia pulcherrima Red Bird of Paradise	5 gal.	M .5	3
	Dasylirion wheeleri Desert Spoon	5 gal.	L .2	27
CO	Cordia boissieri Texas Olive	5 gal.	L .2	18
EF	Encilia farinosa Chuparosa	5 gal.	L .2	24
LM	Lantana montevidensis Purple Trailing Lantana	1 gal.	M .5	58
LW	Lantana x. 'New Gold' New Gold Lantana	1 gal.	M .5	16
	Yucca rostrata Beaked Yucca	15 gal.	L .2	11
	Calliandra haeqvilatera Pink Powder Puff	5 gal.	M .5	39

NOTES:

THERE ARE NO ANNUALS IN THIS STREETSCAPE DESIGN.

ALL DECOMPOSED GRANITE TO BE 3/4" DECORATIVE GRAVEL 3" THICK TO MATCH EXISTING ON "TIERRA DEL SOL" AND APPLY EVENLY OVER WEED FABRIC.

RUBBLE ROCK TO BE 2"-4" TO MATCH EXISTING ON "TIERRA DEL SOL", APPLY OVER TAN WEED FABRIC.

BOULDERS/QUANTITY 57
SIZES VARY TO MATCH EXISTING ON "TIERRA DEL SOL"
BOULDERS ARE TO VARY IN SIZE FROM 2'X2'X2' TO 1'X2'X1' WITH 70% BEING THE LARGER.

PLANT LIST

SYM.	NAME	CALIFORNIA NATIVE	SIZE	WATER USAGE	QUANTITY
	Neltuma odorata Honey Mesquite	YES	24" Box Low Branch	L .2	51
	Parkinsonia floridum Blue Palo Verde	YES	24" Box Low Branch	L .2	70
	Chilopsis linearis Desert Willow	YES	24" Box	L .2	55
	Phoenix dactylifera Date Palm	NO	Site Salvage	M .5	27
LT	Larrea tridentata Creosote	YES	5 gal.	L .2	209
GAP	Caesalpinia pulcherrima Red Bird of Paradise	NO	5 gal.	M .5	38
EF	Encilia farinosa Brittlebush	YES	5 gal.	L .2	220
JC	Justicia californica Chuparosa	YES	5 gal.	L .2	211
SC	Simmondsia chinensis Jojoba	YES	5 gal.	M .5	407
LW	Lantana x. 'New Gold' New Gold Lantana	NO	1 gal.	M .5	226
	Fouquieria splendens Ocotillo	YES	6-8 Canes	L .2	94
HP	Hesperaloe parviflora Red Yucca	NO	5 gal.	L .2	136
AC	Agave americana Century Plant	NO	15 gal.	L .2	19
CH	Calliandra haematocephala Pink Powder Puff	NO	5 gal.	M .5	24
BBK	Bougainvillea 'Barbara Karst' Barbara Karst Bougainvillea	NO	5 gal.	M .5	21

CALIFORNIA NATIVE PLANT TOTALS:

TOTAL PLANTS FOR PROJECT EXCLUDING NORTH SIDE OF AVENUE 49:
1808

TOTAL NATIVE CALIFORNIA PLANTS:
1317

PERCENTAGE OF CALIFORNIA NATIVE PLANTS PROJECT-WIDE
72%

NOTES:
ALL PLANTS TO RECEIVE DRIP IRRIGATION.
IRRIGATION SHALL BE DESIGNED IN ACCORDANCE WITH CVWD REQUIREMENTS.
ALL RETENTION AREA WATER SPILLWAY GOBBLE TO BE 4"-8" "COPPER CANYON".
ALL PLANTING AREAS TO BE 3/4" GRAVEL COPPER CANYON.
1/4" DECOMPOSED GRANITE ON PARK TRAIL ONLY SEE PARK ENLARGEMENT PLAN.

NORTH

12.1.2025

RUSSELL MACDONALD RLA
PALM SPRINGS, CALIFORNIA
760.898.3969
RUSS@MACDONALDLA.COM

PLANTING

CALHOUN STREET SUBDIVISION
CONCEPTUAL LANDSCAPE PLAN

IN THE CITY OF COACHELLA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

OWNER:
PACIFIC MODERN BUILDERS LLC
P.O. BOX 3075, RANCHO MIRAGE, CA 92270
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rod4real@AOL.com

APPLICANT:
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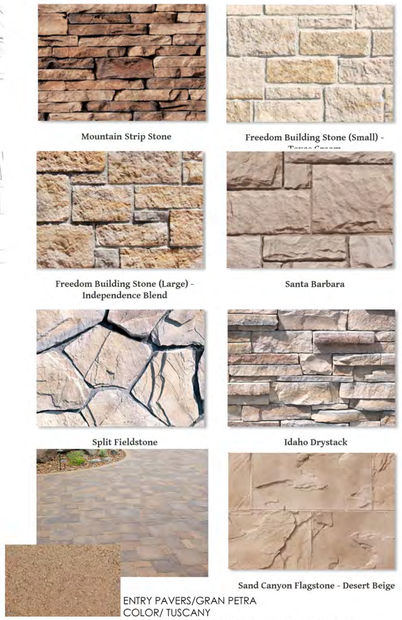
ENGINEER/PLANNER:
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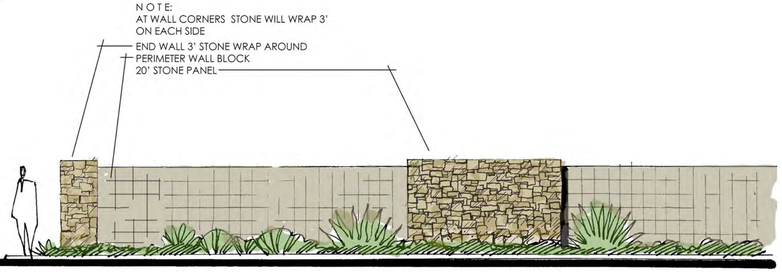


VICINITY MAP/N.T.S.



ENTRY PAVERS/GRAN PETRA
COLOR/ TUSCANY

STONE VENEER OPTIONS FOR PANELS AND COLUMNS



STONE PANELS AND END WALL DESIGN



6x8x16 Vertical Score

PERIMETER WALL BLOCK / SMOOTH FACE CENTER SCORE/COLOR TAN

6' AND 4' FENCE AT PARK CUL DE SAC AND RETENTION



VINYL FENCING TO BE AT PROPERTY LINES FROM FRONT SETBACK BLOCK WALL
VINYL FENCING TO BE AT REAR PROPERTY LINES FOR INTERNAL LOTS

SEE PLAN FOR FENCE HEIGHTS
FENCE TO HAVE ORNAMENTATION AS ABOVE
FENCE TO HAVE 4' OR 6' COLUMNS AT 75' ON CENTER
FENCE COLUMNS TO HAVE CULTURED STONE VENEER TO MATCH PERIMETER WALL

ENTRY FEATURE SIGNAGE
ENTRY FEATURES TO BE STUCCO PAINTED WITH CULTURED STONE BASE
LETTERING TO BE POP-OUT
SIGNAGE TO BE LIT BY LOW VOLTAGE LIGHTING

EXISTING WALL BY OTHERS

NORTH

12.1.2025

RUSSELL MACDONALD RLA
PALM SPRINGS, CALIFORNIA
760.898.3969
RUSS@RMACDONALDLA.COM

3/5

WALL PLAN

CALHOUN STREET SUBDIVISION
CONCEPTUAL LANDSCAPE PLAN

IN THE CITY OF COACHELLA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

OWNER:
PACIFIC MODERN BUILDERS LLC
P.O. BOX 3075, RANCHO MIRAGE, CA 92270
760.799.8227
rod4real@AOL.com

APPLICANT:
RODNEY VANDENBURG, MANAGING MEMBER
PACIFIC MODERN BUILDERS
P.O. BOX 3075, RANCHO MIRAGE, CA 92270
760.799.8227
rod4real@AOL.com

ENGINEER/PLANNER:
THE ALTUM GROUP
JAMES BAZUA PE
james.bazua@the altumgroup.com

MR. RICH MALACOFF
rich.malacoff@thealtumgroup.com

44-600 VILLAGE COURT, SUITE 100
PALM DESERT,CA 92260
T/760.346.4750
F/760.340/0089


HONEY MESQUITE


BLUE PALO VERDE


DESERT WILLOW


DATE PALM


SW BOULDER / 'COPPER CANYON / 3/4" OVERALL
4"-8" RETENTION DRAINAGE


SW BOULDER / 'CALIFORNIA GOLD' FINES
PARK TRAIL COMPACTED


CREOSOTE


RED BIRD OF PARADISE


BRITTLEBUSH


CHUPAROSA


JOJOBA


YELLOW LANTANA


OCOTILLO

RED YUCCA





VICINITY MAP/N.T.S.

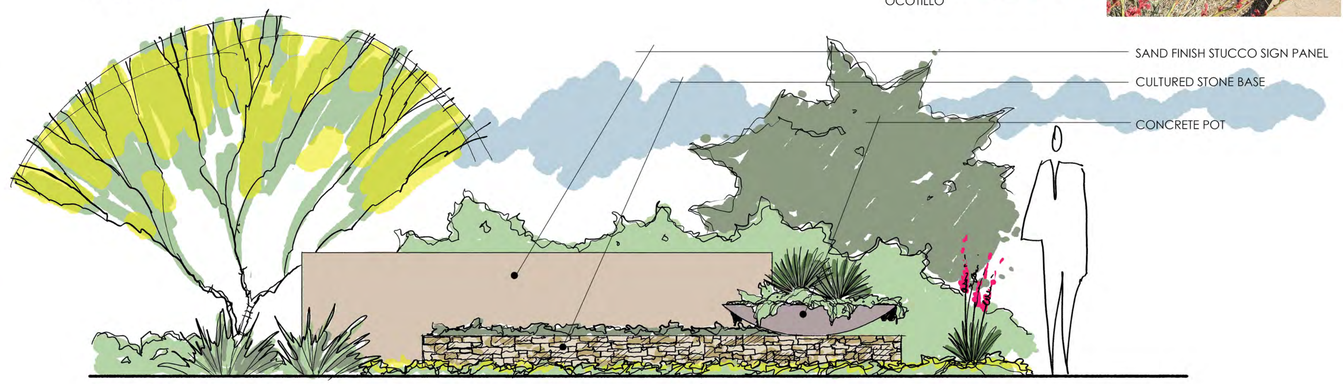
PLANT LIST

SYM	NAME	SIZE	WATER USAGE	QUANTITY
	Neltuma odorata Honey Mesquite	24" Box Low Branch	L .2	51
	Parkinsonia floridum Blue Palo Verde	24" Box Low Branch	L .2	70
	Chilopsis linearis Desert Willow	24" Box	L .2	55
	Phoenix dactylifera Date Palm	Site Salvage	M .5	27
	Larrea tridentata Creosote	5 gal.	L .2	209
	Caesalpinia pulcherrima Red Bird of Paradise	5 gal.	M .5	38
	Encilia farinosa Brittlebush	5 gal.	L .2	220
	Justicia californica Chuparosa	5 gal.	L .2	211
	Simmondsia chinensis Jojoba	5 gal.	M .5	407
	Lantana x. 'New Gold' New Gold Lantana	1 gal.	M .5	226
	Fouquieria splendens Ocotillo	6-8 Canes	L .2	94
	Hesperaloe parviflora Red Yucca	5 gal.	L .2	136
	Agave americana Century Plant	15 gal.	L .2	19
	Calliandra haematocephala Pink Powder Puff	5 gal.	M .5	24
	Bougainvillea 'Barbara Karst' Barbara Karst Bougainvillea	5 gal.	M .5	21

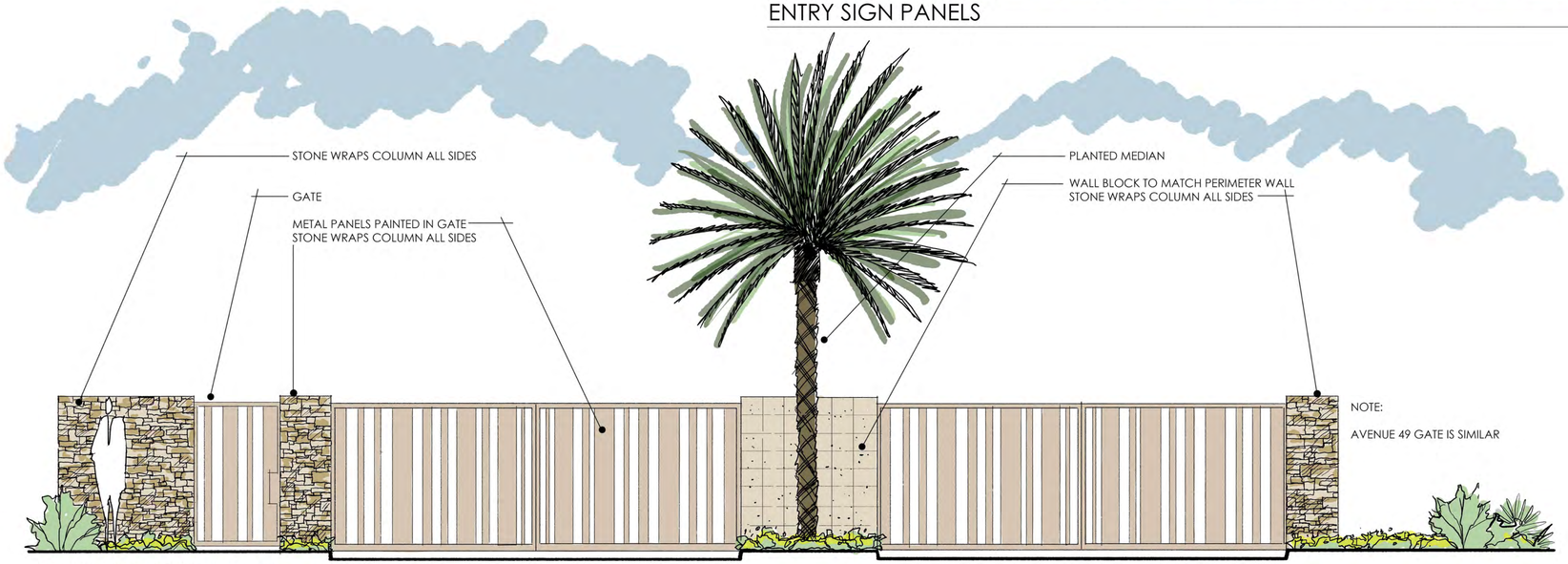

CENTURY PLANT


PINK POWDER PUFF


BOUGAINVILLEA



ENTRY SIGN PANELS



CALHOUN ENTRY GATE

12.1.2025

RUSSELL MACDONALD RLA
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5/5
PLANTS/COMMUNITY ELEMENTS

RESOLUTION NO. 2026-02

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF COACHELLA CONDITIONALLY APPROVING CONDITIONAL USE PERMIT NO. 390 FOR A PLANNED UNIT DEVELOPMENT ALLOWING FLEXIBLE STANDARDS FOR SMALLER LOT SIZES AND A HIGHER DENSITY FOR A PRIVATE GATED COMMUNITY, FOR THE PROPOSED 257-LOT SINGLE FAMILY RESIDENTIAL SUBDIVISION PROJECT LOCATED ON THE 39.98 ACRES SITE AT THE SOUTHWEST CORNER OF CALHOUN STREET AND AVENUE 49, APN 612-260-010; AND DETERMINING THAT THE PROJECT IS COMPLIANT WITH SECTION 15073 OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) GUIDELINES. APPLICANT: PACIFIC MODERN BUILDERS LLC

WHEREAS, on April 15, 2025, the applicant, Rod Vandenburg on behalf of Pacific Modern Builders, LLC., submitted a Tentative Tract Map application, Conditional Use Permit application, and associated environmental documentation for the subdivision of 39.98 acres of land for the development of a 257 single family home planned unit development and associated improvements on the southwest corner of Calhoun Street and Avenue 49 ("the Project"); and,

WHEREAS, the Site is located within the City of Coachella off of Calhoun Street and Avenue 49 within Riverside County, California (Assessor Parcel Numbers 612-260-010) ("Property"); and,

WHEREAS, the site has a zoning designation of General Neighborhood and a General Plan 2035 land use designation of General Neighborhood; and,

WHEREAS, the Project is consistent with and intended to implement the vision of the Coachella Municipal Code and the General Plan 2035 pertaining to land use patterns, building and site design, and public right-of-way improvements; and

WHEREAS, pursuant to the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and CEQA Guidelines Section § 15070 (Decision to Prepare a Negative or Mitigated Negative Declaration), a public agency shall prepare or have prepared a proposed negative declaration or a mitigated negative declaration for a project subject to CEQA when the initial study identifies potentially significant impacts but revisions in the project plan or proposals made by or agreed to by the applicant would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and,

WHEREAS, pursuant to CEQA Guidelines Section § 15070 (Decision to Prepare a Negative or Mitigated Negative Declaration), an initial study with mitigated negative declaration was prepared for the Proposed Project ("Initial Study/Mitigated Negative Declaration), and mitigation measures have been incorporated into the Mitigated Negative Declaration and will be imposed on the Proposed Project through the City's

adoption of a Mitigation Monitoring and Reporting Program ("MMRP") in compliance with CEQA Guidelines Section 15070(d); and,

WHEREAS, pursuant to CEQA Guidelines Section § 15073 (Public Review of a Proposed Negative Declaration or Mitigated Negative Declaration), comments were received pertaining to the Initial Study/Mitigated Negative Declaration and added to the administrative record; and,

WHEREAS, the project site has a General Plan land use designation and CMC zoning designation of General Neighborhood; and,

WHEREAS, the General Neighborhood zoning designation has a density of 7 to 24 dwelling units per acre; and,

WHEREAS, the General Neighborhood zoning designation has a density of 7.29 dwelling units per acre; and,

WHEREAS, a notice of a public hearing to consider Tentative Tract Map No. 39051, Conditional Use Permit No. 390, and Environmental Assessment 2025-02 was issued in accordance with Coachella Municipal Code Section 17.74.010G, inclusive of the publication on December 7, 2025, of a legal public hearing notice which was published in the Desert Sun, the City's newspaper of record and mailing of a public hearing notice to a certified list of property owners within 300 feet of the subject properties on December 2, 2025; and,

WHEREAS, on December 17, 2025, the Planning Commission held a duly noticed public hearing to consider the application for the Project during which evidence, both written and oral, including the staff report and supporting documents, was presented at said hearing; and,

WHEREAS, at the conclusion of the public hearing and following discussion, the Planning Commission approved Resolution No. PC2025-23 recommending the City Council conditionally approve the Calhoun Subdivision Project as conditioned with the motion vote outcome specified in the meeting minutes for the December 17, 2025, Planning Commission meeting.

WHEREAS, a notice of a public hearing to consider Tentative Tract Map No. 39051, Conditional Use Permit No. 390, and Environmental Assessment 2025-02 was issued in accordance with Coachella Municipal Code Section 17.74.010G, inclusive of the publication on January 18, 2026, of a legal public hearing notice which was published in the Desert Sun, the City's newspaper of record and mailing of a public hearing notice to a certified list of property owners within 300 feet of the subject properties on January 6, 2026; and,

WHEREAS, on January 28, 2026, the City Council held a duly noticed public hearing to consider the application for the Project during which evidence, both written and oral, including the staff report and supporting documents, was presented at said

hearing; and,

WHEREAS, at the conclusion of the public hearing and following discussion, the City Council approved Resolution No. 2026-02 conditionally approving the Calhoun Subdivision Project as conditioned with the motion vote outcome specified in the meeting minutes for the January 28, 2026, City Council meeting.

NOW, THEREFORE, BE IT RESOLVED, THE CITY COUNCIL OF THE CITY OF COACHELLA, CALIFORNIA DOES HEREBY FIND DETERMINE AND RESOLVE AS FOLLOWS:

SECTION 1. **Incorporation of Recitals.** The City Council hereby specifically finds that all of the facts set forth in the recitals of this Resolution are true and correct and are incorporated into this Resolution by reference and constitute a material part of this Resolution.

SECTION 2. **Environmental Findings.** The City Council has independently reviewed the Initial Study with Mitigated Negative Declaration and the administrative record for the proposed project, including all oral and written comments received during the document circulation period, public hearing, the staff report, and all attachments thereto, which are all incorporated herein by reference and are on file with the Community Development Department for the City of Coachella, and the City Council finds that:

A. The Initial Study with Mitigated Negative Declaration (EA 2025-02) has been completed in compliance with CEQA and reflects the agency's independent judgment and analysis.

B. All environmental impacts of the Proposed Project are either insignificant or can be mitigated to a level of insignificance pursuant to the mitigation measures outlined in the Mitigated Negative Declaration and the Mitigation Monitoring Reporting Program.

C. There is no substantial evidence in the administrative record supporting a fair argument that the Proposed Project, as revised, may result in significant environmental impacts.

D. The City Council hereby approves and adopts the Initial Study with Mitigated Negative Declaration (EA 2025-02) pursuant to Public Resources Code section 21080(c)(2).

E. Pursuant to Public Resources Code section 21081.6, the City Council approves and adopts the MMRP prepared for the Project, which shall be fully complied with as specified in this Resolution and the Conditions of Approval set forth herein.

SECTION 3. Conditional Use Permit Findings. Based upon the evidence presented at the hearing, including the staff report and written and verbal testimony, which are all incorporated herein by reference, the City Council hereby finds that:

1. The location of the project site has a General Plan land use designation of General Neighborhood which permits the development of single-family residential homes and community amenities. Further, the General Neighborhood land use designations allow for the development of 7-25 dwelling units per acre. As such, the Tentative Tract Map is consistent with the permitted land use designation of single-family homes, as it is proposing 7.29 du/ac. The project further proposes the development of community amenities such as a community park with tot lot, basketball court, ramadas with picnic tables, a turf grass area, and a partially landscaped retention basis with passive walking trails. The open-space parks planned within the project area fulfill the Planned Unit Development and General Neighborhood open space requirements. For the foregoing reasons, the Tentative Map is consistent with the General Plan and is not inconsistent with any element of its General Plan designation.

2. The proposed project has a General Plan land use designation and zoning designation of General Neighborhood which permits the development of single-family residential homes and community amenities of 7-25 dwelling units per acre. The project complies with Chapter 17.14 General Neighborhood zoning standards and complies with Chapter 17.38 PUD Planned Unit Development standards. The project will be operated and maintained by an HOA, and the community CC&R's shall be submitted for City review and the City shall be a third-party beneficiary to the CC&R's. The perimeter landscaping, park, and the retention basin adjacent to Calhoun Street will be maintained by the City LLMD. As a result, the project will be compatible with the existing or intended character of the general vicinity and shall not change the essential character of the same area.

3. The proposed project has a General Plan land use designation and zoning designation of General Neighborhood which permits the development of single-family residential homes and community amenities of 7-25 dwelling units per acre. In addition to meeting the proposed density requirements, two vehicular access points include one located on the north side from Avenue 49 and one on the east side from Calhoun Street would provide access to the project that has been determined to be suitable by the City Engineer/ Public Works Director and the Riverside County Office of the Fire Marshal. The project will include the completion of street improvements on both sides of Avenue 49 adjacent to the northern permitter of the project and determined to be suitable by the City Engineer. Infrastructure to serve the proposed parcels have been assessed and determined to be available from the water and electrical utilities. Furthermore, the site has no topographical constraints and the proposed uses are consistent with that has been analyzed in the General Plan, the Coachella Municipal Code, and Planned Unit Development. Therefore, it can be determined that the proposed subdivision is physically suitable for the site.

4. The intent and purpose of the General Neighborhood designation, as described in the City of Coachella General Plan, is to provide a diversity of housing that meets the needs of Coachella's many household sizes, incomes and lifestyle preferences. General Neighborhoods integrate a range of single- and multi-family housing options within a green, walkable neighborhood environment that offers parks and playgrounds for their residents and access to schools and basic shopping needs within a comfortable walk, bike ride or short drive. The project proposes the development of community amenities such as a community park, and shaded sidewalks along the perimeter and interior of community with a separated sidewalk design per the guidance of the City of Coachella General Plan Mobility Element. The project will be operated and maintained by an HOA, and the community CC&Rs shall be submitted for City review and the City shall be a third-party beneficiary to the CC&R's. An Initial Study with Mitigated Negative Declaration (IS/MND) was completed to address the potential impacts from the implementation of the project. The environmental analysis includes but is not limited to the analysis of environmentally sensitive areas, potential impacts to air quality, watercourses, historic buildings and places, noise, hazards and hazardous materials and other features of value to the community. The proposed project will develop currently vacant highly disturbed land in west Coachella. The IS/MND found that with the adoption of mitigation measures on Biological Resources, Cultural Resources, Transportation, and Tribal Cultural Resources, any potential impact will be mitigated to have a less than significant impact. The project will adopt a Mitigation and Monitoring Reporting Program (MMRP) that will certify mitigation measures to protect environmentally sensitive land uses and species within the project area. Therefore, it can be determined that the project is not anticipated to be potentially hazardous or disturbing to existing or reasonably expected neighboring uses, and it can be determined that the project is a benefit to the community as a whole.

5. The project will include two vehicular access points include one located on the north side from Avenue 49 and one on the east side from Calhoun Street would provide access to the project that has been determined to be suitable by the City Engineer/ Public Works Director and the Riverside County Office of the Fire Marshal. The project will include the completion of street improvements on both sides of Avenue 49 adjacent to the northern permitter of the project and determined to be suitable by the City Engineer. As a result, the proposed project is designed to provide reasonable minimal interference with traffic on surrounding public streets or roads.

Staff concludes that the findings set forth in Coachella Municipal Code Chapter 17.74.020 can affirmatively be made for the proposed Tentative Tract Map No. 39051. The proposed parcel subdivision is consistent with the City of Coachella General Plan and the Coachella Municipal Code. The parcel subdivision will be compatible with the existing or intended character of the general vicinity and shall not change the essential character of the same area, and consideration was given to the potential impacts of the development. It is determined that the project is justified by the common public interest as a benefit to the community as a whole. The proposed use will include vehicular approaches to the property designed for reasonable minimal interference with traffic on surrounding public streets or roads. The required

conditions of approval ensure the Project will not be detrimental to the public health, safety, or welfare, and the conditions prevent material injury to properties or improvements in the vicinity.

SECTION 4. Location and Custodian of Records. The documents and materials that constitute the record of proceedings on which these findings are based are located at Coachella Civic Center. The Development Services Director is the custodian of the record of proceedings.

SECTION 5. Execution of Resolution. The Chairman shall sign this Resolution and the City Clerk shall attest and certify to the passage and adoption thereof.

SECTION 6. City Council Approval Based on the foregoing recitals and findings above, and the written and oral comments, facts and evidence presented, the City of Coachella City Council hereby conditionally approves Conditional Use Permit No. 390 for a planned unit development allowing flexible standards for smaller lot sizes and a higher density for a private gated community, for the proposed 257-lot single family residential subdivision project located on the 39.98 acres site at the southwest corner of Calhoun Street and Avenue 49, APN 612-260-010; And determining that the project is compliant with Section 15073 Of The California Environmental Quality Act (CEQA) Guidelines. The applicant shall demonstrate compliance with ALL Conditions of Approval, as set forth in Exhibit "A", and Planned Unit Development in "Exhibit B" of this Resolution. Failure to demonstrate compliance with these conditions of approval may result in the delay of the Proposed Use or the rescinding of the City of Coachella's conditional use permit approval. Where the term "Applicant" is used in any condition of approval, this term shall also apply to the Property Owner, any developer, or any successor in the interest of the Applicant. It is the Applicant's or Applicant's successor in interest responsibility to fully comply with the conditions of approval unless subsequently modified in accordance with the City's required processes and procedures.

PASSED APPROVED and ADOPTED this 28th day of January 2026.

AYES:

NOES:

ABSENT:

ABSTAIN:

_____

Steven Hernandez, Mayor
City of Coachella

ATTEST:

_____
Angela M. Zepeda, City Clerk
City of Coachella

APPROVED AS TO FORM:

_____
Best Best & Krieger
City Attorney

Exhibit A – Resolution No. 2026-02

CONDITIONS OF APPROVAL FOR CONDITIONAL USE PERMIT NO. 390

General Conditions

1. Conditional Use Permit No. 390 is approved for a planned unit development allowing flexible standards for smaller lot sizes and a higher density for a private gated community located on a 39.98-acre site at the southwest corner of Calhoun Street and Avenue 49, APN 612-260-010, and the determination that the proposed project is compliant with California Environmental Quality Act (CEQA) Guidelines Section 15073 - Public Review of a Proposed Negative Declaration or Mitigated Negative Declaration.

2. The applicant shall defend, indemnify and hold harmless the City of Coachella, its officials, officers, employees, and agents from and against any claim, action, or proceeding against the City, its officials, officers, employees or agents to attack, set aside, void or annul any project approval or condition of approval of the city concerning this project, including but not limited to any approval or condition of approval or mitigation measure imposed by the City Council or Planning Commission. The City shall promptly notify the applicant of any claim, action, or proceeding concerning the project and the City shall cooperate fully in the defense of the matter. The City reserves the right, at its own option, to choose its own attorney to represent the City, its officials, officers, employees and agents in the defense of the City Attorney, within five days of the effective date of this approval.

3. The applicant shall comply with all requirements and conditions of approval as included in Tentative Tract Map No. 39051, Conditional Use Permit No. 390, Environmental Assessment No. 25-02, and any modifications or extensions thereof, as listed in those Notice of Actions or Resolutions for each respective approval, and Resolution No.2026-01, Resolution No. 2026-02, and Resolution No. 2026-03 unless otherwise modified per the requirements and conditions of approval per this resolution.

CALHOUN STREET HOUSING DEVELOPMENT

Planned Unit Development

Prepared for: City of Coachella

December 2025

Prepared for:

Pacific Modern Builders

Prepared by:

Rich Malacoff, AICP
760.346.4750
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Madeline Luke
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Table 1 – Site Development Standards

1. Introduction

1.1 Purpose and Intent

The purpose of this Planned Unit Development (PUD) document is to set the use regulations, development standards, and design guidelines for the Calhoun Street Development Project. It also covers the applicable General Plan and Zoning Designations, which are General Neighborhood (G-N) for both. The PUD will provide the necessary development criteria to guide the developer and homebuilders in the design and construction of the residential structures, open space, and associated amenities. It will also provide the City of Coachella with review criteria for the approval of entitlements and permits.

The PUD serves to implement the City of Coachella's General Plan and Zoning by specifying specific land uses, intensity of use, and development standards which are consistent with General Plan goals, objectives, and policies and protocols of the City of Coachella.

The proposed development plan has been derived from studies prepared by the applicant's civil engineer, architect, traffic engineer, land planners, and other consultants; and has been reviewed by the City of Coachella. As a result, the plan addresses development related to issues in the form of proposed physical improvements, guidelines for future development, technical data, and implementation procedures and regulations.

1.2 Project Location

The project area is located in the Coachella Valley within the incorporated city limits of Coachella, as shown in Exhibit 1, Regional Location Map. Locally, the project site is bounded by a residential single-family housing community to the north and south, a vacant lot to the east of Calhoun Street, and a currently vacant parcel to the west that has been approved for a future single-family housing development that is within the City of Indio, as shown in Exhibit 4, Surrounding Land Uses. The project site is further depicted in Exhibit 2, Vicinity Map.

1.3 Project Summary

The project consists of 257 lots in the City of Coachella located at Calhoun Street and Avenue 49, Assessor's Parcel Number (APN) 612-260-010. The development will include 3.13 acres of open space dedicated as a public park, including a parking lot accessible to the public outside the proposed housing development. The public area does not include the retention areas in the project. The 257 lots will be for single family dwellings, however they will be eligible for additional Dwelling Units (ADU) and Junior Dwelling Units (JADU).

The architecture of the units will be determined at a later date through an architectural review application.

2. Modifications to the Planned Unit Development

Calhoun Street Development is required to substantially conform to the physical characteristics and design concepts set forth in this Planned Unit Development (PUD). The City has the discretion to determine if implementing actions substantially conform to the development standards in this document. If an implementing action does not substantially conform, a formal modification to this PUD may be required. The process required to modify the PUD will require modification to the Conditional Use Permit (CUP) associated with the PUD. The process to modify a CUP is outlined in Section 17.74.020 of the City of Coachella Development Code.

3. Administration

3.1 Planned Unit Development

Upon its approval/adoption, the Calhoun Street Development, as approved by the City of Coachella City Council, will become the primary document governing land use regulations. The Calhoun Street Housing Development PUD has development standards and land use regulations that will replace the corresponding standards in the City of Coachella's Municipal Code. Where the Planned Unit Development (PUD) does not address a standard or subject, the applicable City code and/or ordinance shall apply. The Conditional Use Permit (CUP) for the Calhoun Street Development will remain valid after construction and is transferable to future property owners.

Per section 17.74.050, the Conditional Use Permit shall expire and shall become void two years following the date on which the conditional use became effective, unless prior to the expiration of one year a building permit is issued and construction is commenced and diligently pursued toward completion, or a certificate of occupancy is issued.

Per section 17.74.050, prior to the expiration of the Conditional Use Permit, the property owner may renew the CUP for three one-year time extensions only if an application stating reasons for renewal is filed prior to one year after the effective date of the conditional use approval by the planning commission. In the event that the planning commission acts to approve a time extension for the conditional use permit, the planning commission may impose any reasonable conditions on the conditional use permit as a condition of the time extension, provided a modification to the conditional use permit is processed. In the event that such additional conditions are not acceptable to the applicant and/or owner, the planning commission shall deny the time extension request.

3.2 Interpretation

Unless otherwise provided, should ambiguities occur concerning the content and appropriate application of the Calhoun Street Development, said ambiguities shall be resolved by the Development Services Director or equivalent of the City of Coachella or their designee, in a manner most consistent with the intent, goals and policies set forth in the Calhoun Street Development PUD and the City's General Plan as outlined in Section 17.70.080.

3.3 Implementation Program

According to Government Code 65451 of the California Planning Law, the Calhoun Street Housing Development PUD shall include a program for implementation including regulations, conditions, programs, and additional measures as necessary to carry out the plan. In response to this requirement, the Implementation Program for the PUD and Mitigated Negative Declaration consists of the following:

3.4 Environmental Review and Mitigation Monitoring Program

The Planned Unit Development has been subjected to Environmental Review pursuant to the provisions of CEQA for a Mitigated Negative Declaration.

Environmental studies that have been prepared for this plan include:

- Air Quality, Greenhouse Gas and Energy Impact Study
- Biological Resources Assessment
- Cultural Resource Investigation
- Noise Impact Study
- Paleontological Resource Assessment
- Preliminary Hydrology Report

- Preliminary Water Quality Management Plan
- Traffic Analysis

The Mitigation Measures adopted for this project shall comply during all stages and phases of the project's construction and operation of the facility.

3.5 Adoption of the Calhoun Street Development and Approval of the Planned Unit Development

The Calhoun Street Housing Development PUD shall be processed per Section 17.38 which outlines the requirements of the PUD. The Conditional Use Permit will be processed concurrently with the PUD and be approved by the Planning Commission. Detailed architectural and/or artist renderings of allowable building types, architectural themes, and typical front yard landscaping shall be provided by the builder and approved by the Planning Commission prior to the plan check process.

4. Project Setting

4.1 Existing Site Characteristics

The subject property is currently undeveloped and generally flat. Information regarding soil type, groundwater levels, earthquake faults in the region and other pertinent environmental conditions are evaluated in the project Initial Study. The Initial Study concludes that the project will not have significant impact on the environment with the recommended mitigation measures.

4.2 Surrounding Land Use

As shown in Exhibit 4, The surrounding land uses to the Calhoun Street Development are the following:

- Parcel west of the project site has an approved for a single family housing Project called Dolfina in the City of Indio.
- Vacant land and one single family residence to the east of Calhoun Street.
- Single family residential to north of Avenue 49 and West of Calhoun Street in the Tierra Del Sol Housing project.
- Single Family Residential south of the project along Pluma Azul Court in the Las Plumas Housing project.

4.3 General Plan and Zoning

The Project site is designated as General Neighborhood (G-N) under the City of Coachella's General Plan Land Use (Exhibit 5, Existing General Plan Land Use and Zoning). The G-N is intended to provide medium to high-density residential neighborhoods consisting of single family and multifamily residential units within a neighborhood environment that offers parks and playgrounds for their residents and access to schools and basic shopping needs within a comfortable walk, bike ride, or short drive.

5. Project Description

The Calhoun Street Housing located at south of Avenue 49 and west of Calhoun Street (APN 612-260-010) in the City of Coachella, Riverside County, California The Project site consists of a single parcel totaling 39.98 gross acres. The proposed Project will subdivide the existing 39.98-acre parcel into 257 residential single family lots are either 3,600 or 4,050 square feet in size, lot dimensions proposed vary from 40' x 90' and 45' x 90' minimum, with landscaping and on-site retention basins. Setbacks are proposed to be 15' front setback, 5' side yard setback, and 15' rear setback. The subdivision will be a private gated residential community with a 3.13-acre public park accessible from the inside of the community as well as access to the public through the public parking lot outside of the gated community. The public will not have access

to the gated community through the public park, residents within the development will be provided access through locked pedestrian gates. The proposed Project will contain a public park to adhere to the parkland dedication requirements of the Project.

The proposed Project is designated as General Neighborhood (G-N) under the City of Coachella's General Plan Land Use (Exhibit 5, Existing General Plan Land Use and Zoning). The G-N is intended to provide medium to high-density residential neighborhoods. The Applicant proposes a Planned Unit Development that would allow for the use of flexible standards for smaller lots for higher density as proposed for the gated single family residential community. The Planned Unit Development requires the Applicant to complete a conditional use permit for approval through the City's Planning Commission to establish the land use regulations and minimum development standards for the Project.

The final architecture will be determined through a future Architectural Review Application with Planning Commission approval and is not discussed within this PUD.

6. Development Regulations

6.1 Purpose and Intent

The development regulations contained herein provide specific standards relative to permitted land use in addition to site design and construction regulations to be applied within the developed area. They are intended to protect the public health, safety and welfare and to create a harmonious relationship with the surrounding land. In general, the proposed development is consistent with the development standards of the City's Planned Unit Development Ordinance Section 17.38 of the City of Coachella Municipal Code (CMC) and General Neighborhood zoning districts unless a different standard is identified below. Should a development standard contained in this PUD conflict with an equivalent standard contained in the City of Coachella City Zoning Code, the provisions of the PUD shall take precedence. In instances where the PUD is silent, the applicable portion of the City of Coachella Zoning Code shall govern. The Development Service's Director shall have the authority to approve minor adjustments during the Development Permit Review, so long as it's determined such adjustments are consistent with the PUD Land Use Plan. Any decision made by the Development Services Director can be appealed, subject to the procedures outlined in City of Coachella Municipal Code Section 17.70.080.

6.2 Permitted Uses

The following identifies specific uses which are permitted in the underlying General Neighborhood zoning district as prescribed in Section 17.14.020 of the City of Coachella Municipal Code and are considered appropriate uses within the Planned Unit Development.

6.3 Accessory Uses

The following identifies specific uses which are permitted accessory uses in the underlying General Neighborhood zoning district as prescribed in Section 17.14.020 of the City of Coachella Municipal Code and are considered appropriate incidental uses within the Planned Unit Development.

1. Accessory Dwelling Units or Junior Dwelling Units Subject to Section 17.60.010 of the City of Coachella Municipal Code or applicable changes in State Law;
2. Utility and recreational uses including garages, carports, pool cabana, storage shed, laundry room, electrical equipment room, shade structure, and similar uses subject to the provisions of Chapter 17.60;
3. Swimming pools and related equipment, outdoor kitchen countertops and gas-fired pits/barbeque grills, subject to the provisions of Chapter 17.60;
4. Outdoor play courts with lighting up to ten (10) feet in height;

5. Greenhouses, date orchards, and other fruit and vegetable gardens for private use;
6. Home occupations, and Cottage Food Operations, subject to the provisions of Section 17.58 and 17.89 of the City of Coachella Municipal Code;

6.4 Conditional Uses

The following identifies specific uses which are conditional uses in the underlying General Neighborhood zoning district as prescribed in Section 17.14.020 of the City of Coachella Municipal Code and are considered appropriate uses within the Planned Unit Development. Conditional uses are subject to the issuance of a Conditional Use Permit by the City of Coachella in accordance with the procedures established by the City including but not limited to

1. All conditional uses listed in Section 17.16.020(C) of the S-N (Suburban Neighborhood) zone.
2. Boarding and lodging houses.
3. Child nurseries, day care centers.
4. Hospitals, convalescent homes, rest homes, and sanitaria, excepting animal hospitals; subject to the following:
    a. Minimum lot size shall be five acres.
    b. All buildings shall be at least fifty (50) feet removed from any lot lines.
5. Professional offices and uses accessory thereto, including medical and dental laboratories; subject to the following:
    a. Minimum lot size shall be twenty thousand (20,000) square feet.
    b. Access on arterial or collector.
6. Parks, playgrounds, court games and community centers;
7. Public utility distribution substations and public service facilities;
8. Private lighted or unlighted tennis courts and such other similar uses not to include swimming pools and spas;

6.5 Site Development Standards

The following Site Development Standards are intended to be guidelines. Since all projects must be submitted and reviewed through the Architectural Review process, consistent with the requirements of this PUD, creative planning and design is encouraged.

The City's Planning Director shall determine if final plans are in general conformance with these guidelines and shall have the authority to allow deviations at their discretion for proposed developments that are in conformance with the CMC and general Plan. Modification of or deviations from these standards may be granted by the City through the procedures described in Section 2 of this PUD. Any development standard not covered by the Planned Unit Development shall use the standards specified in Chapters 17.14 & 17.19 of the CMC.

Table 1. Site Development Standards

	Proposed Standard	Existing Zone General Neighborhood
Minimum Lot Size	3,400 square feet	4,000 square feet
Minimum Lot Width Interior Lot	40'	40'
Minimum Lot Width Corner Lot	40'	45'
Lot Depth	85'	75'

Front Yard Setback	15’	15’
Side Yard Setback	5’	10’
Rear Yard Setback	15’	20’
Maximum Lot Coverage	50% (Building, ADU and garage area divided by the lot area). This calculation excludes all porches, outdoor rooms, covered patios and trellis areas.	
Garage Size	Must be a minimum of 400 square feet.	
Perimeter Setback	26 feet to include 6-foot sidewalk and landscape buffer	

Energy Efficient Design and Heat Island Reduction Strategies

The project shall incorporate landscape and building design strategies to help reduce effects of urban heat island and building heat gain, strategies should consist, but not limited to the following:

1. Place buildings and architectural massing to minimize direct sun exposure on east and west sides.
2. Locate larger windows on the north façade and minimize west-facing glazing. Encourage use of high-performance window glazing.
3. Providing architectural shading devices (awnings, covered porches, deeper eaves) on south and west facades.
4. Allow natural breeze to penetrate buildings. Requiring cross-ventilation through operable windows on at least two sides of primary living areas.
5. Use well-insulated walls and roofs.
6. Encourage light-colored, high-reflectance roofing materials meeting Cool Roof Rating Council (CRRC) standards.
7. Encourage ENERGY STAR–rated roofing options.
8. Require homes to incorporate natural daylighting through window placement and optional skylights/light wells to reduce electrical demand.
9. Use and maintain trees with large canopies to provide adequate shading.
10. Choose architectural colors that are light and non-reflective for exterior walls and concrete.
11. Use permeable paving wherever practical.

These strategies should be consistent with the California Building Code.

Minimum Off-Street Parking

Each dwelling unit will be required to provide an enclosed 2-car garage.

Circulation and Internal Streets

The Project incorporates a connected street and pedestrian network consistent with the City’s Planned Unit Development requirements. The internal street system is designed to provide clear, walkable links to

both Calhoun Street and Avenue 49 through a separated 6-foot sidewalk and landscaped parkway, with street trees located between the sidewalk and perimeter wall to create a shaded, comfortable pedestrian environment. Typical roadway diagrams and cross-sections illustrate the proposed 32-foot curb-to-curb section, and the configuration of parkways, sidewalks, and landscape setbacks. Along project frontages, the design provides perimeter landscape setbacks, including a 26-foot landscaped setback along Calhoun Street and Avenue 49, ensuring enhanced visual quality and a generous streetscape along both perimeter roadways. See Exhibit 10 – Street Sections for illustrations.

1. Internal Street ROW should be a maximum of 33ft.
2. Internal streets shall have a minimum curb-to-curb width of 32 feet, providing a 24-foot clear fire access lane with parking permitted on one side only.
3. Primary internal intersections as identified by the City Engineer shall have bulb-outs for traffic calming to be approved by City Engineer.
4. Public streets shall accommodate a separated 6ft sidewalk that connects gate entrances on Ave. 49 and Calhoun Street.

Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU)

Development of Accessory Dwelling Units and Junior Accessory Dwelling Units are subject to Section 17.60.010 of the City of Coachella Municipal Code or applicable changes in State Law. Accessory Dwelling Units and Junior Accessory Dwelling Units: Allowed per State and/or City regulations. The architectural character is to be consistent with the primary dwelling unit.

Fencing

The function of walls and/or fences in the Calhoun Street Development will be to provide safety, security, and privacy to all the tenants. All fencing needs to complement the architecture and landscaping surrounding the site. Block walls and fencing in the Calhoun Street Housing Development shall comply with Section 17.16.030 of the City of Coachella Municipal Code.

To ensure cohesive neighborhood character, future builders shall incorporate architectural accent stone on residential units that is compatible with the accent stone used on the project's perimeter walls and entry monuments. While builders shall maintain material compatibility and color harmony with the perimeter walls, flexibility is provided to allow variation in stone type, profile, and application to support diverse architectural styles within the community.

Representative examples of accent stone materials, perimeter wall stone treatments, and block wall finishes are provided in Exhibit 8 – Conceptual Wall Plan. These examples illustrate the intended design character but do not limit the builder to a single product; substitutions of equal or higher quality may be permitted subject to review and approval by the Community Development Director or designee.

1. Maximum height of 6-feet.
2. Block walls and accent stone walls are the preferred barrier along the perimeter of the Planned Unit Development Area. Wrought iron or tubular steel fencing is also appropriate.
3. Stone Veneer Panels 20ft in length along Calhoun Street and Avenue 49 to be spaced every 75ft on center. CMU end wall shall incorporate a 3ft stone wrap around, see Stone Panels and End Wall Design shown in Exhibit 8-Conceptual Wall Plan.

4. Wrought iron or tubular steel fencing shall have rungs facing inward. Metal fencing shall have decorative elements and ornamentation at posts.
5. Provide 24-inch square decorative columns wrapped with stone veneer at all metal fence locations, spaced approximately 75 feet on center.
6. Vinyl fencing is permitted along interior side and rear lot lines. Vinyl fencing is prohibited along any lot line that is visible from the public right-of-way or from interior private streets.
7. Block walls shall be composed of masonry block with matching grout. Rolled concrete is specifically prohibited.
8. Side yard fencing that faces internal streets to be block, vinyl fencing is prohibited.
9. Gates shall be aesthetically pleasing and be automatic as opposed to manual and have a Knox Box or other means of access for Police and Fire emergencies as approved by the Riverside County Fire Department.
10. The use of wood, mesh, wire, chain link, serpentine, and barbed wire fences are strictly prohibited and shall not be used anywhere within the Planned Unit Development.

Landscaping

1. The project shall install landscaping along the north side of Avenue 49. Landscape design and sidewalks shall be consistent with the adjacent Dolfina housing development located west of the project.
2. A minimum 14-foot landscape area shall be provided to accommodate the right-turn lane.
3. A minimum 26-foot perimeter landscape setback shall be provided along Calhoun Street and Avenue 49.
4. Perimeter landscape setback to include a separated 6-foot wide sidewalk with a 4-foot wide landscape parkway between the sidewalk and curb.
5. Vehicular entrances on Calhoun Street and Avenue 49 shall incorporate decorative pavers or stamped concrete, separated from travel lanes by a concrete buffer strip.
6. All planting areas to be ¾" gravel "Copper Canyon" or equivalent.
7. All retention area water spillway cobble to be 4"-8" "Copper Canyon" or equivalent.

Refer to Exhibit 6 (Conceptual Landscape Plan) for the location of entry features, pavers, plantings and groundcovers, site furnishings, and public park shade structures.

7. Design Standards

The design standards for the Calhoun Street Housing Development are intentionally broad to allow builders flexibility in creating unique architecture, while remaining consistent with Section 17.19 – Supplemental Standards for Single-Family Residential. The future developer will submit architectural elevations, building massing plan, color/material boards, floor plans, and typical front yard landscaping to the Planning Commission who will ensure that the project has high quality architecture and color scheme harmonious with surrounding development. Future Architectural submittals shall be in compliance with Section 17.38.020 – Design Guidelines of the Coachella Municipal Code.

7.1 Open Space Plan

The Planned Unit Development will provide 3.13 acres of public parkland to satisfy the project's open space requirement. The park will include a mix of active and passive recreation areas, with the final program subject to City Council approval. Conceptual exhibits are provided in Exhibit 6 (Conceptual Landscape Plan), Exhibit 7 (Conceptual Plant List and Community Elements), and Exhibit 9 (Conceptual Park Plan).

The park will be centrally located along Calhoun Street and fully accessible to the public. Planned amenities include a tot lot, basketball court, shade structures, bike racks, seating areas, pedestrian lighting, and landscaped open spaces for both active and passive use. A combination of CMU and decorative metal fencing will separate the park from adjacent private residences, with multiple secured pedestrian gates providing resident access to the park.

For safety purposes, a 4-foot-tall decorative metal fence shall be installed along the park frontage on Calhoun Street. The fence will be located within the landscaped parkway between the sidewalk and curb. This design ensures the park remains visible and inviting to passersby and pedestrians while providing a defined and safe edge along Calhoun Street.

A walking trail will connect the north-side public parking lot and resident access points to the southern portion of the park, looping around the retention basin. The retention basin will be designed with a gradual slope along its north edge, allowing the space to be visually integrated with the park, maximizing recreational usability, and reducing the appearance of the basin as a standalone utility feature.

USBR and CVWD Easement

There is a 10-foot easement along the west property line for an existing CVWD irrigation line, which will remain in place. Unless the existing irrigation line is replaced per CVWD standards, the line cannot be built over with permanent structures, CMU walls, concrete, or asphalt, nor can the line be relocated. Additionally, CVWD requires another 10 feet for access and maintenance between the existing easement and the western property line. The easement will be landscaped with decorative ground cover such as decomposed granite and crushed rock. Trees are not permitted in this area due to the potential for root interference with the irrigation lines, which could hinder CVWD's ability to maintain the system.

7.2 Signs

Signage will be submitted to the Community Development Director or their designee for final approval and will provide the specifics to include the following:

Signage should be designed with appropriate scale and proportion and should relate visually to buildings and surroundings.

- Signs colors, materials, and lighting should be restrained and harmonious with the building and site to which it principally relates.
- The number of graphic elements on a sign should be limited to the necessary minimum and should be composed in proportion to the area of the sign face.
- It is recommended that entry signs be precast monument signs with individual recessed letters or pop-out letters of the highest quality.
- Each sign should be compatible with signs on adjoining premises and should not compete for attention.
- The type, location, height and size of signs shall be determined as a part of the permit and shall relate to the location and design of the PUD.

Exhibit 7 (Conceptual Plant List and Community Elements) shows the conceptual list of plants to be used as well as the location of the Entry Sign Panels.

8. Operational Guidelines

8.1 Maintenance

The proposed Project is a private gated community. Open space and retention basin areas shall be maintained by the community's Homeowners Association (HOA). Open space will be a 3.13-acre public

park that is fully accessible to the community with a public parking lot. The retention basin will not be gated, nor will the basin's slopes have any irrigation that would cause erosion to the basins lining over time.

8.2 Other Rules and Guidelines

Asphalt and artificial turf: Use of asphalt or artificial turf will not be permitted for the purpose of surfacing driveways, sidewalks or other walkways.

Front Yard Paving: The front yard area between the front of building line of the home and the street shall not be paved more than sixty (60) percent of the total front yard area.

Building Permits: No improvement requiring a permit or approval of any kind from any state or local governmental agency, department, bureau, or officer, may be constructed, installed, or used anywhere in the project unless the required permit(s) or approval(s) are obtained.

Codes, Covenants, and Restrictions: To be submitted to the City prior to recordation of the final map.

Clothes Lines: Exterior Clothes lines are prohibited.

Fire Sprinklers: In accordance with City of Coachella Code Section 15.08.030, one- and two-family dwellings shall have an automatic fire sprinkler system regardless of square footage in accordance with the California Residential Code.

Lighting: All exterior lighting shall be consistent with the Coachella Municipal Code and be completely shielded so that there is no spillover onto adjacent properties.

Gated Development: This will be a gated development with the maintenance of the gates be handled through the HOA.

8.3 PUD Justification

Per Section 17.38.035 Public Benefit Required, a PUD shall include a public benefit of one or more of the following:

1. *Affordable Housing. The construction of affordable housing on the site or off-site affordable housing.*

   While the project is not restricted to income-qualified affordable housing, it will provide market-rate homes at a price point that is attainable for local families. Relative to nearby jurisdictions such as Indio, La Quinta, and Palm Desert, these homes are expected to be more affordable and accessible to a broader range of households in Coachella.

2. *On-Site Public Amenities. The provision of on-site amenities that benefit the general public such as parks, community spaces, civic spaces, childcare facilities, preservation of historic structures or places, agricultural preservation, open space preservation, or similar amenities.*

   The project includes a 3.13-acre public park located within the subdivision. This park will serve both residents and the wider community, offering much-needed open space, recreation opportunities, and neighborhood gathering areas without requiring residents to travel to existing City facilities.

3. *Off-site Improvements. The provision of off-site amenities and dedications including traffic enhancements, traffic calming improvements, bikeways and trails, park lands, recreation facilities, or other public improvements that proportionally offset the additional impacts specifically created by the exception requested for the PUD.*

   The project will dedicate 3.13 acres for a public park, which includes a parking lot, tot lot, basketball court, shade structure, seating areas, bike racks, recreational open space, sidewalks, trails, and site lighting. Unlike typical subdivision parks reserved primarily for residents, this park will be fully accessible to the broader public, providing a high-quality recreation space within walking distance of surrounding neighborhoods.

   The project will also construct approximately 1,300 linear feet of half-street improvements along Calhoun Street, including new pavement, curb, gutter, undergrounding of overhead power lines, new streetlights, and a 26-foot landscaped setback with a 6-foot sidewalk and parkway. These improvements will significantly enhance the visual character and safety of Calhoun Street, well beyond the baseline requirements of a standard frontage improvement.

   In addition, the project will deliver approximately 1,300 linear feet of full-street improvements along Avenue 49, which is currently undeveloped. These improvements will complete the roadway by constructing curb, gutter, and landscaping on both the north and south sides. Because Avenue 49 presently lacks storm drain infrastructure, the project will also provide an above-ground retention basin along the right-of-way to capture and retain 100% of off-site stormwater. This represents a substantial infrastructure contribution to the City that will serve not only the project but also future growth in the area.

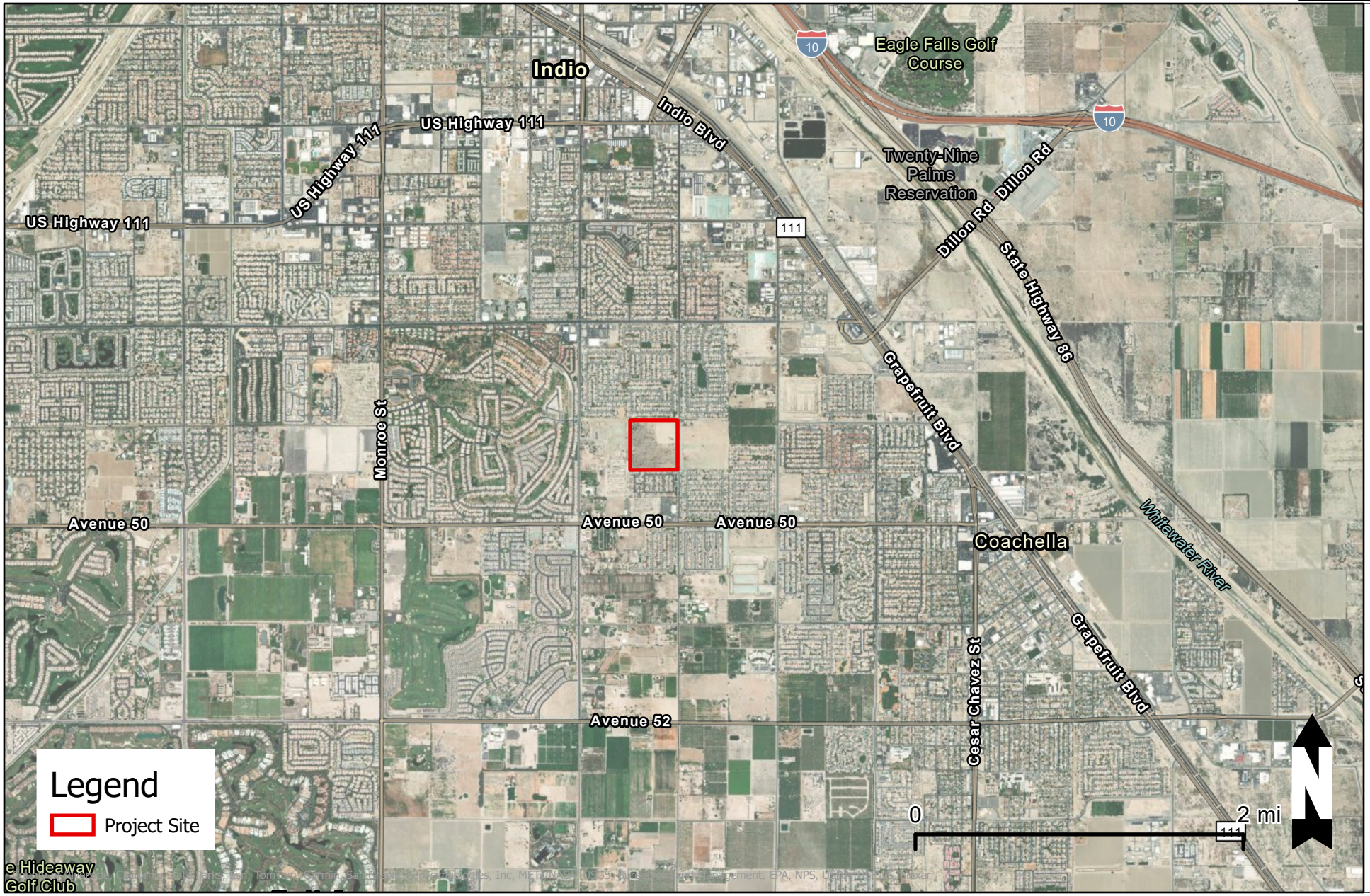
   Collectively, these investments will improve traffic circulation and safety, establish a high-quality streetscape, and provide public amenities that extend benefits beyond the project site. These improvements go beyond the minimum requirements of the subdivision code and represent the type of public benefit envisioned by the City's PUD ordinance.

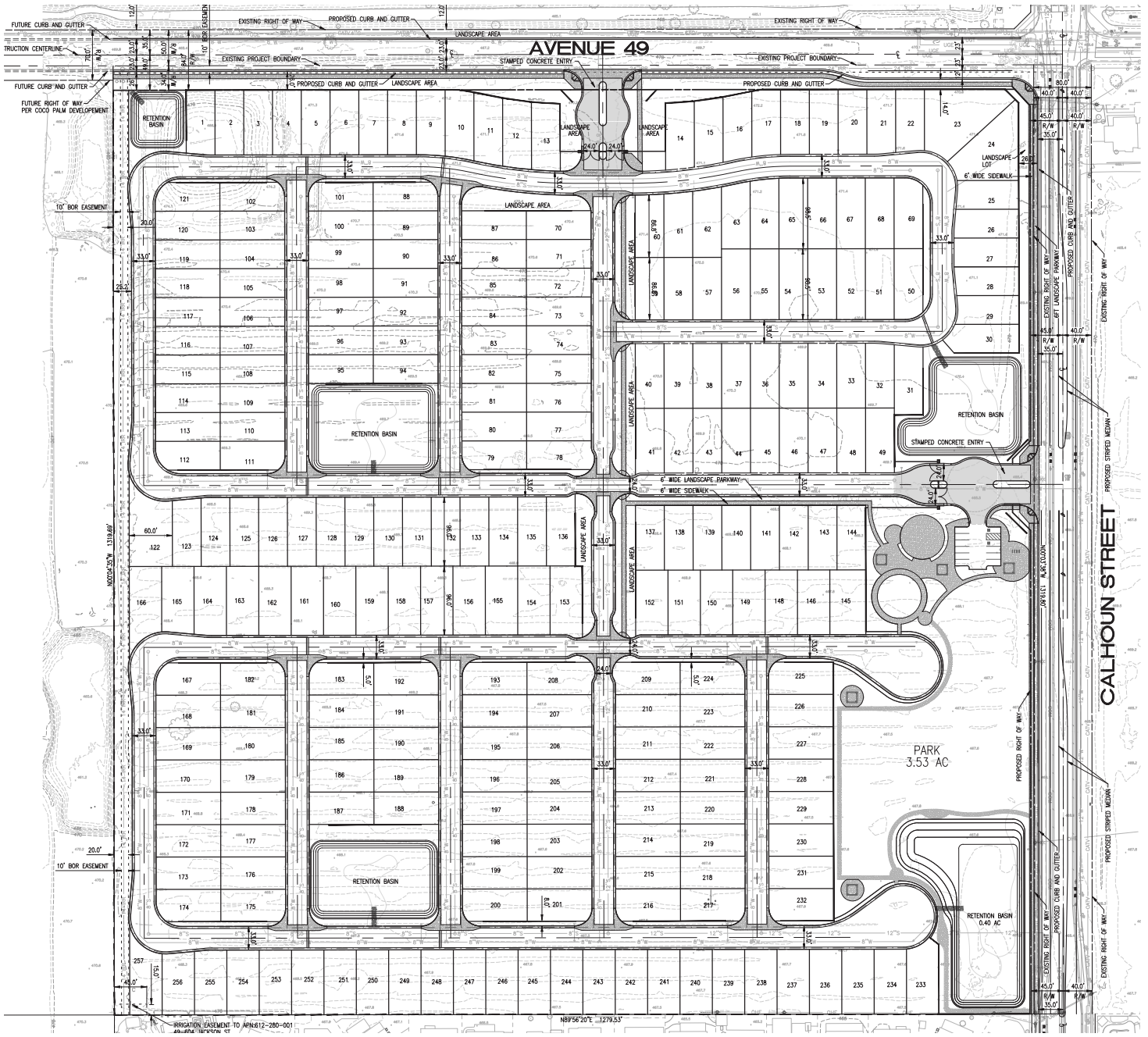
9. List of Preparers

Madeline Luke
Associate Planner
The Altum Group

Rich Malacoff, AICP
Principal Planner
The Altum Group


Palms Marine Corps Base
Angeles National Forest
San Bernardino National Forest
Los Angeles
Riverside
Cathedral City
Long Beach
Indio
Murrieta
Oceanside
San Diego
Colorado River Aqueduct
Palm Desert
Indian Wells
Fred Waring Dr
Indio
Cahuilla Hills
Monroe St
Coachella
Avenue 52
La Quinta
Coachella Valley
Coachella Canal
Whitewater River
Deep Canyon
Alpine Village
Pinyon Pines
Little Pinyon Flat
Martinez Mountain
Cabazon Reservation
Valerie
66th Ave
Mecca
Torres-Martinez Reservation
Legend
Project Site
0
5 mi
Santa Rosa Mountains


Indio
US Highway 111
US Highway 111
US Highway 111
Indio Blvd
Eagle Falls Golf Course
Twenty-Nine Palms Reservation
Dillon Rd
Dillon Rd
State Highway 86
111
Grapefruit Blvd
Monroe St
Avenue 50
Avenue 50
Avenue 50
Coachella
Whitewater River
Cesar Chavez St
Grapefruit Blvd
Avenue 52
Legend
Project Site
0
2 mi
e Hideaway Golf Club



Not to Scale

The Altum Group

Preliminary Site Plan

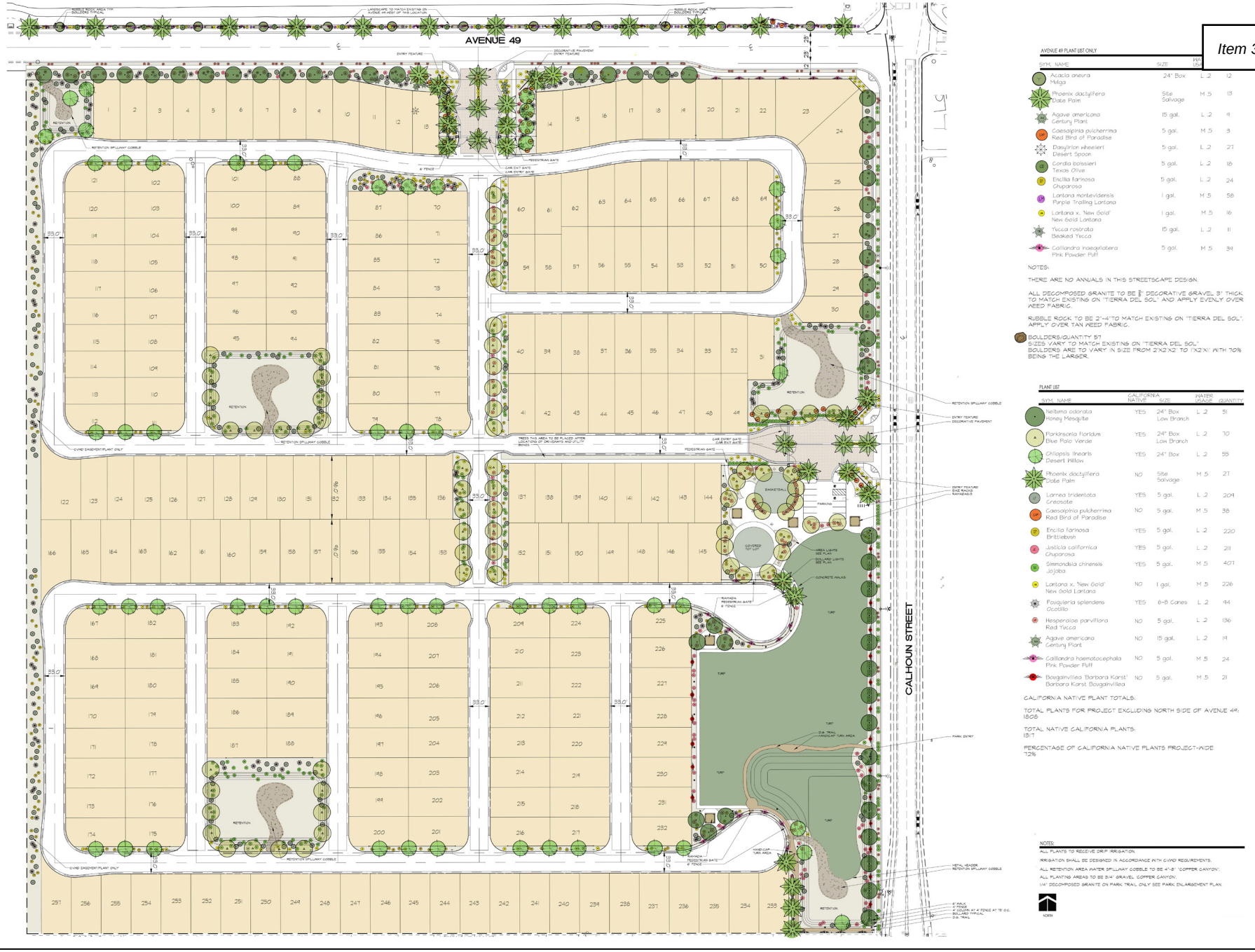
Calhoun Street Subdivision

Exhibit

3


Camino Bahia
Single Family Homes
Puerto Escondido
Single Family Homes
an Mateo Ave
Avenue 49
Avenue 49
City of Indio Jurisdiction
Future Single Family Homes
APN: 612-260-010
Vacant Lot
Calhoun St
Legend
City of Coachella Boundary
Project Site
Single Family Homes
Single Family Homes
0
0.05 mi
N
Esri Community Maps Contributors, County of Riverside, California State Parks, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Maxar


Camino Bahia
Puerto Escondido
San Mateo Ave
Avenue 49
Avenue 49
APN: 612-260-010
Calhoun St
Pluma Azul Ct
Legend
City of Coachella Boundary
Project Site
Open Space (O-S)
General Neighborhood (G-N)
Suburban Neighborhood (S-N)
0
0.05 mi
N
Esri Community Maps Contributors, County of Riverside, California State Parks, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Maxar


AVENUE 49
CALHOUN STREET
AVENUE 49 PLANT LIST ONLY
SYM. NAME
SIZE
Acacia aneura Mulga
24" Box
Phoenix dactylifera Date Palm
Site Salvage
Agave americana Century Plant
15 gal.
Caesalpinia pulcherrima Red Bird of Paradise
5 gal.
Dasylirion wheeleri Desert Spoon
Cordia boissieri Texas Olive
Encilia farinosa Chuparosa
Lantana montevidensis Purple Trailing Lantana
1 gal.
Lantana x. 'New Gold' New Gold Lantana
Yucca rostrata Beaked Yucca
Calliandra haeqilotiera Pink Powder Puff
NOTES:
THERE ARE NO ANNUALS IN THIS STREETSCAPE DESIGN.
ALL DECOMPOSED GRANITE TO BE 3/8" DECORATIVE GRAVEL 3" THICK TO MATCH EXISTING ON "TIERRA DEL SOL" AND APPLY EVENLY OVER WEED FABRIC.
RUBBLE ROCK TO BE 2'-4" TO MATCH EXISTING ON "TIERRA DEL SOL", APPLY OVER TAN WEED FABRIC.
BOULDERS/QUANTITY 57
SIZES VARY TO MATCH EXISTING ON "TIERRA DEL SOL"
BOULDERS ARE TO VARY IN SIZE FROM 2'X2'X2' TO 1'X2'X1' WITH 70% BEING THE LARGER.
PLANT LIST
SYM. NAME
CALIFORNIA NATIVE
SIZE
WATER USAGE
QUANTITY
Neltuma odorata Honey Mesquite
YES
24" Box Low Branch
Parkinsonia florida Blue Palo Verde
Chilopsis linearis Desert Willow
Phoenix dactylifera Date Palm
NO
Larrea tridentata Creosote
5 gal.
Caesalpinia pulcherrima Red Bird of Paradise
Encilia farinosa Brittlebush
Justicia californica Chuparosa
Simmondsia chinensis Jojoba
Lantana x. 'New Gold' New Gold Lantana
Fouquieria splendens Ocotillo
6-8 Canes
Hesperaloe parviflora Red Yucca
Agave americana Century Plant
Calliandra haematocephala Pink Powder Puff
Bougainvillea 'Barbara Karst' Barbara Karst Bougainvillea
CALIFORNIA NATIVE PLANT TOTALS:
TOTAL PLANTS FOR PROJECT EXCLUDING NORTH SIDE OF AVENUE 49: 1808
TOTAL NATIVE CALIFORNIA PLANTS: 1317
PERCENTAGE OF CALIFORNIA NATIVE PLANTS PROJECT-WIDE 72%
NOTES:
ALL PLANTS TO RECEIVE DRIP IRRIGATION.
IRRIGATION SHALL BE DESIGNED IN ACCORDANCE WITH CVMD REQUIREMENTS.
ALL RETENTION AREA WATER SPILLWAY COBBLE TO BE 4'-8" "COPPER CANYON".
ALL PLANTING AREAS TO BE 3/4" GRAVEL "COPPER CANYON".
1/4" DECOMPOSED GRANITE ON PARK TRAIL ONLY SEE PARK ENLARGEMENT PLAN.
NORTH

Not to Scale


HONEY MESQUITE


BLUE PALO VERDE


DESERT WILLOW


DATE PALM


SW BOULDER / "COPPER CANYON / 3/4" OVERALL
4"-8" RETENTION DRAINAGE


SW BOULDER / "CALIFORNIA GOLD" FINES
PARK TRAIL COMPACTED


CREOSOTE


RED BIRD OF PARADISE


BRITTLEBUSH


CHUPAROSA

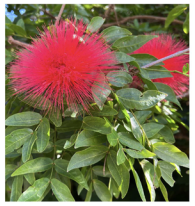

JOJOBA


YELLOW LANTANA

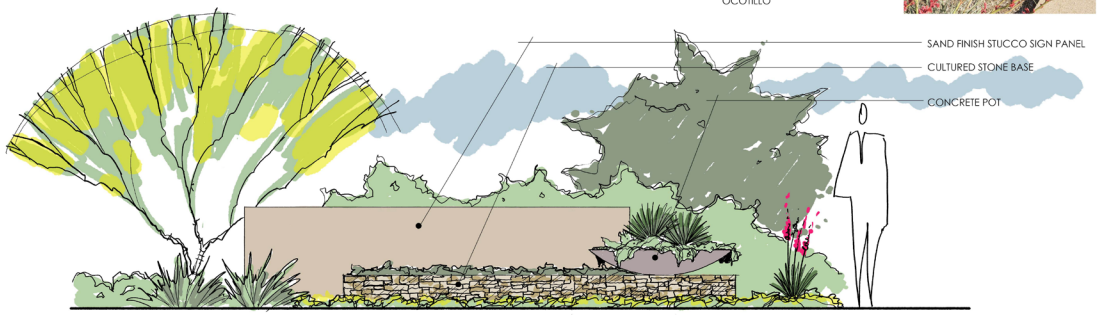

OCOTILLO


RED YUCCA

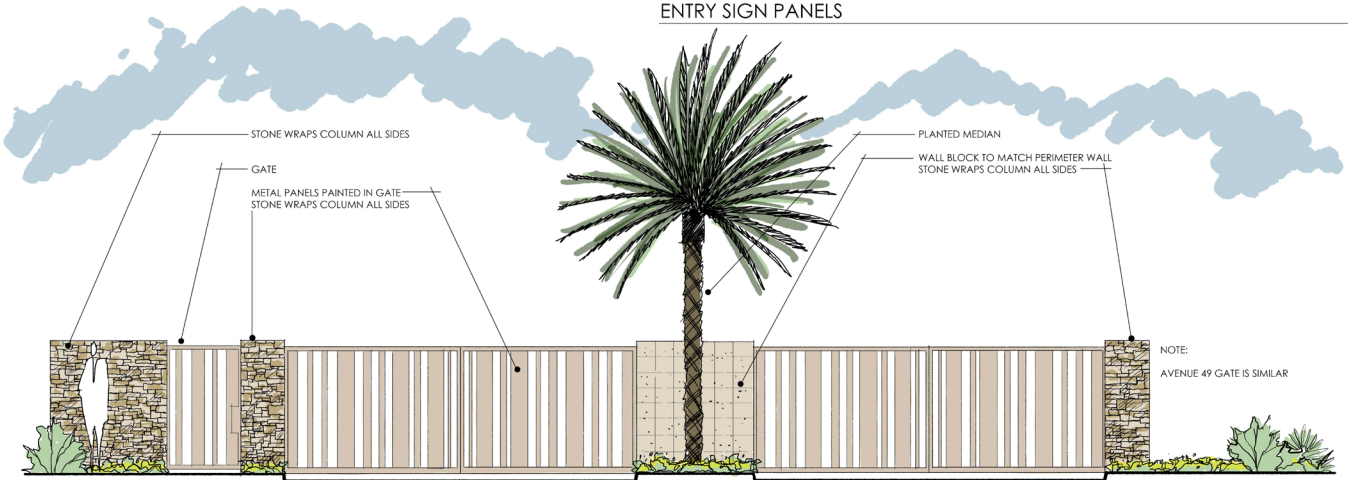

CENTURY PLANT


PINK POWDER PUFF


BOUGAINVILLEA



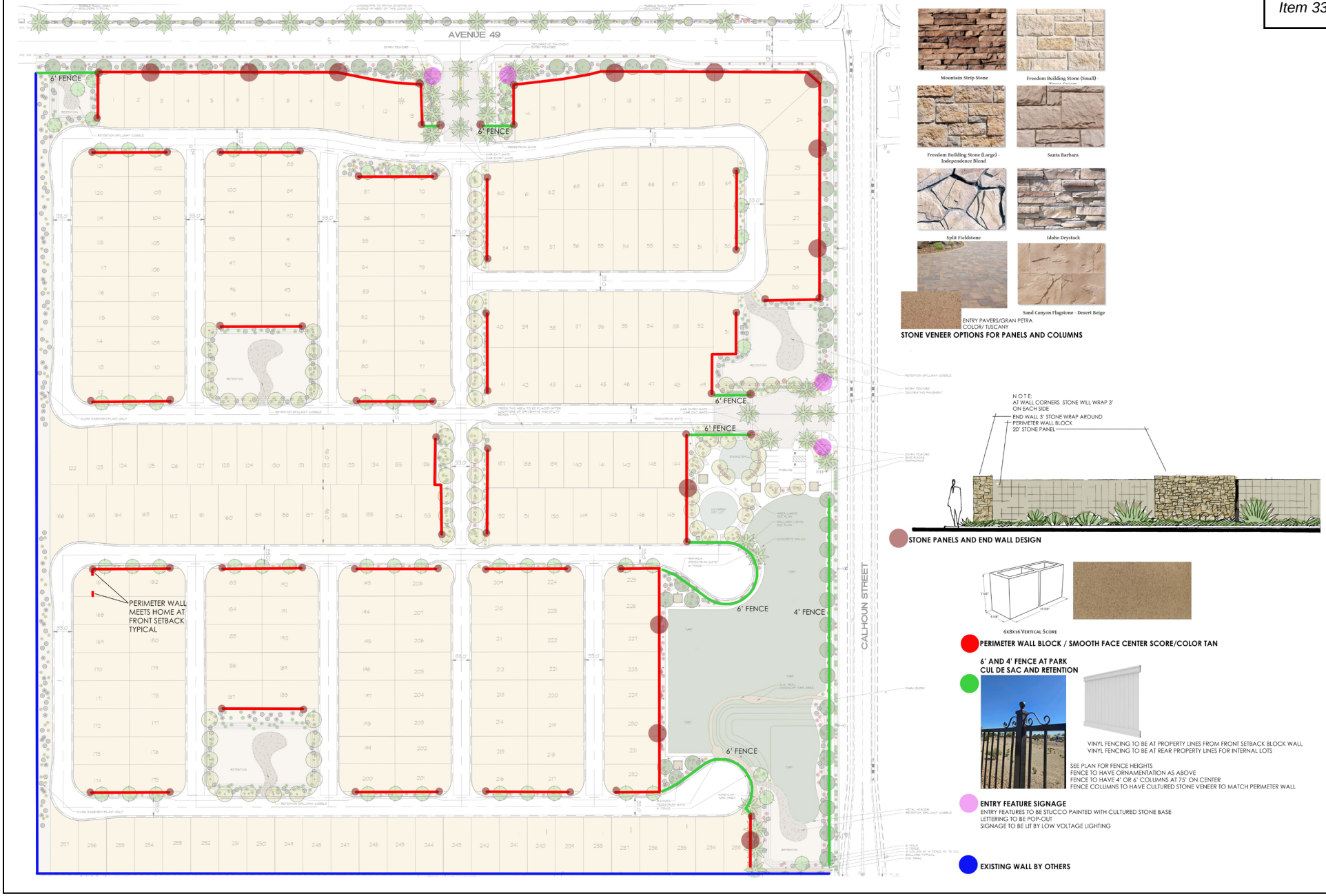
ENTRY SIGN PANELS



PLANT LIST

SYM	NAME	SIZE	WATER USAGE	QUANTITY
	Neltuma odorata Honey Mesquite	24" Box Low Branch	L .2	51
	Parkinsonia florida Blue Palo Verde	24" Box Low Branch	L .2	10
	Chilopsis linearis Desert Willow	24" Box	L .2	55
	Phoenix dactylifera Date Palm	Site Salvage	M .5	27
	Larrea tridentata Creosote	5 gal.	L .2	209
	Caesalpinia pulcherrima Red Bird of Paradise	5 gal.	M .5	38
	Encilia farinosa Brittlebush	5 gal.	L .2	220
	Justicia californica Chuparosa	5 gal.	L .2	211
	Simmondsia chinensis Jojoba	5 gal.	M .5	407
	Lantana x. 'New Gold' New Gold Lantana	1 gal.	M .5	226
	Fouquieria splendens Ocotillo	6-8 Canes	L .2	44
	Hesperaloe parviflora Red Yucca	5 gal.	L .2	136
	Agave americana Century Plant	15 gal.	L .2	19
	Calliandra haematocephala Pink Powder Puff	5 gal.	M .5	24
	Bougainvillea 'Barbara Karst' Barbara Karst Bougainvillea	5 gal.	M .5	21

Not to Scale


AVENUE 49
6' FENCE
6' FENCE
6' FENCE
6' FENCE
6' FENCE
4' FENCE
6' FENCE
PERIMETER WALL MEETS HOME AT FRONT SETBACK TYPICAL
CALHOUN STREET
Mountain Strip Stone
Freedom Building Stone (Small) - Venice Canyon
Freedom Building Stone (Large) - Independence Blend
Santa Barbara
Split Fieldstone
Idaho Drystack
Sand Canyon Flagstone - Desert Beige
ENTRY PAVERS/GRAN PETRA COLOR/ TUSCANY
STONE VENEER OPTIONS FOR PANELS AND COLUMNS
NOTE:
AT WALL CORNERS STONE WILL WRAP 3' ON EACH SIDE
END WALL 3' STONE WRAP AROUND PERIMETER WALL BLOCK
20' STONE PANEL
STONE PANELS AND END WALL DESIGN
6X8X16 VERTICAL SCORE
PERIMETER WALL BLOCK / SMOOTH FACE CENTER SCORE/COLOR TAN
6' AND 4' FENCE AT PARK CUL DE SAC AND RETENTION
VINYL FENCING TO BE AT PROPERTY LINES FROM FRONT SETBACK BLOCK WALL
VINYL FENCING TO BE AT REAR PROPERTY LINES FOR INTERNAL LOTS
SEE PLAN FOR FENCE HEIGHTS
FENCE TO HAVE ORNAMENTATION AS ABOVE
FENCE TO HAVE 4' OR 6' COLUMNS AT 75' ON CENTER
FENCE COLUMNS TO HAVE CULTURED STONE VENEER TO MATCH PERIMETER WALL
ENTRY FEATURE SIGNAGE
ENTRY FEATURES TO BE STUCCO PAINTED WITH CULTURED STONE BASE
LETTERING TO BE POP-OUT
SIGNAGE TO BE LIT BY LOW VOLTAGE LIGHTING
EXISTING WALL BY OTHERS

Not to Scale



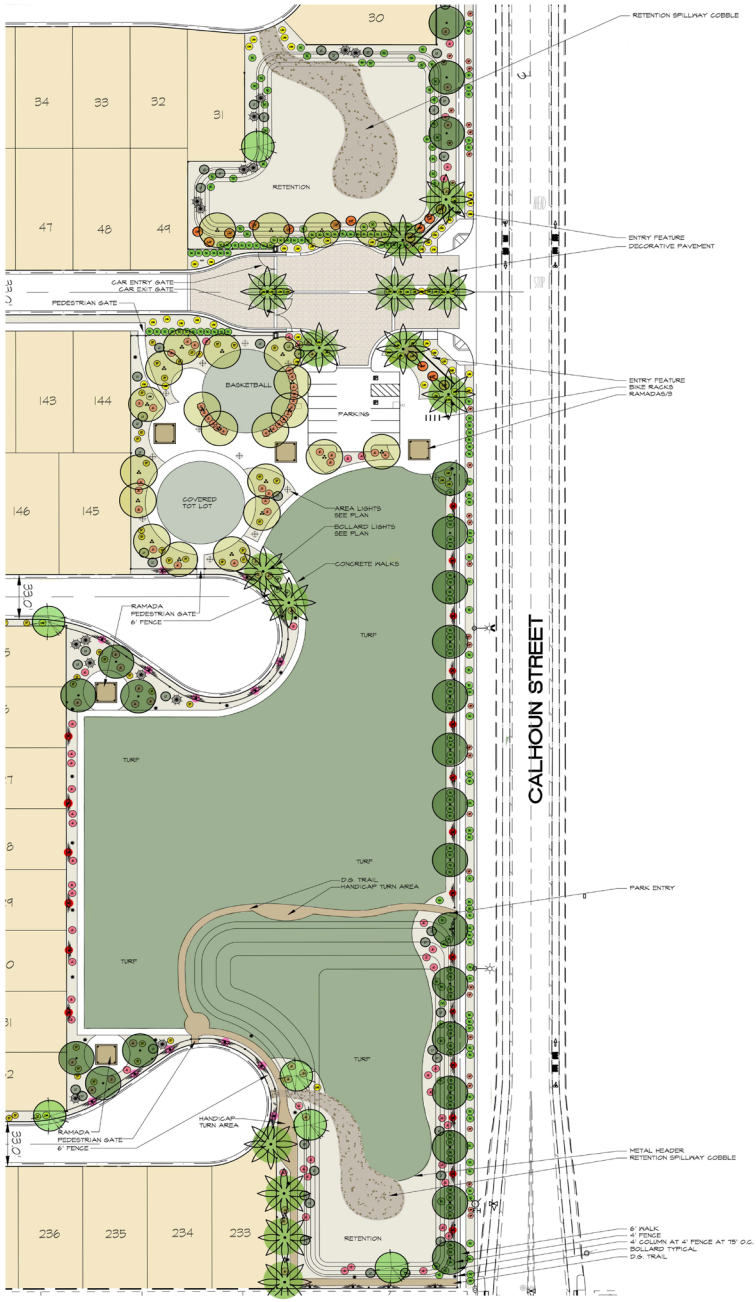
HALF COURT BASKETBALL



BASKETBALL HOOP
AMERICAN SUPERSPORTS
RUFFNECK MODEL
QTY 1



CLASSIC RECREATION SYSTEMS / TOT LOT SHADE





RAMADAS / CLASSIC RECREATION SYSTEMS /MESA MODEL / QTY 5



TOT LOT / WILLYGOAT / GRANITE MOUNTAIN PLAY SYSTEM
KEEGANS CASTLE / QTY 1



RAMADA PICNIC TABLES / GLOBAL INDUSTRIAL 6'
MODEL #WB694553GN / QTY 5



BARCO WHEELCHAIR ACCESSABLE PICNIC TABLE
07SA2614-GN /QTY 1



CONCRETE AREA AROUND TOT LOT AND RAMADAS
BROOM FINISH WITH ALTERNATING PANELS



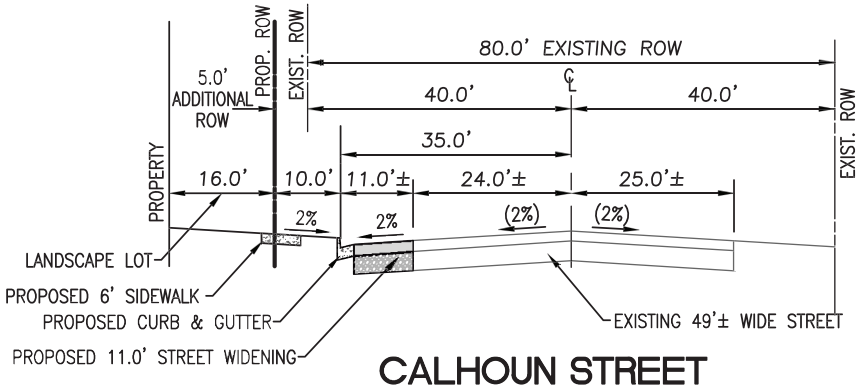
BIKE RACKS / MONMA

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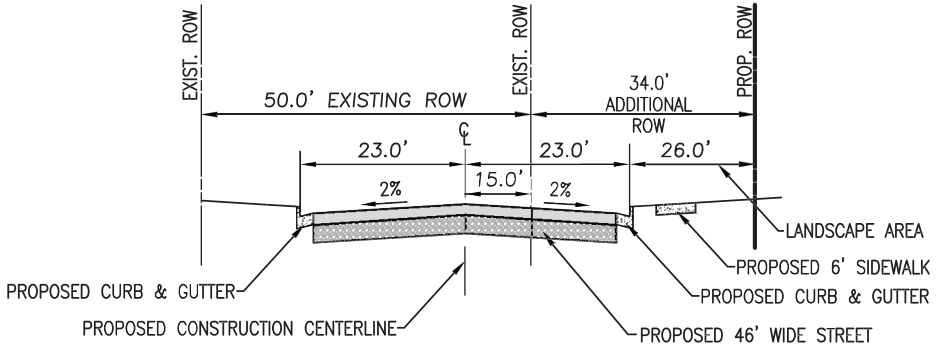
The Altum Group

Conceptual Park Plan
Calhoun Street Subdivision

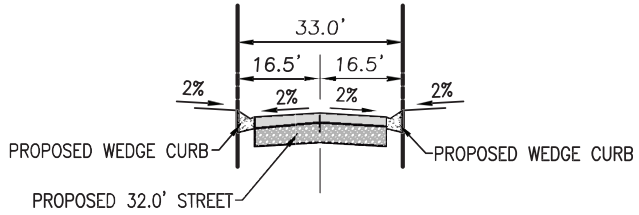
Exhibit
9



CALHOUN STREET
NTS



AVENUE 49
NTS



PRIVATE ON-SITE STREETS
NTS

Not to Scale

RESOLUTION NO. 2026-03

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF COACHELLA CONDITIONALLY APPROVING ENVIRONMENTAL ASSESSMENT NO. 25-02 ASSESSMENT NO. 25-02 FOR THE ADOPTION OF AN INITIAL STUDY WITH MITIGATED NEGATIVE DECLARATION, FOR THE PROPOSED 257-LOT SINGLE FAMILY RESIDENTIAL SUBDIVISION PROJECT LOCATED ON THE 39.98 ACRES SITE AT THE SOUTHWEST CORNER OF CALHOUN STREET AND AVENUE 49, APN 612-260-010; AND DETERMINING THAT THE PROJECT IS COMPLIANT WITH SECTION 15063 OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) GUIDELINES. APPLICANT: PACIFIC MODERN BUILDERS LLC

WHEREAS, on April 15, 2025, the applicant, Rod Vandenburg on behalf of Pacific Modern Builders, LLC., submitted a Tentative Tract Map application, Conditional Use Permit application, and associated environmental documentation for the subdivision of 39.98 acres of land for the development of a 257 single family home planned unit development and associated improvements on the southwest corner of Calhoun Street and Avenue 49 ("the Project"); and,

WHEREAS, the Site is located within the City of Coachella off of Calhoun Street and Avenue 49 within Riverside County, California (Assessor Parcel Numbers 612-260-010) ("Property"); and,

WHEREAS, the site has a zoning designation of General Neighborhood and a General Plan 2035 land use designation of General Neighborhood; and,

WHEREAS, the Project is consistent with and intended to implement the vision of the Coachella Municipal Code and the General Plan 2035 pertaining to land use patterns, building and site design, and public right-of-way improvements; and

WHEREAS, pursuant to the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and CEQA Guidelines Section § 15070 (Decision to Prepare a Negative or Mitigated Negative Declaration), a public agency shall prepare or have prepared a proposed negative declaration or a mitigated negative declaration for a project subject to CEQA when the initial study identifies potentially significant impacts but revisions in the project plan or proposals made by or agreed to by the applicant would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and,

WHEREAS, pursuant to CEQA Guidelines Section § 15070 (Decision to Prepare a Negative or Mitigated Negative Declaration), an initial study with mitigated negative declaration was prepared for the Proposed Project ("Initial Study/Mitigated Negative Declaration), and mitigation measures have been incorporated into the Mitigated Negative Declaration and will be imposed on the Proposed Project through the City's adoption of a Mitigation Monitoring and Reporting Program ("MMRP") in compliance

with CEQA Guidelines Section 15070(d); and,

WHEREAS, pursuant to CEQA Guidelines Section § 15073 (Public Review of a Proposed Negative Declaration or Mitigated Negative Declaration), comments were received pertaining to the Initial Study/Mitigated Negative Declaration and added to the administrative record; and,

WHEREAS, a notice of a public hearing to consider Tentative Tract Map No. 39051, Conditional Use Permit No. 390, and Environmental Assessment 2025-02 was issued in accordance with Coachella Municipal Code Section 17.74.010G, inclusive of the publication on December 7, 2025, of a legal public hearing notice which was published in the Desert Sun, the City's newspaper of record and mailing of a public hearing notice to a certified list of property owners within 300 feet of the subject properties on December 2, 2025; and,

WHEREAS, on December 17, 2025, the Planning Commission held a duly noticed public hearing to consider the application for the Project during which evidence, both written and oral, including the staff report and supporting documents, was presented at said hearing; and,

WHEREAS, at the conclusion of the public hearing and following discussion, the Planning Commission approved Resolution No. PC2025-24 recommending the City Council conditionally approve the Calhoun Subdivision Project as conditioned with the motion vote outcome specified in the meeting minutes for the December 17, 2025, Planning Commission meeting.

WHEREAS, a notice of a public hearing to consider Tentative Tract Map No. 39051, Conditional Use Permit No. 390, and Environmental Assessment 2025-02 was issued in accordance with Coachella Municipal Code Section 17.74.010G, inclusive of the publication on January 18, 2026, of a legal public hearing notice which was published in the Desert Sun, the City's newspaper of record and mailing of a public hearing notice to a certified list of property owners within 300 feet of the subject properties on January 6, 2026; and,

WHEREAS, on January 28, 2026, the City Council held a duly noticed public hearing to consider the application for the Project during which evidence, both written and oral, including the staff report and supporting documents, was presented at said hearing; and,

WHEREAS, at the conclusion of the public hearing and following discussion, the City Council approved this Resolution for the conditional approval of the Calhoun Subdivision Project as conditioned with the motion vote outcome specified in the meeting minutes for the January 28, 2026, City Council meeting.

NOW, THEREFORE, BE IT RESOLVED, THE CITY COUNCIL OF THE CITY OF COACHELLA, CALIFORNIA DOES HEREBY FIND DETERMINE AND

RESOLVE AS FOLLOWS:

SECTION 1. **Incorporation of Recitals.** The City Council hereby specifically finds that all of the facts set forth in the recitals of this Resolution are true and correct and are incorporated into this Resolution by reference and constitute a material part of this Resolution.

SECTION 2. **Environmental Findings.** The City Council has independently reviewed the Initial Study with Mitigated Negative Declaration and the administrative record for the proposed project, including all oral and written comments received during the document circulation period, public hearing, the staff report, and all attachments thereto, which are all incorporated herein by reference and are on file with the Community Development Department for the City of Coachella, and the City Council finds that:

A. The Initial Study with Mitigated Negative Declaration (EA 2025-02) has been completed in compliance with CEQA and reflects the agency's independent judgment and analysis.

B. All environmental impacts of the Proposed Project are either insignificant or can be mitigated to a level of insignificance pursuant to the mitigation measures outlined in the Mitigated Negative Declaration and the Mitigation Monitoring Reporting Program.

C. There is no substantial evidence in the administrative record supporting a fair argument that the Proposed Project, as revised, may result in significant environmental impacts.

D. The City Council hereby approves and adopts the Initial Study with Mitigated Negative Declaration (EA 2025-02) pursuant to Public Resources Code section 21080(c)(2).

E. Pursuant to Public Resources Code section 21081.6, the City Council approves and adopts the MMRP prepared for the Project, which shall be fully complied with as specified in this Resolution and the Conditions of Approval set forth herein.

SECTION 3. Location and Custodian of Records. The documents and materials that constitute the record of proceedings on which these findings are based are located at Coachella Civic Center. The Development Services Director is the custodian of the record of proceedings.

SECTION 4. Execution of Resolution. The Chairman shall sign this Resolution and the City Clerk shall attest and certify to the passage and adoption thereof.

SECTION 5. City Council Approval Based on the foregoing recitals and findings above, and the written and oral comments, facts and evidence presented, the City of Coachella City Council hereby conditionally approves Environmental Assessment No. 25-

02 for the adoption of an Initial Study with Mitigated Negative Declaration, for the proposed 257-lot single family residential subdivision project located on the 39.98 acres site at the southwest corner of Calhoun Street and Avenue 49, APN 612-260-010; And determining that the project is compliant with Section 15063 Of The California Environmental Quality Act (CEQA) Guidelines. The applicant shall demonstrate compliance with ALL Conditions of Approval, as set forth in Exhibit "A", and Planned Unit Development in "Exhibit B" of this Resolution. Failure to demonstrate compliance with these conditions of approval may result in the delay of the Proposed Use or the rescinding of the City of Coachella's conditional use permit approval. Where the term "Applicant" is used in any condition of approval, this term shall also apply to the Property Owner, any developer, or any successor in the interest of the Applicant. It is the Applicant's or Applicant's successor in interest responsibility to fully comply with the conditions of approval unless subsequently modified in accordance with the City's required processes and procedures.

PASSED APPROVED and ADOPTED this 28th day of January 2026.

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
Steven Hernandez, Mayor
City of Coachella

ATTEST:

_____
Angela M. Zepeda, City Clerk
City of Coachella

APPROVED AS TO FORM:

_____
Best Best & Krieger
City Attorney

Exhibit A – Resolution No. 2026-03

CONDITIONS OF APPROVAL FOR ENVIRONMNETAL ASSESSMENT NO. 25-02

General Conditions

1. Environmental Assessment No. 25-02 is for the adoption of an Initial Study with Mitigated Negative Declaration EA 25-02, for the proposed 257-lot single family residential subdivision project located on the 39.98-acres site at the southwest corner of Calhoun Street and Avenue 49, APN 612-260-010, and the determination that the proposed project is compliant with California Environmental Quality Act (CEQA) Guidelines Section 15073 - Public Review of a Proposed Negative Declaration or Mitigated Negative Declaration.

2. The applicant shall defend, indemnify and hold harmless the City of Coachella, its officials, officers, employees, and agents from and against any claim, action, or proceeding against the City, its officials, officers, employees or agents to attack, set aside, void or annul any project approval or condition of approval of the city concerning this project, including but not limited to any approval or condition of approval or mitigation measure imposed by the City Council or Planning Commission. The City shall promptly notify the applicant of any claim, action, or proceeding concerning the project and the City shall cooperate fully in the defense of the matter. The City reserves the right, at its own option, to choose its own attorney to represent the City, its officials, officers, employees and agents in the defense of the City Attorney, within five days of the effective date of this approval.

3. The applicant shall comply with all requirements and conditions of approval as included in Tentative Tract Map No. 39051, Conditional Use Permit No. 390, Environmental Assessment No. 25-02, and any modifications or extensions thereof, as listed in those Notice of Actions or Resolutions for each respective approval, and Resolution No. 2026-01, Resolution No. 2026-02, and Resolution No. 2026-03 unless otherwise modified per the requirements and conditions of approval per this resolution.

	INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Project Title:	Calhoun Street Housing Development
Case No.	Environmental Assessment EA 25-02 Tentative Tract Map TTM 39051 Conditional Use Permit 390 Planned Unit Development
Assessor's Parcel No.	612-260-010
Lead Agency Name and Address:	City of Coachella – Planning Division 53990 Enterprise Way Coachella, CA 92236
Project Location:	Southwest corner of Calhoun Street and Avenue 49
Project Sponsor's Name and Address:	Rod Vandenburg Pacific Modern Builders LLC P.O. Box 3075 Rancho Mirage, CA 92270
General Plan Designation(s):	General Neighborhood
Zoning:	General Neighborhood (G-N)
Contact Person:	Adrian Moreno, Associate Planner City of Coachella 53990 Enterprise Way Coachella, CA 92236
Phone Number:	(760) 398-3502 EXT. 118
Date Prepared	November 2025

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CHAPTER 1: INTRODUCTION

Project Location

The proposed Calhoun Street Housing Development is a Planned Unit Development (PUD) for a single-family residential project (referred to hereafter as Project and/or proposed Project). The Project is located on the southwest corner of Calhoun Street and Avenue 49 in the City of Coachella, Riverside County, California (Exhibits 1- 3), and is bounded along the west perimeter by lands within the City of Indio. The site encompasses 39.98 acres and is identified as Assessor's Parcel Number (APN) 612-260-010. Single-family residential land uses occur to the north, south and west of the Project site. Across Calhoun Street on the east side, there is vacant lot of a similar size to the proposed Project. The new residential neighborhood to the west occurs in the City of Indio.

Throughout much of the 20th century, the Project site and surrounding lands were under agricultural use, with the Project site serving as a date grove. As the population has grown along with the need to diversify the economy, the City has transitioned certain agricultural areas to other uses and has established 17 Subareas to guide future planning. The Project site is located in the City's Subarea 1, West Coachella Neighborhoods, where the current land use designations include General Neighborhood and Suburban Neighborhood.[1] The site has been partially cleared, although many date palms remain scattered throughout 75% of the parcel while the northeast corner of the parcel is graded and barren.

Project Description

The Project site currently has a land use and zoning designation of "General Neighborhood" in the City's General Plan 2035 Update (General Plan) which allows for single- and multi-family residences. Multi-family residences are to be constructed in a "house-form" such as duplexes, rowhouses, and garden apartments. Residential neighborhoods encourage small blocks, parks and green spaces, and walkability or short drives to services such as schools and shopping. Between 7 and 25 dwelling units per acre are permitted in General Neighborhood areas.[2] The applicant proposes a PUD that would permit flexible standards for smaller lot sizes and a higher density for a private gated community. The PUD requires the completion of a conditional use permit (CUP), which will establish the land use regulations and minimum development standards for the development, to be approved by the City's Planning Commission.

The gross acreage for the Project parcel is 39.98 acres. With 1.21 acres of right of way dedications, the net parcel area is 38.77 acres. The applicant proposes to subdivide the Project site for a future build out of a private, gated residential community containing 257 single-family homes and a public park with a total area of 3.53 acres – 3.13 acres for recreational open space and a 0.40-acre landscaped retention basin.

The residential use consists of 144 lots each encompassing a minimum of 3,400 sf, and 113 lots each encompassing a minimum of 4,050 sf. The lots will be eligible for Accessory Dwelling Units (ADU) and Junior Dwelling Units (JADU).

1 City of Coachella General Plan Update 2035, Land use and Community Character, updated April 2015.

2 City of Coachella General Plan Update 2035, Land Use, Compatible Uses and Designations, Table 4-1, General Plan Designations Summary, updated April 2015.

The Architectural style of the homes will be determined through an architectural review application at a later date. This Initial Study assumes that the houses proposed will conform to the minimum standards established in the Project PUD.

The 3.13-acre recreational area of the park includes a tot lot, basketball court, ramadas with picnic tables, a turf grass area, and a small parking lot. Connected to the south side of the park is a 0.40-acre retention basin that is partially landscaped with turf grass for recreational use and encircled by a decomposed granite trail. The public can access the park from Calhoun Street by either entering the parking lot at the north end or the trail at the south end. A security fence surrounding the park will prevent public access to the residential section of the Project.

Two vehicular access points include one located on the north side from Avenue 49 and one on the east side from Calhoun Street. The proposed Project would include right-of-way allowances for future road improvements. Currently, Avenue 49 east of Calhoun is designated as a Primary Arterial, but west of Calhoun to Jackson Street Avenue 49 is an unimproved path. For 1,300 linear feet from Calhoun Street to the Project's northwest corner, the applicant proposes 84-foot-wide full-street improvements including curbs, gutters, and sidewalks on both sides. At buildout, Avenue 49 street improvements would include 46 feet of travel lanes with curbs and gutters, six-foot sidewalks on both sides, and a 26-foot-wide landscaped area along the Project site Avenue 49 frontage.

Along 1,300 linear feet of Calhoun Street from the intersection of Avenue 49 to the southeast corner of the Project, the applicant proposes half-width improvements consisting of new pavement, curb, gutter, undergrounding of existing overhead utilities, new streetlights, a six-foot-wide sidewalk, and a 26-foot-wide landscape setback along the Project site frontage. Exhibits 4a and 4b show the Tentative Tract Map No. 39051 and Exhibits 5a – 5d provide the Conceptual Landscape Plan for the development. Full details of the street improvements are discussed in the Section XVII Transportation.

Four retention basins will accept all on-site flows from a 100-year storm event. A fifth basin located at the northwest corner of the Project would accept off-site flows from Avenue 49. The basins will be landscaped to maintain openness and reduce visual massing of the development.

Table 1-1
Project Information

Total Project Area	39.98 ac (gross) 38.77 (net), 1,688,821 sf
Residential Lots	257 lots
144 lots	40 ft wide (3,600 sf)
113 lots	45 ft wide (4,050 sf)
Landscaped Common Areas	
Public Park	3.13 ac (136,343 sf includes parking lot)
Five Retention Basins	2.82 ac (122,839 sf)

Utilities and Service Providers

The following agencies and companies will provide service to the project site:

1. Sanitary Sewer: Coachella Water Authority and Sanitary District
2. Water: Coachella Water Authority and Sanitary District
3. Electricity: Imperial Irrigation District (IID)
4. Gas: Southern California Gas Company
5. Telephone: AT&T, MCI, SBC, Frontier, Sprint
6. Trash Disposal: Burrtec Waste and Recycling Services

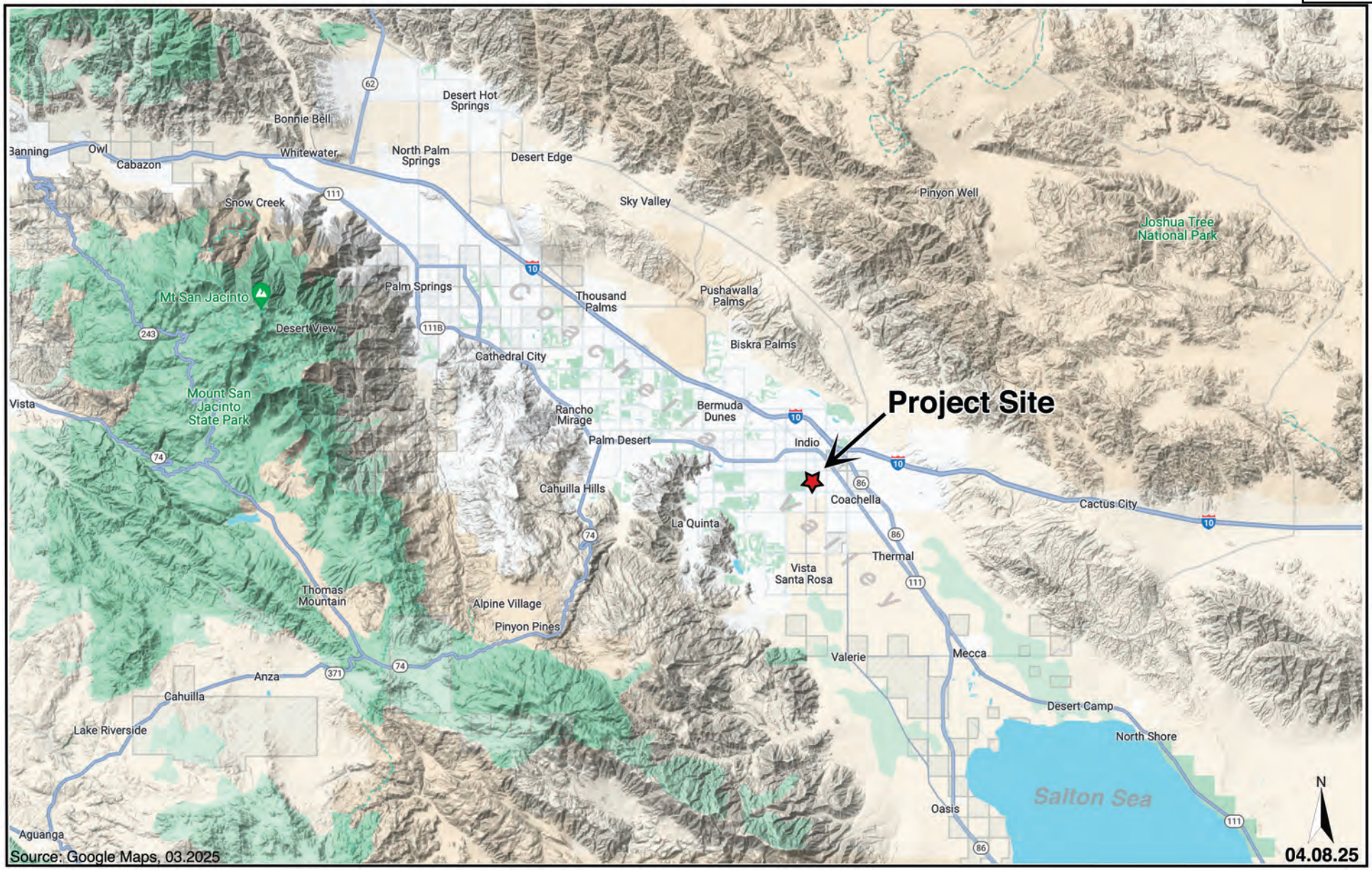
Existing facilities for these utilities occur adjacent to the Project site as there are developed neighborhoods north and south of the parcel. Extensions from the Project site to these facilities would be constructed in existing, disturbed rights-of-way and therefore would not impact the native environment.

Surrounding Land Uses:

North: Avenue 49 (unimproved), Suburban Neighborhood – single-family residences
South: Suburban Neighborhood – single-family residences
East: Suburban Neighborhood – vacant lot
West: City of Indio, Suburban Neighborhood – single-family residences

Other public agencies whose approval is required.

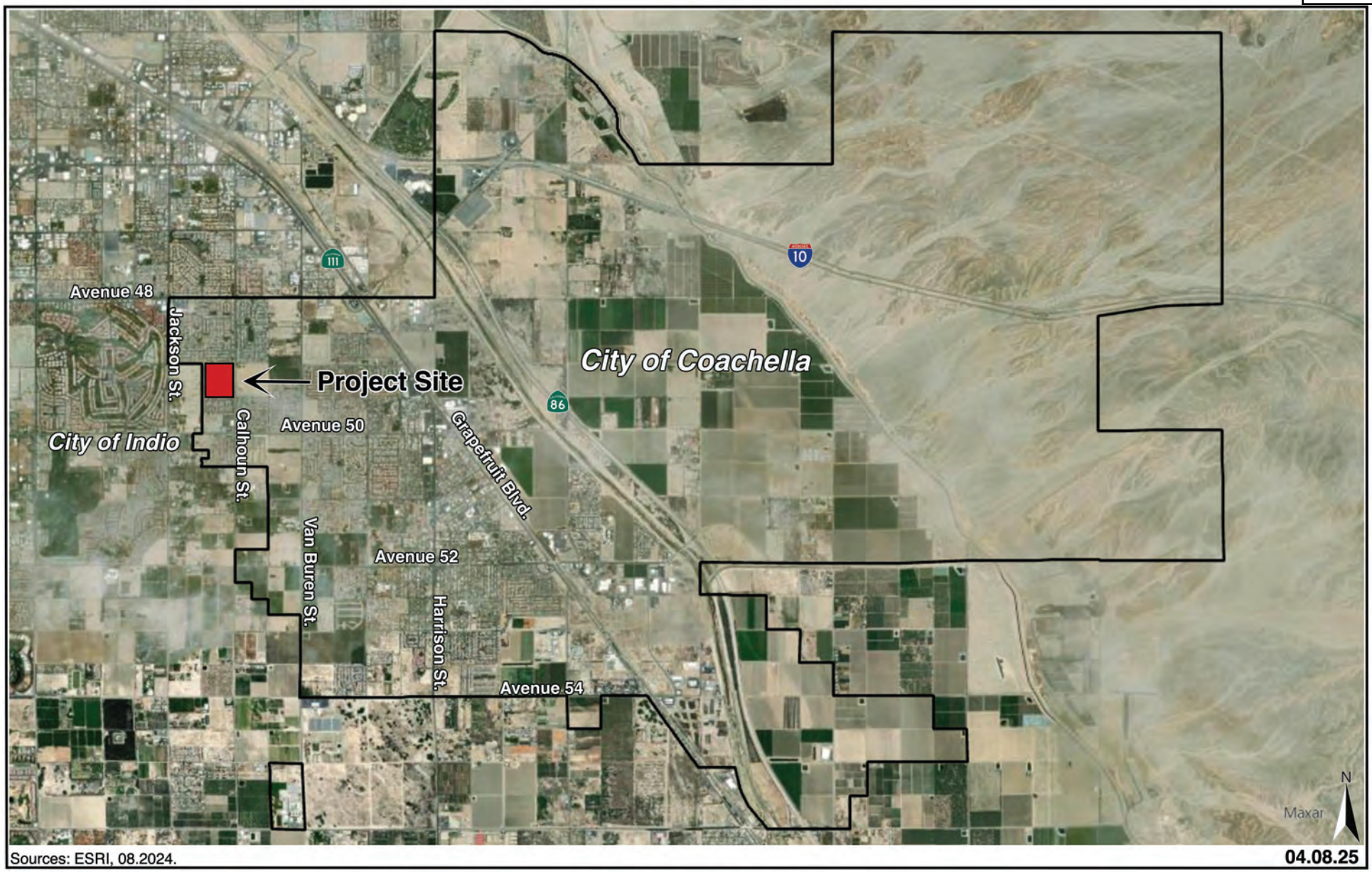
None.



TERRA NOVA®
PLANNING & RESEARCH, INC.

Regional Location Map
Calhoun Street Housing Development
Coachella, California

Exhibit
1



TERRA NOVA®
PLANNING & RESEARCH, INC.

Project Vicinity Map
Calhoun Street Housing Development
Coachella, California

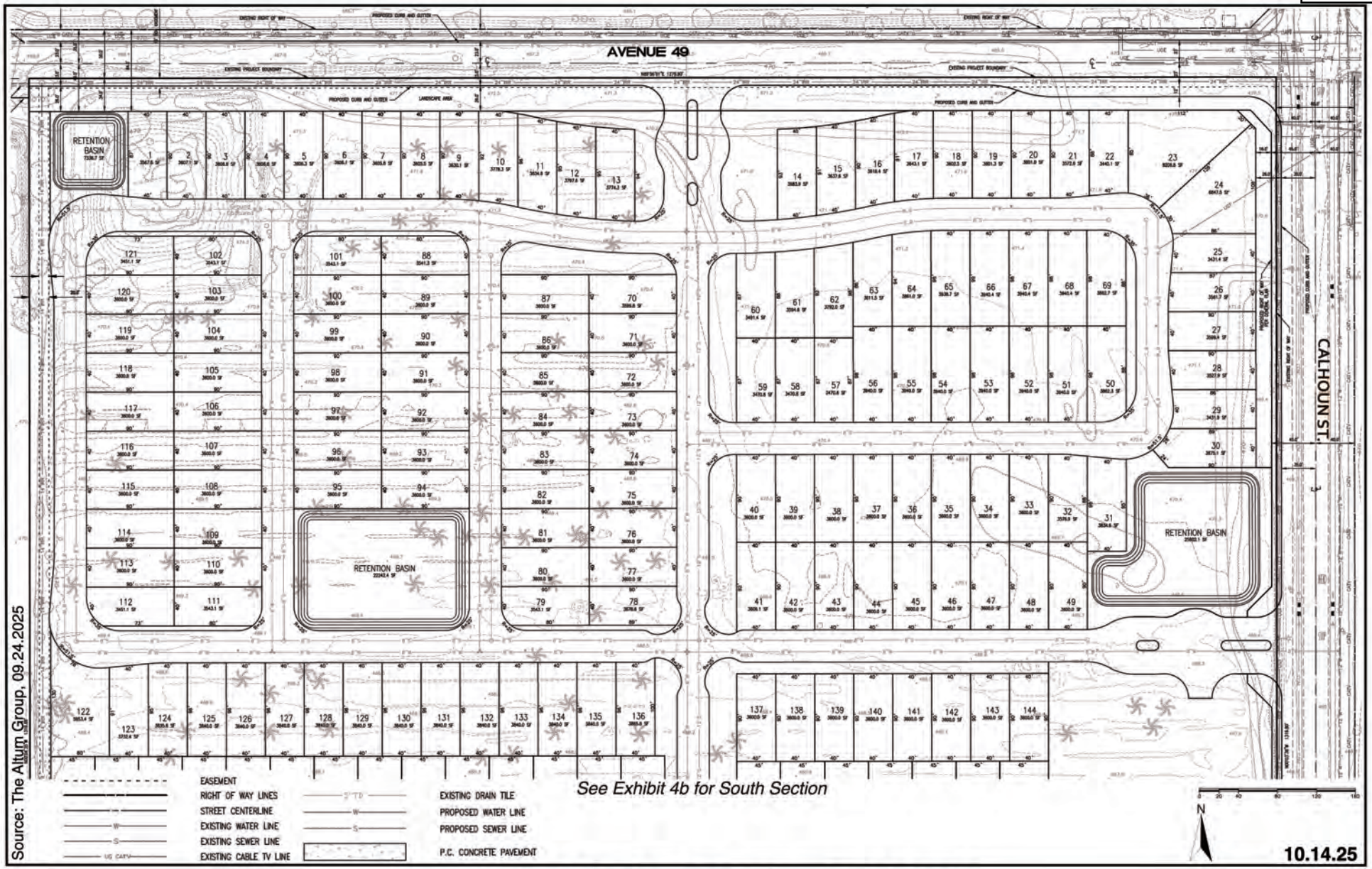
Exhibit
2



TERRA NOVA®
PLANNING & RESEARCH, INC.

Project Location Map
Calhoun Street Housing Development
Coachella, California

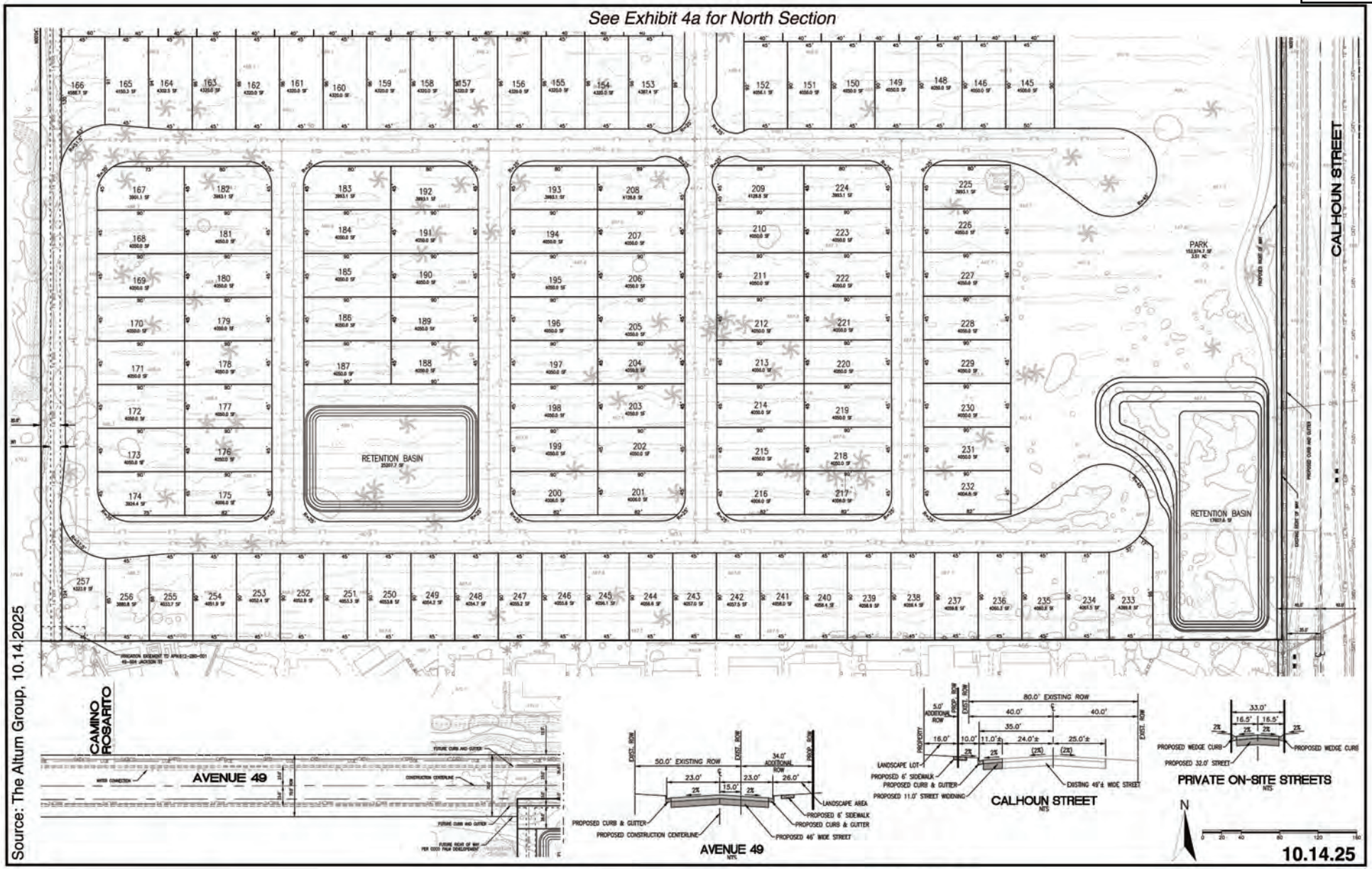
Exhibit
3



TERRA NOVA®
PLANNING & RESEARCH, INC.

Tentative Tract Map No. 39051 - North Section
Calhoun Street Housing Development
Coachella, California

Exhibit
4a



Source: The Altum Group, 10.14.2025

TERRA NOVA®
PLANNING & RESEARCH, INC.

Tentative Tract Map No. 39051 - South Section
Calhoun Street Housing Development
Coachella, California

Exhibit
4b



TERRA NOVA®
PLANNING & RESEARCH, INC.

Conceptual Landscape Plan - North Section
Calhoun Street Housing Development
Coachella, California

Exhibit
5a

See Exhibit 5a for North Section



Neltuma odorata
Honey Mesquite

Parkinsonia floridum
Blue Palo Verde

Chilopsis linearis
Desert Willow

Phoenix dactylifera
Date Palm

Larrea tridentata
Creosote

Caesalpinia pulcherrima
Red Bird of Paradise

Encilia farinosa
Chuparosa

Justicia californica
Chuparosa

Simmondsia chinensis
Jojoba

Lantana x. 'New Gold'
New Gold Lantana

Fouquieria splendens
Ocotillo

Hesperaloe parviflora
Red Yucca

Agave americana
Century Plant

Calliandra haematocephala
Pink Powder Puff

Bougainvillea 'Barbara Karst'
Barbara Karst Bougainvillea

NOTES:

ALL PLANTS TO RECEIVE DRIP IRRIGATION.

IRRIGATION SHALL BE DESIGNED IN ACCORDANCE WITH CVWD REQUIREMENTS.

ALL RETENTION AREA WATER SPILLWAY COBBLE TO BE 4"-8" "COPPER CANYON".

ALL PLANTING AREAS TO BE 3/4" GRAVEL 'COPPER CANYON'.

1/4" DECOMPOSED GRANITE ON PARK TRAIL ONLY SEE PARK ENLARGEMENT PLAN.

N

Source: Russell MacDonald, RLA, 10.01.2025

10.14.25

TERRA NOVA®
PLANNING & RESEARCH, INC.

Conceptual Landscape Plan - South Section
Calhoun Street Housing Development
Coachella, California

Exhibit
5b



RAMADAS / CLASSIC RECREATION SYSTEMS /MESA MODEL



TOT LOT / WILLYGOAT /
GRANITE MOUNTAIN PLAY SYSTEM / QTY 1



RAMADA PINIC TABLES / GLOBAL INDUSTRIAL 6'
MODEL #WB694553GN / QTY 5



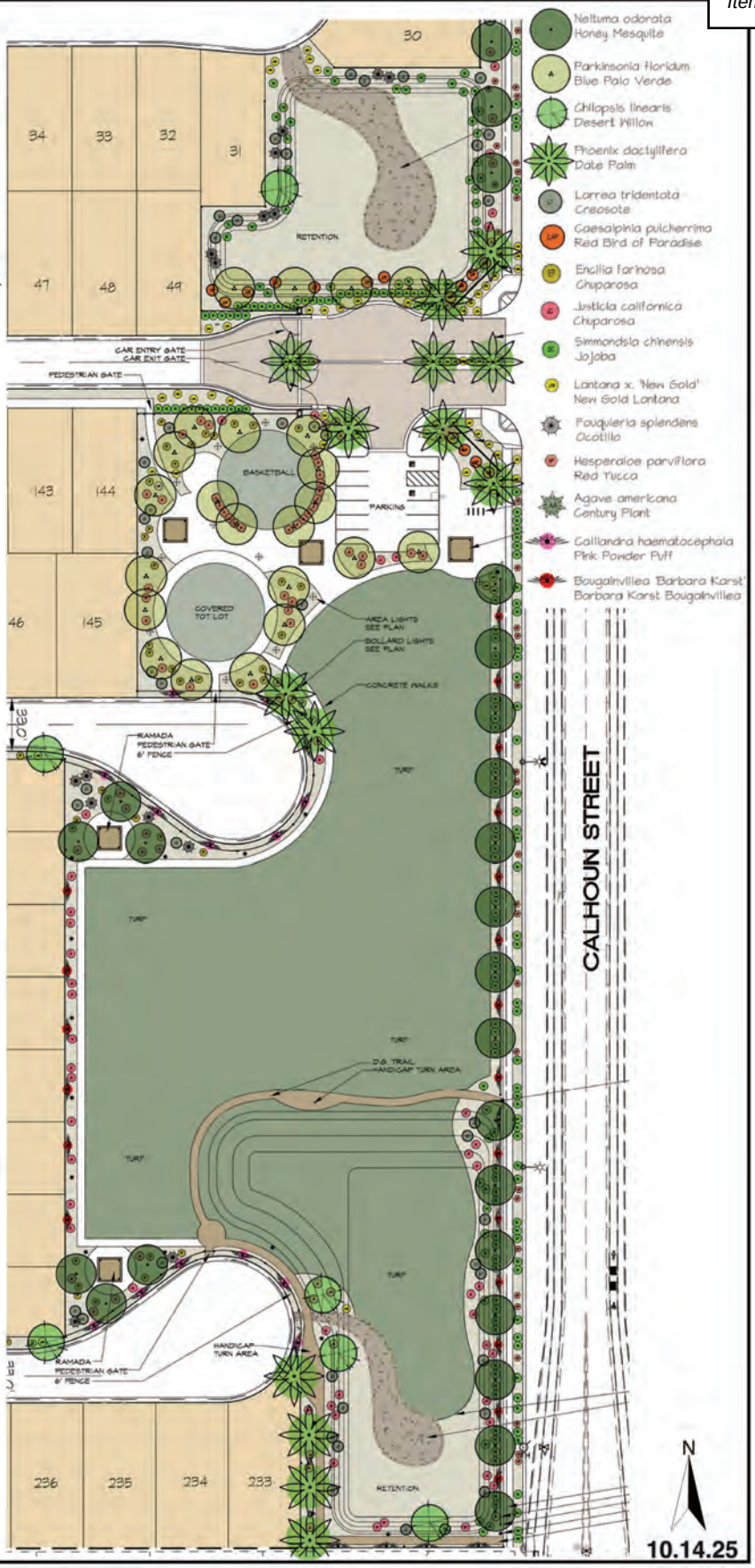
BIKE RACKS / MONMADE / A2 TRANSITION BIKE RACK



CONCRETE AREA AROUND TOT LOT AND RAMADAS
BROOM FINISH WITH ALTERNATING PANELS



HALF COURT BASKETBALL



10.14.25

Source: Russell MacDonald, RLA, 10.01.2025

TERRA NOVA®
PLANNING & RESEARCH, INC.

Conceptual Landscape Plan - Park
Calhoun Street Housing Development
Coachella, California

Exhibit
5c


HONEY MESQUITE


BLUE PALO VERDE


DESERT WILLOW


DATE PALM


CENTURY PLANT


PINK POWDER PUFF


BOUGAINVILLEA


CREOSOTE


RED BIRD OF PARADISE


BRITTLEBUSH

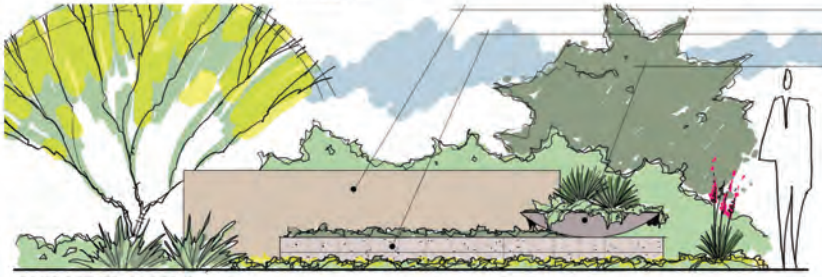

CHUPAROSA


JOJOBA


YELLOW LANTANA


OCOTILLO

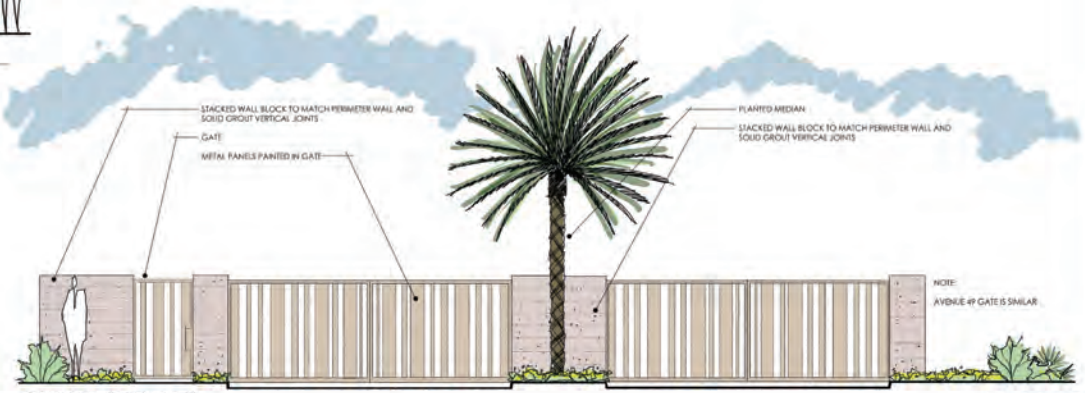

RED YUCCA



ENTRY SIGN PANELS


SW BOULDER / 'COPPER CANYON / 4"-8" and 1'-3"


SW BOULDER / 'CALIFORNIA GOLD' FINES PARK TRAIL TO HAVE SAME AND COMPACTED



CALHOUN ENTRY GATE

Source: Russell MacDonald, RLA, 10.01.2025

10.14.25

TERRA NOVA®
PLANNING & RESEARCH, INC.

Conceptual Landscape Plan - Plants & Conceptual Entry Design
Calhoun Street Housing Development
Coachella, California

Exhibit
5d

Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agricultural and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology/ Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology/ Water Quality	☐ Land Use/ Planning	☐ Mineral Resources
☐ Noise	☐ Population/ Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities/ Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

CHAPTER 2: ENVIRONMENTAL ANALYSIS AND DETERMINATION

DETERMINATION: The City of Coachella Planning Department finds

On the basis of this initial evaluation: Adjust check box as appropriate

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

■ I find that although the proposed project could have a significant effect on the environment there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Adrian Moreno

Adrian Moreno
Associate Planner
City of Coachella

11/12/25

Date

PURPOSE OF THIS INITIAL STUDY

This Initial Study has been prepared consistent with CEQA Guidelines Section 15063, to determine if the project, as proposed, may have a significant effect upon the environment. Based upon the findings contained within this report, the Initial Study will be used in support of the preparation of a Mitigated Negative Declaration.

EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures, which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:
    a) The significance criteria or threshold, if any, used to evaluate each question; and
    b) The mitigation measure identified, if any, to reduce the impacts to less than significance.

I. AESTHETICS Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			✓	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			✓	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

Environmental Setting

The City of Coachella lies in the low desert region of central Riverside County at the eastern end of the Coachella Valley. The City sits sixty-eight feet below sea level in a geographic feature known as the Salton Basin. Mountain ranges surrounding the Coachella Valley include the San Jacinto and Santa Rosa Mountains to the west and southwest with the highest peaks from 8,000 feet to over 10,800 feet; and the Little San Bernardino Mountains, including Joshua Tree National Park, along the northeast boundary with peaks ranging from 5,000 feet to over 11,000 feet. The Salton Sea, California's largest inland body of water, lies in the Salton Basin just south of the City. Major transportation corridors such as the I-10 freeway, State Highway 86S and Highway 111 connect the City of Coachella to nearby cities and communities. The City is undergoing a transition from a primarily agricultural-based economy to a medium-sized city that hosts an array of commercial and retail services, industrial activity, and residential neighborhoods all surrounded by productive agricultural lands.

The Project site is located in the City's General Plan Subarea 1, West Coachella Neighborhoods, which is a region of the City that has been transitioning from agricultural use to residential use. Residential subdivisions and vacant lots are interspersed with active agricultural parcels, as is the case immediately surrounding the Project site. To the north, west and south of the Project site are single-family neighborhoods. The new Dolfina residential project abutting the west side is located in the City of Indio, and is nearing the end of construction. Finally, on the east side of Calhoun Street

there is a vacant lot of a similar size to the Project site, which is also surrounded by single-family residential uses and a date palm grove.

The Project site had previously been the site of a date palm grove as evidenced by the remnant date palms remaining on the property along with scattered ruderal vegetation. The northeast corner has been and graded and cleared of all vegetation. Ultimately, build out of the project site will result in a single-family residential development consisting of 257 homes, common landscaped areas, and a 3.13-acre park. The Aesthetic impacts of the project are discussed in the following paragraphs.

Discussion of Impacts

a) Less Than Significant Impact. From the Project site, the lower foothills of the Santa Rosa Mountains to the southwest are approximately 5.5 miles away, and the lower foothills of the Little San Bernardino Mountains are about 9 miles to the northeast. Views of these mountain vistas are currently partially obstructed by existing development. From a distance, viewers on the site can see the middle and upper slopes of both ranges over the rooftops of the surrounding homes and nearby date palm groves, however, at close range, the homes and sound walls block these scenic vistas.

The General Neighborhood land use designation for the Project site allows for single- and two-story homes with heights not to exceed 17 and 35 feet respectively, as does the Suburban Neighborhood land use encircling the Project site. Three-story residential structures are permitted in Neighborhood Center land uses and cannot exceed 45 feet.[3] At buildout, the Project's footprint would align with neighboring residential standards in height, structure, and design. As described above, from a distance, the southwestward facing views of the Santa Rosa Mountains from north and east of the subject property would be partially impeded where viewers would retain sight of the middle to upper slopes, but the lower foothills would be obstructed. Similarly, northeast views of the lower foothills of the Little San Bernardino Mountains from south and west of the subject property would be obstructed, but viewers south of the Project site would still be able to see the upper slopes. Views directly to the south and to the east would not be affected, since the Project would be behind these viewsheds. The City's height restrictions for single-family homes would restrict the impacts to scenic vistas so that scenic vistas would not be completely blocked by viewers from a distance.

The Project's potential impacts to scenic vistas are in line with viewshed impediments from existing neighboring development. Scenic vistas of the Santa Rosa Mountains to the southwest and of the Little San Bernardino Mountains to the northeast would be partially obstructed by the Project, but not completely removed, therefore the impacts to scenic vistas would be less than significant.

b) No Impact. The proposed site is not located along a state scenic highway and does not contain any scenic resources, including trees, rock outcroppings or historic buildings. No impact to these resources will occur.

c) Less Than Significant Impact. The Project is planned within an area of the City that has been undergoing a transition from agricultural use to residential use, and the current Zoning designation for the Project parcel is General Neighborhood, while surrounding properties are designated as Suburban Neighborhood zoning. The future buildout, including 257 single-family

[3] Property and Development Standards, Coachella Municipal Code §17.13.030 and 17.14.030, June 26, 2024.

residences with landscaped drainage areas, and a 3.13-acre park are consistent with the City's zoning designations for this parcel and the surrounding parcels. Buildings, landscaping, pathways, streets, and sounding walls will align with City development standards, as modified by the PUD, that include appropriate setbacks, drought-tolerant landscaping, and elevated design elements which will assimilate with existing residential development.

Proposed street improvements for the quarter-mile extents along Calhoun Street and Avenue 49 will improve existing conditions, and add parkway landscaping to the viewshed

The Project would comply with the City's residential development standards and would not conflict with the scenic quality of nearby residential neighborhoods. Impacts to the visual character of the surrounding environment would be less than significant.

d) Less than Significant Impact. The gradual transition from agricultural use to residential use in this Subarea of the City has resulted in an overall increase in nighttime light from sources such as interior home lighting emitting from windows, exterior home security lighting, landscape lighting, automobile headlights, and street lighting.

Construction-Related Impacts
Construction activities would occur during the day and there would be no need to apply nighttime security lighting on the Project site. Construction activities would not introduce new sources of light or glare.

Operational-Related Impacts
While the subject property currently contains no light sources, the Project buildout would introduce additional sources of nighttime light from security lighting, landscape and pathway lighting, street lighting, and interior home lighting seen from windows. Daytime glare may also be expected from windows. However, the Project's sources of lighting and glare would be consistent with and not exceed light and glare emissions from existing nearby development. The Project would adhere to the City's lighting requirements and would not produce light and glare upward into the sky. Project impacts from additional sources of light and glare would be less than significant.

Mitigation Measures: None required.

Monitoring: None required.

Sources: City of Coachella General Plan 2035 Update; Coachella Municipal Code, June 2024.

II. AGRICULTURAL AND FORESTRY RESOURCES				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓

Environmental Setting

Agriculture lies at the heart of Coachella's historic identity and will continue to be a contributor to the local economy far into the future. As the City grows, certain agricultural areas have been protected from future development while other areas have been converted to residential, commercial and industrial uses. Today, the protected agricultural designations, Agricultural Rancho and Rural Rancho, are found outside the City limits in the City's eastern sphere of influence. The Project site has been designated as a General Neighborhood land use and zone, and sits within the City's Subarea 1, West Coachella Neighborhoods, an area on the west side that has gradually been converted from agricultural use to residential use. Impacts to agricultural resources are discussed here.

Discussion of Impacts

a-e) No Impact.
Conversion of Farmland:
According to Google Earth Imagery, the subject property had been graded and unused between 1985 and 2002. By 2002, rows of date palms had been planted on 75% of the site, with the northeast corner remaining barren. By 2019, irrigation and cultivation of the palms appear to have ceased, leaving leftover palms dispersed across the parcel. This change of land use on the Project site is consistent with the City's economic expansion and the transition of certain agricultural lands to residential, commercial and industrial uses.

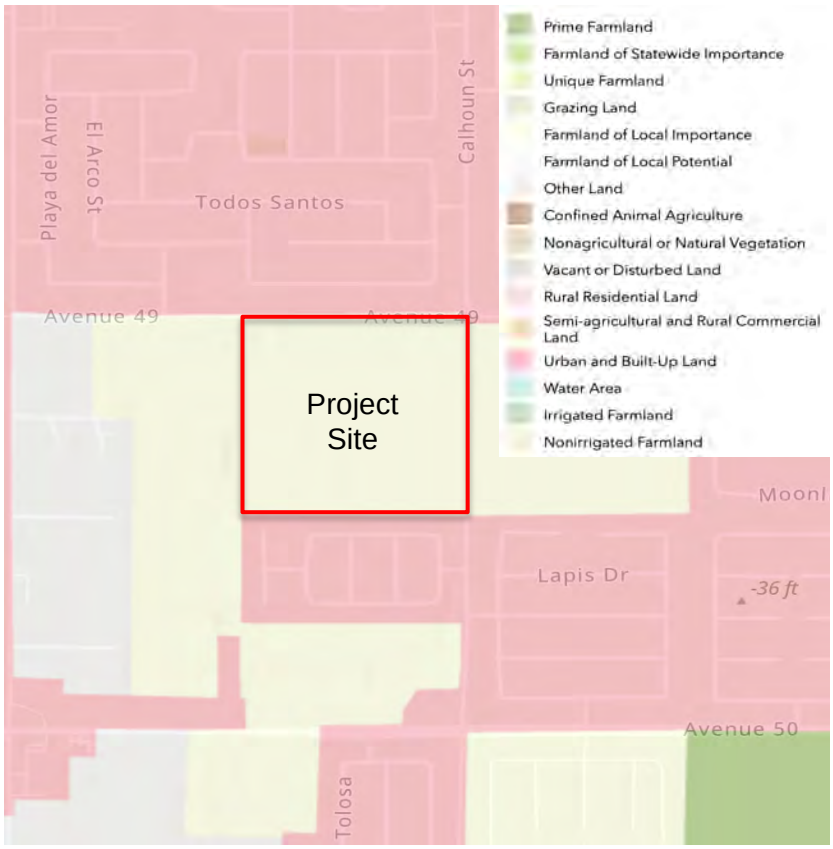


Figure II-1 California Important Farmland Finder, California Department of Conservation, accessed July 2024.

The California Important Farmland Finder identifies the Project site as Farmland of Local Importance, which the County of Riverside classifies as an area that would be Prime or Statewide Important Farmland, but lacks irrigation water, and also as an area that produces major crops, but not Unique crops. The vacant lots to west and east of the Project site are also classified as Farmland of Local Importance, and lands north and south of the subject site are classified as Urban and Built-Up Land. Figure II-1 shows the Project site on the California Important Farmland Finder in relation to adjacent properties. The Project would not impact the ability to cultivate crops on neighboring parcels, nor would the Project convert any Prime, Unique or Statewide Important farmland to non-agricultural use.

Williamson Act: As previously stated, the Project site is zoned for single-family residential development under the General Neighborhood zoning designation and is not under a Williamson Act contract. Therefore, the proposed development would not conflict with any agricultural designation. No impact is anticipated.

Timberland Production:
Neither the General Plan nor the Zoning map for the City of Coachella includes any Forestry or Forest Production designations. The City is located 68 feet below sea level in an arid desert region that does not support the growth of forests, and as such, there would be no conversion of timberland zones.

Loss of Forest:
Again, the City has no Forestry or Forest Production designations or areas. Therefore, the Project would not impact or cause the loss of any forest lands.

Other Changes in the Existing Environment:
Buildout of the Project includes 257 homes and street improvements to Avenue 49 on the north and Calhoun Street on the east which would not impact neighboring uses or cause any conversion of agricultural activity in the vicinity. No additional impacts to the existing environment would result to nearby agricultural uses.

Mitigation Measures: None required.

Monitoring: None required.

Sources:
City of Coachella General Plan 2035 Update

City of Coachella Zoning Map

California Department of Conservation Farmland Mapping and Monitoring Program

III. AIR QUALITY				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?				✓
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			✓	
c) Expose sensitive receptors to substantial pollutant concentrations?			✓	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓	

Environmental Setting

The state of California is divided into fifteen air basins, each defined by local topography, climate, and regional air quality issues. The City of Coachella lies within the Coachella Valley Planning Area, which is an air quality management district (AQMD) subregion within the topographic boundary of the Salton Sea Air Basin (SSAB). The SSAB encompasses all Imperial County and the central portion of Riverside County, where the Coachella Valley and the City lie.



Source: South Coast Air Quality Management District, Draft Final 2022

In the State of California, there are 35 air quality regulatory agencies that establish emission thresholds and monitor air quality the air basins. The South Coast Air Quality Management District (SCAQMD) is the regulatory agency that controls and monitors emissions from stationary sources within most of Riverside County, portions of San Bernardino County and Los Angeles County, and all of Orange County. The SCAQMD monitors emissions via 37 permanent monitoring stations, conducts inspections, and drafts air quality management plans to guide governments and businesses in reducing emissions. The Coachella Valley Planning Area is subject to the 2022 SCAQMD Air Quality

Management Plan. Three local monitoring stations in Palm Springs, Indio, and Mecca provide daily and annual emissions data throughout the Coachella Valley.

Ambient air quality standards (AAQS) are a set of emissions thresholds that are designed to protect human health and environmental factors. An ambient air quality standard specifies the maximum amount of a pollutant that can be present in the air during a specific period of time and not cause harmful effects on the most sensitive members of the community and natural resources. If that pollutant's concentration in the air is at or below the threshold, then the area is said to be in attainment, while non-attainment areas experience pollution levels above the AAQS thresholds.

According to the Environmental Protection Agency, the Coachella Valley Planning Area is classified as a nonattainment zone for ozone (O_3) and particulate matter (PM_{10}). Ozone pollution in the Coachella Valley Planning Area can be traced primarily to the flow of photochemical smog contaminants from the South Coast Air Basin to the west. High levels of PM_{10} pollution result from the arid environment, the ubiquitous presence of sand and dust combined with agricultural activity which is concentrated in the southeastern end of the Coachella Valley where the City of Coachella resides. Due to the nonattainment status, the Coachella Valley Planning Area is subject to the 2003 Coachella Valley PM_{10} State Implementation Plan (CV PM_{10} SIP), in order to bring the Planning Area into compliance with the National Ambient Air Quality Standards (NAAQS) PM_{10} threshold.

Ambient air quality standards for the SCAQMD are subject to federal guidelines known as National Ambient Air Quality Standards (NAAQS), as well as state guidelines referred to as California Ambient Air Quality Standards (CAAQS). Each set of AAQS focuses on certain criteria pollutants which together include the following list of pollutants. Table III-1 explains properties of each criteria pollutant.

Table III-1
Ambient Air Quality Criteria Pollutants and Health Impacts

Criteria Pollutant	Emissions Sources	Health Effects
Oxides of Nitrogen (NO_x)	A yellow-brown colored gas that forms when nitric oxide, emitted primarily from burning of petroleum gas, combines with atmospheric oxygen.	- Lung damage - Breathing difficulties
Reactive/Volatile Organic Compounds (ROG/VOC)	Primary pollutants that form secondary pollutants such as Ozone, or photochemical smog, when they react with ultraviolet sunlight in the atmosphere.	- Eye, nose and throat irritation - Headaches - Dizziness, fatigue - Allergic skin reaction
Ozone (O_3)	A secondary pollutant resulting from hydrocarbons and oxides of nitrogen, emitted by cars, solvents, factories and pesticides, reacting in the presence of sunlight.	- Difficulty breathing, chest pains, aggravate lung diseases such as asthma, emphysema, and chronic bronchitis. - Shortness of breath, coughing, and lung damage with prolonged and chronic exposure.

Table III-1
Ambient Air Quality Criteria Pollutants and Health Impacts

Criteria Pollutant	Emissions Sources	Health Effects
Particulate Matter (PM_{10}) and Fine Particulate Matter ($PM_{2.5}$)	Fugitive dust particles with a width of 10 microns down to 2.5 microns. Emitted from construction activity, vehicles driving on unpaved roads, industrial smokestacks, wildfires. Particles may occur as liquids or solids.	- Cause damage to the respiratory system. - Aggravate respiratory illnesses. - Symptoms: Coughing, asthma, heart attacks, premature death.
Oxides of Sulfur (SO_x)	Colorless and pungent gas emitted from coal and oil power plants, refineries, and diesel engines.	- Irritates eyes, nose, and airways. - Causes shortness of breath, tightness of chest. - Asthma patients are at high risk of developing more severe issues.
Carbon Monoxide (CO)	Colorless and odorless gas emitted from the incomplete combustion of all fossil fuels including oil, coal, and natural gas.	- Interrupts the delivery of oxygen to the brain. - Causes dizziness, headaches, and nausea.
Lead (Pb)	Emitted from metals processing facilities, combustion of leaded fuel, manufacturing of lead-acid batteries.	- Damages the nervous system, and kidneys. - Interferes with developmental and reproductive systems.
Hydrogen Sulfide (H_2S)	A rotten egg-smelling gas emitted from geothermal power plants, petroleum production, and sewage treatment plants.	- Causes headaches and skin irritation. - Damages the respiratory system.

Sources: South Coast AQMD CEQA Handbook (1993), updated March 2023; SCAQMD Final 2022 Air Quality Management Plan, Appendix 1: Health Effects (2022)

Table III-2 below provides the maximum daily emissions thresholds for a project's construction and operation per the SCAQMD CEQA Handbook.

Table III-2
South Coast AQMD Air Quality Significance Thresholds

Criteria Pollutant	Construction	Operation
Oxides of Nitrogen (NO_x)	100 lbs/day	55 lbs/day
Reactive/Volatile Organic Compounds (ROG/VOC)	75 lbs/day	55 lbs/day
Particulate Matter (PM_{10})	150 lbs/day	150 lbs/day
Fine Particulate Matter ($PM_{2.5}$)	55 lbs/day	55 lbs/day
Oxides of Sulfur (SO_x)	150 lbs/day	150 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Lead (Pb)	3 lbs/day	3 lbs/day

Source: South Coast AQMD CEQA Handbook (1993), updated March 2023

Forecast modeling of construction and operational emissions for the Project was calculated using the California Emissions Estimator Model (CalEEMod) Version 2022.1, a modeling software application used in quantifying emissions associated with land development projects in California. The model calculates criteria pollutant emissions, including CO, PM_{10}, $PM_{2.5}$ and the ozone precursors ROG and $NO_{x,}$ in addition to greenhouse gas equivalent emissions.

A CalEEMod analysis was conducted in November 2025 and was based on the most recent Project site plan which included 257 units on a net area of 37.28 acres, a 3.53-acre park with retention basin, common landscaped areas, four additional landscaped retention basins, asphalt streets, and 2,517 daily trips. CalEEMod accounts for landscaping and driveway hardscape for residences. Table III-3 provides a summary of the Project's land use data that was applied to the model. The detailed CalEEMod report for the Project is available in Appendix A.

Table III-3
Project Land Use Assumptions for CalEEMod

Project Land Use	Area Data
Total Project Area	39.98 ac (gross) 37.28 ac (net), 1,623,916.8 sf
Residential Lots	257 lots, 976,050 sf
Landscaped Areas (Park + Retention Basins)	5.95 acres 259,182 sf
Hardscape (Streets + Parking Lot)	397,247 sf (390,048 sf + 7200 sf)
Daily Trips[1]	2,517

1. Daily Residential Trips are based on the ITE Land Use Code 223. See Calhoun Street Traffic Analysis prepared by Urban Crossroads, September 6, 2024.

Discussion of Impacts

a) No Impact. A project's impacts on air quality would be significant if the project does not conform to, or if it obstructs, an applicable Air Quality Management Plan. Within the Coachella Valley Planning Area, projects are subject to the 2022 SCAQMD Air Quality Management Plan (AQMP). SCAQMD works closely with local governments and actively cooperates with federal and state agencies to establish pollution emissions thresholds and guidelines for controlling emissions. The 2022 SCAQMD AQMP defines strategies to control and reduce air pollution emissions from stationary and mobile sources. The 2022 AQMD was prepared with cooperation between SCAQMD, the California Air Resources Board (CARB) and the Southern California Association of Governments (SCAG) and is based in part on regional land use planning, population growth forecasting, and transportation modeling. In conformance with SB 375, SCAG prepares a Regional Transportation Plan/Sustainable Communities Strategy every four years to analyze regional development patterns and integrate policies and programs to reduce emissions. The most current report, Connect SoCal 2024, includes the most recent regional land use planning and forecast analyses, and projects that are consistent with these analyses are also consistent with the AQMP.

The City's land use and zoning designation for the Project site is "General Neighborhood," which permits single- and multi-family residential projects with densities between 7 and 25 units per acre. Residential neighborhoods encourage small blocks, parks and green spaces, and walkability or short drives to area services such as schools and shopping. The proposed subdivision conforms to these

land use requirements and is consistent with the City's General Plan. Furthermore, the proposed uses have been factored into SCAG's Connect SoCal 2024 report and the 2022 AQMP.

In conclusion, although the Proposed Project would result in air emissions, as discussed below, it would not conflict with or obstruct the implementation of an applicable air quality plan because its residential characteristics were included in the development of regional plans. No conflicts with or obstructions to the implementation of the applicable air quality plan are expected.

b) Less Than Significant Impact. The Project will have a significant impact if it causes a considerable net increase of any criteria pollutant for which the Coachella Valley Planning Area is in nonattainment per federal or state ambient air quality standards.

Currently, the Coachella Valley is designated as extreme nonattainment for the 2008 and 8-hour ozone standard, severe for the 2015 8-hour ozone standard, and serious for the 1987 PM_{10} standard.[4] In response to these designations the SCAQMD adopted a series of attainment plans beginning in 1987. The most current attainment plans are:

- Coachella Valley Attainment Plan for the 2008 8-Hour Ozone Standard, October 2024
- 2003 Coachella Valley PM_{10} State Implementation Plan

Construction Emissions:

For purposes of analysis, it is assumed that construction will occur over a three-year period with completion in early 2029. The construction period includes all aspects of project development, including site preparation, grading, building construction, paving, and application of architectural coatings. Applicable standard requirements and best management practices include, but are not limited to, the implementation of a dust control and management plan in conformance with SCQAMD Rule 403.1, proper maintenance and limited idling of heavy equipment, phased application of architectural coatings and the use of low-polluting architectural paint and coatings per SCAQMD Rule 1113.

As shown in Table III-4, given that criteria pollutant thresholds will not be exceeded, and standard best management practices will be applied during construction, impacts associated with air emissions during construction will be less than significant.

Table III-4
Maximum Daily Construction-Related Emissions (pounds per day)

Construction Emissions	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Daily Maximum[1]	71.4	29.3	29.7	0.07	9.15	5.14
SCAQMD Thresholds	75	100	550	150	150	55
Exceeds?	No	No	No	No	No	No

1. Standard dust control measures have been applied to the PM emissions.
2. All other emissions are maximum daily unmitigated estimates.

Source: South Coast AQMD CEQA Handbook (1993), updated March 2023.

[4] EPA Greenbook, California Nonattainment/Maintenance Status for Each County by Year, April 2025.

Operational Emissions:

Operational emissions are ongoing emissions that will occur over the life of the project. They include area source emissions, emissions from energy demand (electricity), and mobile source (vehicle) emissions. According to the September 2024 Traffic Analysis prepared for the Project (Appendix F), typical single-family detached units generate an average of 9.43 trips per day. The Traffic Analysis analyzed the potential for 259 units, marginally higher than the currently proposed Project, and determined that they would generate 2,442 daily trips. The public park could potentially generate up to 75 trips per day. Total daily trips would be 2,517. Table III-5 provides a summary of forecasted emissions during the operation of the Calhoun Street Housing Development. As shown below, operational emissions will not exceed daily SCAQMD thresholds of significance for any criteria pollutants for operations. Impacts related to operational emissions are expected to be less than significant.

Table III-5
Maximum Daily Operational-Related Emissions (pounds per day)

Operational Emissions	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Daily Maximum[1]	32.4	4.7	67.0	0.1	10.1	2.7
SCAQMD Thresholds	75	100	550	150	150	55
Exceeds?	No	No	No	No	No	No

1. Standard dust control measures have been applied to the PM emissions.
2. All other emissions are maximum daily unmitigated estimates.

Source: South Coast AQMD CEQA Handbook (1993), updated March 2023.

Cumulative Contribution: Non-Attainment Criteria Pollutants

If a project indirectly ushers in additional criteria pollution emissions by encouraging an increase in the number of vehicles traveling along a new roadway, for example, and thus causes a cumulative net increase in emissions, then the project may cause a significant cumulative impact. Given the dispersing nature of pollutant emissions and aggregate impacts from nearby jurisdictions, cumulative air quality is evaluated on a regional scale. As previously mentioned, the Coachella Valley Planning Area is a nonattainment zone for PM_{10} and ozone. Any development resulting in emissions of PM_{10}, ozone, or ozone precursors will, to some extent, contribute to the existing regional non-attainment.

The SCAQMD does not currently provide thresholds of significance for the cumulative emissions of multiple projects. A project's potential cumulative contributions can instead be analyzed using the criteria for project-specific impacts. Assuming an individual development generates less than significant construction and operational emissions, then the project would not generate a cumulatively considerable increase in non-attainment criteria pollutants and its impacts would be considered to be less than significant. As shown in Tables III-4 and III-5, emissions resulting from the proposed Project's construction and operational phases are expected to be below the thresholds of what SCAQMD considers to be cumulatively considerable.

Mandatory standard best practices will be applied during construction, including dust control measures in accordance with SCAQMD Rule 403, as well as the use of low VOC content in architectural coatings per SCAQMD Rule 1113. California Building Code requirements for energy efficiency, and improving technology for automobiles will also reduce air emissions in the future.

Therefore, while the Project will contribute to incremental increases in emissions, the impacts on regional PM_{10} and ozone levels are not anticipated to be cumulatively considerable.

Summary:
As shown above, both construction and operation of the proposed Project will result in criteria emissions that are below the SCAQMD significance thresholds, and neither would violate any air quality standard or contribute substantially to an existing or projected air quality violation. Overall, impacts related to construction and operation will be less than significant and are not cumulatively considerable from a non- attainment standpoint.

c) Less Than Significant Impact. A Project will have a significant impact if it exposes sensitive receptors to substantial pollutant concentrations. Sensitive receptors are defined as members of the population who are potentially more sensitive to air pollutants due to age and health condition. Sensitive receptors include schools, playgrounds, childcare centers, retirement homes, hospitals and residences. SCAQMD provides a Localized Significance Thresholds (LST) analysis to determine whether a project will pose significant air quality impacts on nearby sensitive receptors. LST thresholds are provided for distances of 25, 50, 100, 200 and 500 meters between a project site and a sensitive receptor. Per the SCAQMD, LST analysis is designed for projects up to five acres in size or projects that involve up to five acres of daily disturbance during construction. While the proposed the Project contains 39.98 acres, fewer than five acres would be disturbed on any given day during construction.[5]

The nearest receptors include two adjacent residential neighborhoods; one occurs on the east side of the Project site, and the other slightly closer receptor, is approximately 12 meters from the south perimeter. Based on the Project's size and proximity to the nearest sensitive receptor, the 5-acre site tables at a 25-meter distance (nearest measurement option in LST table) were used for air quality analysis. Table III-6 shows on-site emission concentrations for Project construction will not exceed LST thresholds for carbon monoxide, nitrogen oxides, and particulate matter. Overall, the impacts will be less than significant.

[5] South Coast AQMD, "Fact Sheet for Applying the CalEEMod to Localized Significance Thresholds," https://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf, accessed April 4, 2025.

Table III-6
Localized Significance Thresholds Emissions (pounds per day)

Pollutant	CO	NOx	PM_{10}	$PM_{2.5}$
Construction				
Maximum Emissions	**29.7**	**29.3**	**9.15**	**5.14**
SCAQMD LST Threshold	2,292.00	304.00	14.00	8.00
Exceed?	**No**	**No**	**No**	**No**
Operation[1]				
Maximum Emissions	**14.5**	**0.136**	**0.0067**	**0.0051**
SCAQMD LST Threshold	2,292.00	304.00	4.00	2.00
Exceed?	**No**	**No**	**No**	**No**

Source: CalEEMod model, version 2022.1
LST Threshold Source: LST Mass Rate Look-up Table, SCAQMD.
1. Operational emissions that affect sensitive receptors are limited to on-site area emissions. Energy and mobile emissions occur off-site and are excluded from the total.

Health Impacts

The SCAQMD is the local implementing and enforcing agency for the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (commonly known as AB 2588), which established a statewide program for the inventory of air toxic emissions from specifically identified individual facilities as well as requirements for risk assessment and public notification of potential health risks. The SCAQMD requires the preparation of an operational HRA for “facilities” associated with high levels of toxic air contaminants. The eight categories of identified sources of TACs include high-traffic freeways and roads, distribution centers, rail yards, ports, refineries, chrome plating facilities, perchloroethylene dry cleaners, and large gas stations. The Project neither proposes the development of any such facilities, nor is it situated in proximity to any such facility.

As shown in Tables III-4 and III-5, construction and operation of the Proposed Project will result in criteria emissions that are below the SCAQMD significance thresholds, and would neither violate any air quality standard nor contribute substantially to an existing or projected air quality violation. In addition, localized emissions will be less than significant.

With today’s technology, it is not scientifically possible to calculate the degree to which exposure to various levels of criteria pollutant emissions will impact an individual’s health. There are several factors that make predicting a Project-specific numerical impact difficult:

- Not all individuals will be affected equally due to medical history. Some may have medical pre-dispositions and diet and exercise levels tend to vary across a population.
- Due to the dispersing nature of pollutants, it is difficult to locate and identify which group of individuals will be impacted, either directly or indirectly.
- There are currently no approved methodologies or studies to base assumptions on, such as baseline health levels or emission level-to-health risk ratios.

Due to the limitations described above, the extent to which the Project poses a health risk is uncertain but unavoidable. It is anticipated that impacts associated with carbon monoxide, nitrogen oxides and particulate matter will be less than significant overall, and that health effects will also be less than significant.

d) Less Than Significant Impact. If the Project results in the emissions of objectionable odors that adversely affect a substantial number of people, then the Project would have a significant impact. Land uses which are likely to generate odors, other than agricultural operations, which are exempted, include chemical plants, composting operations, dairies, fiberglass molding, landfills, refineries, rail yards, and wastewater treatment plants.[6]

Short term odors associated with paving and construction activities could be generated by the Project's construction; however, any such odors would be quickly dispersed below detectable levels as distance from the construction site increases, and would occur for short time periods during the construction phase only.

At buildout, the residential units and park will generate typical odors, including cooking odors, but will not generate objectionable odors. Therefore, impacts from objectionable odors are expected to be less than significant.

Mitigation Measures: None required.

Monitoring: None required.

Sources:

CalEEMod Version 2022.1

City of Coachella General Plan Update 2035, April 2015

Calhoun Street Subdivision Traffic Analysis, prepared by Urban Crossroads, September 6, 2024

EPA Greenbook

South Coast AQMD, "Fact Sheet for Applying the CalEEMod to Localized Significance Thresholds"

South Coast AQMD Air Quality Significance Thresholds, revised March 2023

[6] SCAQMD Guidance Document, Chapter 2: Air Quality Issues Regarding Land Use.

IV. BIOLOGICAL RESOURCES **Would the project:**	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				✓
c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		✓		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			✓	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?			✓	

Environmental Setting

The Coachella Valley occurs within the Colorado Desert, a warmer and drier ecological subregion of the larger Sonoran Desert ecoregion. The Colorado Desert subregion is bounded by the Colorado River to the east, the Mojave Desert ecoregion to the north, and the Little San Bernardino, San Jacinto, and Santa Rosa Mountain ranges to the west. The majority of the Colorado Desert sits between -275 feet and 3,000 feet in elevation, while the highest elevations are found at the top of Mt. San Jacinto (10,835 feet) and Mt. San Gorgonio (11,499 feet). The City of Coachella is situated in the lower elevation range of the Valley at approximately -68 feet. Average daytime temperatures in

the Project area range from 107 degrees Fahrenheit in the summer down to 71 degrees in January and average annual rainfall is two inches. The environmental extremes have led to the evolution of highly specialized desert species, some of which are endemic to the region. Development throughout the Coachella Valley is guided by regulations meant to protect remaining habitats for diminishing and endangered biological resources.

Coachella Valley Multiple Species Habitat Conservation Plan

The City of Coachella and the Project site are located within the boundaries of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), a regional plan that allows for economic development in a manner that also preserves twenty-seven different natural communities and protects twenty-seven endangered native species across 1.2 million acres of Riverside County. The CVMSHCP establishes specific conservation areas where habitat, ecological processes, and/or wildlife corridors are protected from development activity. The Project site is 3.5 miles from the East Indio Hills Conservation Area, and the Santa Rosa and San Jacinto Mountains Conservation Area is 4.6 miles southwest.

The following discussion of impacts is based on the March 2024 Biological Resources Assessment and Coachella Valley Multiple Species Habitat Conservation Plan Consistency Analysis Report by WSP USA Environment and Infrastructure, Inc. (referred to as "Report") for the Project site.[7] Biologists conducted an exhaustive literature review to ascertain special status species that are known to occur within a five-mile radius of the Project site. A field assessment of the Project site and the Project vicinity, a 500-foot radius around the site, was conducted on foot on February 29, 2024. All site conditions including weather, topography and soil, signs of animal activity, and resident plant species were recorded. A full copy of the Report is available in Appendix B.

Discussion of Impacts

a) Less Than Significant Impact With Mitigation Incorporated. Beginning approximately in 1932, the Project site hosted a date palm grove, which was replaced by different row crops in the early 1950s. Subsequently, date palms were again planted on the site by 1959 and again removed between 1984 and 1996. The site remained fallow until just prior to 2002 when date palms were replanted, but the northeast corner remained fallow. A small irrigation reservoir was installed at the northwest corner. The General Plan land use had changed to General Neighborhood and the date palm garden was once again abandoned by 2019.

Rows of leftover untended palms remain on the south and western portion of the site along with underground piping, and the northeast corner, which was never planted, remains graded, scraped and completely barren. Sparse perennial vegetation has colonized intermittently throughout 75% of the parcel, particularly under the remnant palms and in the northwest corner where the irrigation pond was located. Trash from minor dumping and off-road vehicle tracks are visible. Residential neighborhoods north and south of the Project site are separated by walls. West of the site is a vacant lot that may soon be developed as a residential area, and east, across Calhoun Street, there is a vacant lot with one single-family residence.

[7] "Biological Resources Assessment and Coachella Valley Multiple Species Habitat Conservation Plan Consistency Analysis Report for Calhoun Street and Avenue 49 Residential Development Project," WSP USA Environment & Infrastructure, Inc., March 19, 2024.

Plants Observed

The subject site was inspected for plant communities and species. Native perennial vegetation observed on the site includes quailbush (*Atriplex lentiformis*), arrow-weed (Pluchea sericea), common sunflower (*Helianthus annuus*) and blue palo verde (*Parkinsonia florida*). Non-native and invasive species mixed in with the native vegetation that were noted include puncture vine (*Tribulus terrestris*), amaranth (*Amaranthus sp.*), cheeseweed (Malva parviflora), Sahara mustard (*Brassica tournefortii*), Mexican palo verde (*Parkinsonia aculeata*), saltcedar (*Tamarisk ramosissima*), and Bermuda gras (*Cynodon dactylon*). The presence of the above listed species does not represent a special-status vegetation community. Moreover, the Project site contains no natural wetlands, or riparian vegetation communities.

Vertebrates Observed

Wildlife and signs of wildlife (such as tracks, scats, feathers, burrows, owl pellets) observed on the Project site during the site survey included 14 birds, two mammals, and one reptile. None of species observed are considered to be special status species and all commonly occur in the region as either residents or migrants. Several of the representative bird species observed were mourning dove (*Zenaida macroura*), Eurasian collard dove (*Streptopelia decaocto*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), common raven (*Corvus corax*), verdin (*Auriparus flaviceps*), northern mockingbird (*Mimus polyglottos*), house finch (*Haemorhous mexicanus*), and white-crowned sparrow (*Zonotrichia leuscophrys*).

Mammal species noted were Botta's pocket gopher (*Thomomys bottae*) and California ground squirrel (*Otospermophilus beecheyi*). The one reptile species recorded was the side-blotched lizard (*Uta stansburiana*).

Special Status Species

The literature review of the Project vicinity, which includes the Project site and a five-mile radius, generated a list of 68 special status species that have the potential to occur in the vicinity. Twenty of these 68 special status species have the potential to occur on the Project site, many of which would occur during foraging and therefore would not be directly impacted by the Project. See Table IV-1 for summaries of these 20 species, and see the Report in Appendix B for the full list.

Table IV-1
Special Status Species Potentially Occurring on the Project Site

Special Status Species	Probability to Occur on the Project Site
• Abrams' Spurge (*Euphorbia abramsiana*)	• **Very Low:** Remnant marginally suitable habitat is very limited, disturbed and largely stabilized. Only small, insignificant pockets of sandy soils present. Site just below/at edge of elevational range of species. • Not covered by MSHCP.
• Cooper's Hawk (Accipiter cooperii)	• **Nesting: Absent.** Suitable nesting habitat lacking. • **Foraging:** Occurs and was observed. • Not covered by MSHCP.
• Golden Eagle (Aquila chrysaetos)	• **Nesting: Absent.** Suitable nesting habitat lacking. • **Foraging: Low.** Marginally suitable habitat present. • Not covered by MSHCP.

Table IV-1
Special Status Species Potentially Occurring on the Project Site

Special Status Species	Probability to Occur on the Project Site
• Burrowing Owl (Athene cunicularia)	• **Nesting: Low.** Marginally suitable habitat intermittently present. Suitable California Ground Squirrel burrow detected. • **Foraging: Low.** If present onsite or on other suitable lands to the east of the subject site. • Fully covered by CVMSHCP
• Ferruginous Hawk (Buteo regalis)	• **Nesting: Absent.** Suitable nesting habitat lacking. • **Foraging: Low.** During winter migration only. • Not covered by MSHCP.
• Costa's Hummingbird (Calypte costae)	• **Nesting: Moderate.** Suitable nesting habitat present (palo verde). • **Foraging: Occurs.** Observed. • Not covered by MSHCP.
• Southwestern Willow Flycatcher (*Empidonax traillii extimus*)	• **Nesting: Absent.** Suitable nesting habitat lacking. • **Foraging: Very low.** Occurs in many habitats during migration. • Fully covered by CVMSHCP, but the subject site is not within designated critical habitat for this species.
• Prairie Falcon (Falco mexicanus)	• **Nesting: Absent.** Suitable nesting habitat lacking. • **Foraging: Moderate.** May nest or winter nearby and forage over site.
• Loggerhead shrike (*Lanius ludovicianus*)	• **Nesting: Very Low.** Suitable nesting habitat very limited. • **Foraging: Moderate.** May nest or winter nearby and forage onsite. • Not covered by CVMSHCP
• Black-tailed Gnatcatcher (Polioptila melanura)	• **Nesting: Moderate.** Suitable nesting habitat present (palo verde). • **Foraging: Low.** May forage or move through site from nearby areas. • Not covered by CVMSHCP
• Vermilion Flycather (Pyrocepalus rubinus)	• **Nesting: Absent.** Suitable nesting habitat lacking. • **Foraging: Low.** If nesting nearby. • Not covered by CVMSHCP
• Crissal Thrasher (Toxostoma crissale)	• **Nesting: Absent.** Suitable nesting habitat lacking. • **Foraging: Very Low.** If nesting nearby. • Fully covered by CVMSHCP, but the subject site is not within designated critical habitat for this species.
• Le Conte's Thrasher (Toxostoma lecontei)	• **Nesting: Absent.** Suitable nesting habitat lacking. • **Foraging: Very Low.** If nesting nearby, but suitable habitat not observed on adjacent lands. • Fully covered by CVMSHCP, but the subject site is not within designated critical habitat for this species.
• Least Bell's Vireo (Vireo bellii pusillus)	• **Nesting: Absent.** Suitable nesting habitat lacking. • **Foraging: Low.** Migration only. • Fully covered by CVMSHCP, but the subject site is not within designated critical habitat for this species.

Table IV-1
Special Status Species Potentially Occurring on the Project Site

Special Status Species	Probability to Occur on the Project Site
• Western Mastiff Bat (Eumops perotis californicus)	• **Nesting: Absent.** Roosting habitat lacking. • **Foraging: Low.** May forage over site if roosting nearby. • Fully covered by CVMSHCP.
• Western Yellow Bat (Lasiurus xanthinus)	• **Nesting: Absent.** Roosting habitat lacking. • **Foraging: Low.** May forage over site if roosting nearby. • Fully covered by CVMSHCP.
• Pocketed Free-tailed Bat (Nyctinomops femorosaccus)	• **Nesting: Absent.** Roosting habitat lacking. • **Foraging: Low.** May forage over site if roosting nearby. • Not covered by CVMSHCP.
• Palm Springs pocket mouse (*Perognathus longimembris bangsii*)	• **Very low:** Only small, remnant patches of marginal potentially suitable habitat present. Site disturbance and past agricultural practices further reduce the likelihood of occurrence. • Fully covered by CVMSHCP, but the subject site is not within designated critical habitat for this species.
• Coachella Valley round-tailed ground squirrel (*Xerospermophilus tereticaudus chlorus*)	• **Very low**: Preferred habitat lacking. Species has beenknown to occur in disturbed and converted habitats. • Fully covered by CVMSHCP
• American Badger (Taxidea taxus)	• **Very Low**: Although disturbed, site potentially suitable. No burrows or signs observed. • Not covered by CVMSHCP, but the subject site is not within designated critical habitat for this species.

The Report determined that due to the grading and cultivation of date palms in the past, and the more recent off-road vehicular activity and dumping of trash, the Project site has been greatly altered from its natural state, and thus the probability for special status species to occur on the site is significantly reduced. Further reducing the likelihood that special status species may reside there are the neighboring residential developments to the north and south, and the grading of the vacant lots to the east and west.

Existing vegetative scrub and date palms found on the Project site could potentially be used by both resident and migratory nesting birds, many of which are not special status species, but all are protected under the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (FGC). The MBTA prohibits the taking of migratory birds which includes killing, capturing, selling, trading, and transport. “Under the MBTA, it is illegal to destroy a nest that has eggs or chicks in it, or if there are young birds still dependent on the nest for survival.[8] Similarly, California Fish and Game Code section 3503 stipulates that, “It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” Section 3503.5 states, “It is unlawful to take, possess, or destroy any birds in the orders Falconiformes

[8] Bird Nests, US Fish and Wildlife Service, accessed July 2024, https://www.fws.gov/story/bird-nests#:~:text=This%20law%20says%3A%20“No%20person,has%20eggs%20or%20chicks%20in.

or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."[9] Since nesting habitat occurs on the Project site, impacts to nesting birds would be significant. To avoid potentially significant impacts to nesting birds, a nesting bird survey is required, and explained below in BIO-1.

Western burrowing owls are protected under the MBTA and by the US Fish and Wildlife Service as a Bird of Conservation Concern (BCC). Additionally, as of October 10, 2024, the California Fish and Game Commission designated the western burrowing owl as a candidate species for listing. While the candidacy is under review by the CDFW, the species receives full California Endangered Species Act (CESA) protections which prohibit the "taking" of individuals. Although the species is covered by the CVMSHCP, taking of this species is not permitted. No burrowing owls, or signs of burrowing owls were observed during the site survey, however, suitable habitat and burrows suitable for burrowing owls were observed on the Project site. Burrowing owls could potentially relocate to the Project site between the time of the site survey and the start of construction due to their attraction to open dry areas and agricultural sites. As the species roosts and nests underground, burrowing owls are particularly sensitive to ground disturbance, therefore the Project presents a potentially significant impact to the species, which would require mitigation as described below in BIO-2.

With implementation of mitigation measures BIO-1 and BIO-2 to protect potentially occurring nesting birds and burrowing owls, impacts to potentially occurring candidate, sensitive, or special status species would be reduced to less than significant levels.

b, c) No Impact. The Project site has been graded and cultivated with date palms for 20+ year followed by approximately five years of fallowing. There are no riparian habitats, wetlands, marshes, vernal pools, or other sensitive communities that are protected by US Fish and Wildlife Service or the California Department of Fish and Wildlife occurring on the Project site. There would be no impacts to any such natural community by this Project.

d) Less Than Significant Impact With Mitigation Incorporated. The Project site is in a residential suburban area isolated from other undeveloped natural areas by residential development to the north and south, the graded, vacant lots to the east and west, and Calhoun Street forming the east boundary. The leftover date palms and intermittent ruderal vegetation may provide nesting habitat for birds moving through the area. Take avoidance surveys, explained below as BIO-1 and BIO-2, would be required to reduce potential impacts to nesting birds and burrowing owls to less than significant levels.

e, f) Less Than Significant Impact. The Project would not conflict with any with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Likewise, the Project would not conflict with an adopted habitat conservation plan, natural community conservation plan, or any other approved local, regional, or state habitat conservation plan.

The City of Coachella is a signatory to the CVMSHCP and therefore the Project is required to pay a Development Mitigation Fee, which would reduce potential Project impacts to CVMSHCP-covered species. Neither CVMSHCP modeled habitats for covered species, nor designated wildlife corridors or biological linkages occur on the Project site. Two CVMSHCP Conservation Areas occur near the City, but not adjacent to the Project site. The East Indio Hills Conservation Area is approximately 3.5

[9] California Code, Fish and Game Code 3503 and 3503.5, last updated January 1, 2023.

miles east of the site, and the Santa Rosa and San Jacinto Mountains Conservation Area is 4.6 miles southwest. Aside from the Development Mitigation Fee, no additional mitigation measures are required to comply with the CVMSHCP. With the implementation of the City's fee payment requirement, potential impacts would be less than significant.

Mitigation Measures:

BIO-1 Bird nesting season for resident birds in Southern California occurs between February 1 and August 31. To avoid impacts to nesting birds, all vegetation clearing, ground disturbance, and construction activity should be scheduled between September 1 and January 31 if possible. If construction occurs during the nesting season, a certified avian biologist must conduct a pre-construction nesting bird survey (NBS) immediately prior to scheduled construction activity. If active nests are identified, the biologist will demarcate a no-work buffer zone(s) around the active nest(s) and check the nest site(s) weekly until the young birds fledge and the nest(s) become inactive. The buffer zone size would be based on the nesting species, its sensitivity to disturbance, nesting stage and the expected intensity and duration of disturbance. No ground or vegetation disturbance shall occur within the nest site buffer zone(s) until the qualified biologist determines that the young have successfully fledged, and the nest is inactive. Per CDFW recommendations, a buffer of 500 feet shall be set for listed species and birds of prey, and a buffer of 100 to 300 feet shall be set for unlisted songbirds.

BIO-2 To ensure that no burrowing owls have moved to the Project site since the biological site survey was conducted, avoidance surveys of the Project site must be conducted immediately preceding development, in compliance with the CDFW Staff Report for Burrowing Owl (2012) protocols. The first survey should occur 14-30 days prior to initiating ground disturbance activities, and the second survey should take place withing 24 hours of ground disturbance. Should burrowing owls be detected, CDFW shall be contacted as soon as possible to determine the next course of action. CDFW must grant permission to relocate burrowing owls.

Mitigation Monitoring:

BIO-A The Project applicant shall complete preconstruction surveys and provide them to the City prior to issuance of any permit allowing ground disturbance on the Project site. Results of the preconstruction surveys are to be kept on file at City Hall.

Responsible Parties: Project applicant, Project biologist, Planning Department, City Engineer

Sources:

"Biological Resources Assessment and Coachella Valley Multiple Species Habitat Conservation Plan Consistency Analysis Report for Calhoun Street and Avenue 49 Residential Development Project," WSP USA Environment & Infrastructure, Inc., March 19, 2024

Bird Nests, US Fish and Wildlife Service, accessed July 2024

California Code, Fish and Game Code 3503 and 3503.5, last updated January 1, 2023

V. CULTURAL RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?		✓		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		✓		
c) Disturb any human remains, including those interred outside of formal cemeteries?				✓

Environmental Setting

Under CEQA, the term, "cultural resources," encompasses a broad range of artifacts spanning prehistoric and historic eras that are comprised of traces or remains of humans and human cultures who lived in California. Sites may contain archaeological artifacts, belonging to indigenous and non-indigenous cultures. Archaeological resources may include items such as tools, carvings, structures, and sites, that are associated with a scientifically recognized important prehistoric or historic event or culture and that contain important scientific research value. Cultural resources also include "historic" resources, which are associated with the more recent built environment such as old houses, structures, roads, walls, etc. In addition, cultural resources include traditional cultural places, objects, records and manuscripts. "Tribal resources" refer to a specific class of cultural resources that are significant to California Native American Tribes. These resources are discussed further in Section XVIII, Tribal Cultural Resources.[10]

Per CEQA, cultural resources that are significant are then labeled as "historical" resources and warrant a certain level of protection from a project's impacts. An historical resource may be prehistoric or historic in age and may be archaeological and/or significant to a California Native American Tribe. The lead agency may consider resources to be historically significant if they meet criteria for listing in the California Register of Historical Resources, which contains all resources listed in the National Register of Historic Resources. Section 15064.5 of the CEQA Guidelines defines a historical resource as the following[11]:

1) A resource that is listed in or determined to be eligible by the State Historical Resources Commission for listing in the California Register of Historical Resources is historically significant.

2) A resource is considered to be historically significant if is included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code.

[10] "Guidelines for Determining the Significance of and Impact to Cultural Resources: Archaeological, Historic, and Tribal Cultural Resources," Society for California Archaeology, April 2020.

[11] "Determining the Significance of Impacts to Archaeological and Historical Resources," California Code of Regulations, Title 14 §15064.5

3) Any object, building, structure, site, place, record, or manuscript which a lead agency determines to be historically significant in the architectural engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be a significant historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

4) Finally, a lead agency may determine that a resource is historically significant even if it has not been previously listed in or determined to eligible for listing in the California Register of Historical Resources and is not already included in a local register of historical resources, or previously identified in a historical resources survey.

The following discussion of Project area and impacts is based on the "Historical/Archaeological Resources Survey Report for Assessor's Parcel No. 612-260-010," prepared in May 2024 by CRM TECH (referred to as "Report"). Appendix C contains a complete copy of the Report. Researchers conducted an historical and archaeological records search, historical background research, an intensive site survey, and contacted local Native American representatives.

Records Search

A records search at the Eastern Information Center (EIC) at the University of California, Riverside for previously documented resources was conducted on February 26, 2024 by a CRM TECH archaeologist. The records search found that that no cultural resources had been discovered or recorded on and adjacent to Project site. However, within a one-mile radius of the Project site, 59 previous studies on tracts of lands were completed between 1980 and 2020. These studies noted 42 historical/archaeological resources, 21 of which were prehistoric and of Native American origin. None of these previously recorded resources were found on or adjacent to the Project site and therefore are not pertinent to this discussion.

Native American Consultation

The Native American Heritage Commission (NAHC) stated on March 11, 2024 that the results of the Sacred Lands File search found no Native American resources at the Project site, but noted that the absence of data does not preclude the presence of artifacts on the site that have yet to be discovered.

Project archaeologists contacted representatives of the Torres Martinez Desert Cahuilla Indians and the Cabazon Band of Mission Indians. The Cabazon Band has not responded to the consultation request. Gary Wayne Resvaloso, Jr. of the Torres Martinez Desert Cahuilla Indians requested additional archaeological field work on the Project site with Torres Martinez participation due to the possibility that buried cultural remains may occur beneath the surface of the Project site. A copy of the letter is provided in Appendix 2 of the Report.

Field Survey

Project archaeologists in tandem with a Native American monitor from the Torres Martinez Desert Cahuilla Indian tribe conducted an intensive-level field survey of the Project site. The team walked parallel northeast-southwest transects spaced 50 feet apart to complete a visual inspection of the Project site surface. No historical resources of prehistoric or historic eras were identified during the site survey. Past repeated excavation of the soil and cultivation of date palms and other row crops indicated that the Project site has been extensively disturbed.

Prehistoric Setting

The City and the surrounding Coachella Valley are the central home of the Desert Cahuilla People. The Cahuilla People have inhabited the Coachella Valley and surrounding mountains for thousands of years. Earliest evidence of prehistoric human activities dates from the Paleoindian Era (10,000 to 8,000 years ago) and consists of "very simple stone tools, 'cleared circles, rock rings, [and] some geoglyph types.'" The Early Archaic Period (8,000 to 4,000 years ago), and Late Archaic Period (4,000 to 1.500 years ago) are identified by "groundstone artifacts." The Late Prehistoric Era (1,500 to 250 years ago) provides the most materials from early human civilization. Ceramics are frequently recorded from this era.

Cahuilla life in the Coachella Valley during the Holocene Epoch, a geologic timeframe beginning at the end of the last ice age about 11,700 years ago, was influenced by the intermittent presence of Ancient Lake Cahuilla, followed by its desiccation and absence. The lake filled in the Salton Basin, the southeast end of the Coachella Valley and the Imperial Valley, when the Colorado River would temporarily turn from its usual course to the Gulf of California north toward the Salton Basin. Lakeshore mineral deposits along the lower Santa Rosa foothills up to 42 feet above sea level suggest that the Project site would have been underwater during these periodic Colorado River inundations, but may also have aligned with the receding shoreline. Artifacts from Cahuilla presence around the ancient lakeshore include "brown and buff ware ceramics, groundstone and projectile point types, ornaments, and cremation remains."[12]

Ethnohistoric Setting

Traditional Cahuilla territory shares a border with that of the Serrano in present-day Joshua Tree National Park to the north, stretches from the Colorado River to the east over to the San Jacinto Mountains and the San Gorgonio Pass to the west and includes the Santa Rosa Mountains to the south. Three distinct areas – the low desert of the Coachella Valley, the higher desert of the San Gorgonio Pass area, and the higher elevation mountains – separated the Cahuilla nation into three geographically distinct groups: Desert Cahuilla, Western (or, Pass), and Mountain Cahuilla. While actual population data is difficult to establish, the Cahuilla may have numbered between 3,600 to 10,000 living in many villages throughout the Coachella Valley, Pass area, and the mountain ranges. Today, nine bands of Cahuilla are officially recognized across these three groups.

Cahuilla family groups associated with one of two moieties, the Tuktum (Wildcat) or the Istam (Coyote), and were organized along patrilineal lines. Cahuilla are a Takic-speaking people who traditionally relied on hunting and gathering. Local wildlife and plants provided food, medicine, and materials needed for clothing, cooking, shelter, and hunting. Acorns, mesquite beans, cacti, pinyon nuts, yucca, agave, and fan palms were commonly used.

The Spanish Mission System began in California in 1776, however, due to the remoteness of their territories in the mountains and deserts, many of the Cahuilla remained out of reach of the Mission System until 1819 when an outpost, or Asistencia, of the San Gabriel Mission was built in the Redlands area. Thus began the forced transition of many Cahuilla from their traditional homelands and lifestyles to Spanish Mission lifestyle and labor. The late 1800s saw the arrival of the railroad and non-Native agriculturalists who were given traditional Cahuilla lands by the federal government to convert into farmland.

[12] "Historical/Archaeological Resources Survey Report for Assessor's Parcel No. 612-260-010," CRM TECH, May 2024.

Historic Setting

The earliest European explorers arrived to the Coachella Valley in 1823 seeking a route to Yuma, Arizona. The hot and arid desert climate precluded most non-Native people from exploring the low desert until more established trails, and eventually the Southern Pacific Railroad (1876), were established. During the 1870s, the railroads brought farmers and other land prospectors to the West to claim land under the Homestead Act of 1862 and the Desert Land Act of 1877. The availability of land and the presence of plentiful groundwater launched agriculture as the dominant economic engine of eastern Riverside County and Imperial County.

Discussion of Impacts

a, b) Less Than Significant Impact with Mitigation Incorporated. During the most recent inundation of Ancient Lake Cahuilla in the 1730s, when the high stand of the shoreline is documented as being 42 feet above sea level, the Project site would have been under water for a time, but eventually would have been exposed and become part of the shoreline as the lake dried. In this region, many recorded Native American resources are associated with the receding Ancient Lake Cahuilla lakeshore.

At the beginning of the 20th century, a north-south road connecting Indio to the village of Toro, currently part of the Torres Martinez Reservation, ran through the middle of the Project site. By 1932, the road disappeared, and a date palm garden covered the Project site, and by the 1950s, the date palms had been replaced by other row crops. Between 1953 and 1959, date palms were again planted on the site only to be again removed between 1984 and 1996. The site remained fallow until before 2002, when date palms were replanted, but the northeast corner remained fallow. A small irrigation reservoir was installed at the northwest corner. The date palm garden was once again abandoned by 2019.

The above-described results of the Historical/Archaeological Resources Report state the records search, the historical background research and the field survey found that neither historical nor archaeological resources of any type were previously recorded or recently identified on the Project site. The surface of the site has been extensively graded and cultivated since the 1930s which indicates that there is a low probability of discovering cultural resources on the surface. However, the subsurface has not been researched for historical and archaeological cultural resources. CRM Tech recommended that an archaeologist monitor grading and excavation activities to assure that subsurface resources would not be impacted. In addition, as described in Section XVIII, the Torres Martinez requested the presence of a Tribal monitor. As a result, CUL-1 Mitigation Measure as described below will be implemented.

The implementation of this mitigation measure would ensure that potentially significant impacts to buried historical and archaeological resources would be reduced to less than significant levels. Please also see Section XVIII, Tribal Cultural Resources for further discussion of Tribal concerns.

c) No Impact. No human remains or cemeteries were identified as occurring on the Project site. The grading and agricultural activities since the 1930s reduce the likelihood of discovering human remains at this location. Should any human remains be found during the construction phase, California Health and Safety Code § 7050.5 requires that all excavation activity must stop, and the County Coroner must inspect the site. If the remains are identified as those of a Native American individual by the Coroner, the NAHC is informed and required to contact the Most Likely Descendant.

The descendant will recommend the appropriate next step. This state law requirement would ensure that the Project would not impact any human remains.

Mitigation Measures:

CUL-1 Tribal Resource Discovery and Documentation

A Cultural Resources Monitoring and Discovery Plan (Plan) will be prepared by the Project archaeologist in collaboration with ACBCI and provided to the City and ACBCI prior to the issuance of grading permits for the property.

The Plan will require that a qualified archaeological and Tribal monitor from ACBCI be present during all ground-disturbing activities within the Project site. Monitoring requirements and locations should be defined along with resource discovery protocols and guidance for reducing or terminating site monitoring in the case that no artifacts are identified, or that documentation finds that ground disturbance will occur in soils with more potential for discovering artifacts. Should an artifact be discovered, all construction activity within 100 feet of the discovery shall stop until the qualified archaeologist can evaluate the significance of the artifact and make a determination whether further study is necessary. Should the artifact be found to be significant under CEQA, an archaeological treatment plan and further data recovery may be required.

If the qualified archaeologist and ACBCI monitor determine that on-site reburial is the appropriate measure to be taken for the artifact(s) discovered on the Project site, they will recommend a location to the City and project proponent. That location will be described and recorded as an easement in favor of ACBCI on the property in perpetuity prior to the completion of the first house on the property. This is confidential information, and the exact nature of this area will not be called out on the grading plans.

Monitoring:

CUL-A The Project archaeologist shall provide the City with a copy of the Cultural Resources Monitoring and Discovery Plan prior to the issuance of any ground disturbing permit on the site. The Plan will be prepared in collaboration with ACBCI. Within 30 days following the completion of monitoring activities, the Project archaeologist shall provide the City with a report of monitoring activities.
Responsible Parties: Project Archaeologist, City Planning Department, City Engineer.

Sources:

"Historical/Archaeological Resources Survey Report for Assessor's Parcel No. 612-260-010," prepared by CRM TECH, May 21, 2024.

"Guidelines for Determining the Significance of and Impact to Cultural Resources: Archaeological, Historic, and Tribal Cultural Resources," Society for California Archaeology, April 2020.

"Determining the Significance of Impacts to Archaeological and Historical Resources," California Code of Regulations, Title 14 §15064.5.

"The Cahuilla People," Augustine Band of Cahuilla Indians, 2018, accessed March 28, 2024.

VI. ENERGY Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			✓	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			✓	

Environmental Setting

Imperial Irrigation District: Electricity is supplied to the eastern portion of the Coachella Valley, including the City of Coachella, by the Imperial Irrigation District (IID). IID is the sixth largest electric utility in California, as measured by peak load of 1,152 megawatts in 2023, and provides power to over 163,000 customers in Imperial County and portions of Riverside and San Diego counties.[13] Electricity is purchased from various power generators and distributed along IID's transmission corridors to customers. As of 2018 IID has phased out coal from its energy portfolio, has increased its reliance on renewable energy and is planning for greater storage capacity. Table VI-1 shows the most current energy source portfolio for IID.

Table VI-1
Imperial Irrigation District Generation Resource Portfolio

Energy Source	Power Plant Type	Number of Generation Facilities	Mega Watts (MW)
Natural Gas & Diesel	gas turbine and steam turbine	16	655.3
Solar	photovoltaic farms	15	188
Geothermal	steam turbine	4	117
Hydroelectric	hydropower turbine	11	106
Biomass	steam turbine	1	45
Nuclear	steam turbine	1	14
Battery Storage	from hydroelectric power	2	60
Total			**1,185.3**
Source: 2024 Integrated Resource Plan, Imperial Irrigation District, April 2024			

Southern California Gas: Natural gas is provided to the City by Southern California Gas (SoCalGas) and is used for home heating, water heating, laundry dryers and gas stoves. More than 90% of the natural gas consumed in California is sourced from Texas and New Mexico, and the SoCalGas transmission network consists of storage facilities and pipelines. Southern California Gas is

[13] Imperial Irrigation District, 2024 Integrated Resource Plan, April 2024.

committed to reducing greenhouse gas emissions by supporting the development of renewable natural gas (RNG) resources. Unused methane that is released from landfills, composted food waste, dairies, and wastewater treatment plants can be captured and transported along existing SoCalGas gas pipelines. SoCalGas offers assistance to individual consumers, such as a wastewater treatment plant, to convert its by-products into methane for use at its own site.

California State Standards: To reduce energy consumption and pollution emissions, the State of California has enacted several laws and building codes to guide the construction and operations of commercial and residential development. The California Code of Regulations (CCR) Title 24, Part 6, "California's Energy Efficiency Standards for Residential and Nonresidential Buildings," (Energy Code, or Title 24) was established in 1978 and is updated regularly. In 2007, Title 24, Part 11, also known as the Green Building Standards Code (CALGreen) was added to the CCR. Together the Energy Code and CALGreen address all stages of building construction from the planning process to the end use, and set standards for reducing energy and water use, for materials recovery and conservation, and reducing construction and operational impacts on the local environment.

The Renewable Portfolio Standard required electricity providers to derive 33% of their electricity from renewable sources by 2020. Senate Bill 100 furthered this target by requiring 60% of electricity to be derived from renewable sources by 2030 and 100% by 2045.

Senate Bill 375 established new planning processes to facilitate coordination between land use planning, regional transportation plans and funding priorities with the goal of reducing regional vehicle miles traveled (VMT) and thus reducing transportation energy use and greenhouse gas emissions.

City of Coachella Climate Action Plan

In April 2015 the City adopted a Climate Action Plan (CAP) to help implement General Plan policies and programs aimed at reducing greenhouse gas emissions via the reduction of energy consumption, vehicle miles traveled, resource consumption and the generation of waste. In order to meet the State AB 32 GHG reduction target in effect at that time, the CAP estimated that the City would need to reduce greenhouse gas emissions by 5.1 metric tons of carbon dioxide equivalent ($MTCO_2e$) per person, or a total of 786,993 $MTCO_2e$ citywide.[14] Emissions reductions would stem from sectors including, but not limited to greater energy efficiency achievements, reduction of solid waste, installation of renewable energy systems, increases in the amount of open space and shade vegetation, and the growth of alternative transportation systems. The City's CAP has not been updated since its initial adoption.

The analysis of energy consumption impacts is based on the CalEEMod detailed report generated in November 2025 (see Appendix A). Details of the Project parameters are provided in Table III-3 of the Air Quality Section. The Calhoun Street Subdivision Traffic Analysis dated September 2024 (see Appendix F) was also used to estimate impacts from energy consumption during the operational phase. The Traffic Analysis accounted for daily trips from 259 homes, which provides a more conservative estimate than the daily trips resulting from the current 257 homes.

[14] Coachella Climate Action Plan, Table 7, Greenhouse Gas Reductions and Proposed Targets (2020 and 2035), April 22, 2015.

Discussion of Impacts

a) Less Than Significant Impact. Energy would be used during the approximately three-year construction phase and the long-term operational phase.

Construction Phase

During construction, the Project would use energy during site preparation, grading, building construction, paving, and architectural coating. Electricity would be used to operate a temporary construction office which would require lighting, climate control, and electricity to power office equipment. To operate construction equipment and worker transportation, the primary sources of energy would consist of petroleum fuels including gasoline and diesel fuels. Table VI-2 provides fuel consumption estimates for the construction phasing timeline of the Project. Construction equipment schedules, equipment power ratings, and load factors were programmed into CalEEMod. The aggregate fuel consumption rate for all equipment is estimated at 18.5 horsepower hour per gallon (hp-hr-gal.), per the California Air Resource Board's (CARB's) Carl Moyer Program Guidelines (2017).[15] CalEEMod assumes all construction equipment is diesel powered. Total fuel consumption for construction activities is estimated to be 81,147 gallons of diesel fuel.

Table VI-2
Project Construction Equipment Fuel Consumption Estimates

Phase	Duration (Days)	Equipment	HP Rating	Qty	Usage Hours	Load Factor	HP-hrs/day	Fuel Consumption
Site Preparation	35	Rubber Tired Dozers	367	3	8	0.4	3,523	6,666
		Tractors/Loaders/Backhoes	84	4	8	0.37	995	1,882
Grading	100	Graders	148	1	8	0.41	485	2,624
		Excavators	36	2	8	0.38	219	1,183
		Tractors/Loaders/Backhoes	84	2	8	0.37	497	2,688
		Rubber Tired Dozers	367	1	8	0.4	1,174	6,348
Building Construction	500	Forklifts	82	3	8	0.2	394	10,638
		Generator Sets	14	1	8	0.74	83	2,240
		Cranes	367	1	7	0.29	745	20,135
		Welders	46	1	8	0.45	166	4,476
		Tractors/Loaders/Backhoes	84	3	7	0.37	653	17,640
Paving	60	Pavers	81	2	8	0.42	544	1,764
		Paving Equipment	89	2	8	0.36	513	1,664
		Rollers	36	2	8	0.38	219	710
Architectural Coating	85	Air Compressors	37	1	6	0.48	107	490
							TOTAL Construction Equipment Fuel Demand (Gallons Diesel Fuel)	**81,147**

- The aggregate fuel consumption rate for all equipment is estimated at 18.5 horsepower hour per gallon (hp-hr-gal.), per the California Air Resource Board's (CARB's) Carl Moyer Program Guidelines (2017), Table D-21 Fuel Consumption Rate Factors. (The Carl Moyer Program Guidelines Volume I: Program Overview, Program Administration and Project Criteria, approved by the California Environmental Protection Agency Air Resource Board on April 27, 2017. https://ww2.arb.ca.gov/sites/default/files/2020-06/2017_cmpgl.pdf)
- CalEEMod outputs provide Phase, Duration, Equipment, HP Rating, Quantity (number of equipment), Usage Hours, and Load Factor.
- Fuel consumption = [(Usage Hours x Qty.) x Load Factor] x HP Rating/18.5 x Number of Days

15 "Fuel Consumption Rate Factors, Table D-21," Carl Moyer Program Guidelines, Volume I: Program Overview, California Environmental Protection Agency Air Resources Board, June 20, 2017, https://ww2.arb.ca.gov/sites/default/files/classic/msprog/moyer/guidelines/2017/2017_cmpgl.pdf.

The estimated amount of fuel consumed by construction worker trips is provided below in Table VI-3. Construction phase duration, trip type, number of worker trips per day and average trip lengths are provided by the CalEEMod model. The U.S. Department of Energy Alternative Fuels Data Center provides the average vehicle fuel economy estimates.[16] For this analysis, it is assumed that the majority of worker trips would be by car (24.4 mpg), hauling trips would be by Class 8 trucks (6.45 mpg, diesel), and vendor trips would be by delivery trucks (7.7 mpg, diesel). The total amount of fuel that will potentially be consumed by construction workers, vendors, and haulers traveling to the Project site during construction is 57,012 gallons.

Table VI-3
Construction Worker Fuel Consumption Estimates

Phase	Duration (Days)	Trip Type	Worker Trips/ Day	Trip Length (Miles)	VMT	Avg. Fuel Economy (mpg)	Fuel Consumption (gallons)
Site Preparation	35	Worker	18	18.5	11,655	24.4	478
		Vendor	1	10.2	357	7.7	46
Grading	100	Worker	20	18.5	37,000	24.4	1,516
		Vendor	1	10.2	1,020	7.7	132
Building Construction	500	Worker	92	18.5	851,000	24.4	34,877
		Vendor	27	10.2	137,700	7.7	17,883
Paving	60	Worker	15	18.5	16,650	24.4	682
		Vendor	3	10.2	1,836	7.7	238
Architectural Coating	85	Worker	25	18.5	28,305	24.4	1,160
TOTAL Construction Worker Vehicle Fuel Demand (Gallons of Gasoline)							**38,713**
TOTAL Construction Vendor Vehicle Fuel Demand (Gallons of Diesel)							**18,299**
Total							**57,012**

- The average vehicle fuel economy estimates were derived from the U.S. Department of Energy Alternative Fuels Data Center. For purposes of this analysis, it is assumed that the majority of worker trips are by cars (24.4 miles per gallon (mpg), gasoline), hauling trips are by Class 8 trucks (6.4 mpg, diesel), and vendor trips are by delivery trucks (7.7 mpg, diesel). (Average Fuel Economy by Major Vehicle Category, last updated January 2024. U.S. Department of Energy. https://afdc.energy.gov/data/10310)
- CalEEMod outputs provide Phase, Duration, Trip Type, Worker trips/day, Trip Length.

In total, the Project is estimated to use 138,159 gallons of fuel during the construction phase. The construction phase is temporary, the fuel demand represents a "single-event" and does not pose an on-going demand. Compliance with CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation will help to reduce impacts on energy consumption by the Project's construction activities.[17] The Regulation aims to reduce idling, retire older less fuel-efficient equipment, encourage greater use of renewable diesel, and standardize additional fuel reduction tactics. The temporary duration of the construction phase and mandatory compliance with California Air Resources Board's (CARB) Off-Road Regulation of diesel-fueled equipment ensures that the Project will have a less than significant impact on energy consumption relating to the wasteful use of resources.

16 U.S. Department of Energy, "Average Fuel Economy by Major Vehicle Category," Alternative Fuels Data Center, updated January 2024, https://afdc.energy.gov/data/10310?page=2.

17 California Air Resources Board, In-Use Off-Road Diesel-Fueled Fleets Regulation, 2024.

Operational Phase

Energy consumption during the operational phase would stem from the use of appliances, electronics, lighting, HVAC systems, and exterior systems such as and irrigation and outdoor lighting. The homes would be constructed in compliance with the 2022 California Building Energy Efficiency Standards (or the Building Code in effect at the time that building permits are issued) which include mandatory guidelines per the California Energy Code, Title 24, Part 6. The California Green Building Code, Title 24, Part 11, defines voluntary energy efficiency standards. Requirements include the installation of rooftop solar for all new single-family homes, double-paned windows, light-colored building materials, and the use of the most effective wall and ceiling insulation, and the highest-rated air conditioning systems, and many other standards. The State's Energy Code also includes water efficiency standards. Title 20 of the California Energy Code, Appliance Efficiency Regulations, defines minimum efficiency levels for household appliance, electronics, and plumbing equipment. The Project would be subject to these regulations.

The population of the City of Coachella is approximately 43,173,[18] and by the year 2045, the population could potentially expand to 129,300.[19] This growth will increase the demand for electricity, natural gas, and transportation fuels. According to the City's 2035 General Plan Update EIR, on an annual basis, the Project could potentially account for 0.68% of the City's electricity demand for residential/commercial/industrial uses, and 1.67% of the City's single-family residential demand for natural gas. Tables VI-4 and VI-5, compare the proposed Project's estimated annual electricity and natural gas demand to the City's forecasted 2035 energy demand as detailed in the City's 2035 General Plan Update EIR.

Table VI-4
Project Operational Annual Electricity Consumption

Land Use	Electricity Use (kWh/yr)
Single Family Housing – Project Annual Demand	2,381,507
City's 2035 Demand for Residential/Commercial/Industrial Uses	348,918,091
Project's % of City's 2035 Demand	**0.68%**

Sources:
1. CalEEMod 2022.1 (Full report is available in Appendix A).
2. City of Coachella General Plan Update EIR, Table 4.14-3, Electricity and Natural Gas Use Projections.

Table VI-5
Project Operational Annual Natural Gas Consumption

Land Use	Natural Gas (Therms/yr)
Single Family Housing – Project Annual Demand	90,689
City's 2035 Demand for Residential Single Family Use	5,444,162
Project's % of City's 2035 Demand	**1.67%**

Sources:
1. CalEEMod 2022.1 (Full report is available in Appendix A).
2. City of Coachella General Plan Update EIR, Table 4.14-3, Electricity and Natural Gas Use Projections.

[18] California Department of Finance Table E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2024 with 2020 Census Benchmark, May 2024.

[19] Southern California Association of Governments, "Demographics and Growth Forecast Technical Report," 2020-2045 RTPSCS.

Transportation Energy Demand

To model the number of daily trips generated by the Project and vehicle miles traveled (VMT), the Institute of Transportation Engineers (ITE) estimation was applied. Per ITE, the residential land use (210) is expected to generate 9.43 trips per residence per day, and the park would generate approximately 75 trips per day.[20] The Project could generate a total of 2,499 trips per day. Based on the number of residences, the ITE land use code, and the daily park trips, the CalEEMod analysis estimates that 911,957 total annual trips could result in 5,188,049 VMT annually.

For purposes of analysis, the 24.4 mpg figure is applied to the Project's annual VMT, which calculates to a total of 126,588,396 gallons of fuel that could be consumed annually by Project residents and park users.

The Project's forecasted VMT and fuel demand are compared to the total 2024 VMT generated within the South Coast Air Quality Management District's Salton Sea Air Basin as provided by California Air Resources Board Emission Factor (EMFAC). The Project's operational annual gasoline demand would equate to 0.143% of the Air Basin's most current annual gasoline consumption. Table VI-6 provides a comparison of the Project's estimated annual gasoline consumption and the Salton Sea Air Basin 2024 annual consumption.

Table VI-6
Project Operational Annual Transportation Gasoline Consumption

Land Use	Annual VMT	Gasoline (gallons/yr)
ITE Residential Land Use (210) – 257 units + Park	5,073,042	123,782,225
Park	115,007	2,806,171
Project Total Annual Demand	5,188,049	126,588,396
SCAQMD Salton Sea Air Basin Demand	3,628,036,125	88,524,081,450
Project's % of Air Basin Annual Demand	**0.14%**	**0.143%**

Sources:
1. CalEEMod 2022.1 (Full report is available in Appendix A).
2. CARB EMFAC, Scenario Analysis, 2025 Total Daily VMT for SCAQMD Salton Sea Air Basin – 9,939,825 VMT

The operational phase would result in increased vehicle trips by residents and park users, but the increase compared to the surrounding region is incremental. The Project is within two miles of the City's downtown area where shopping and many other services are located. The City's commitment to providing more alternative, non-motorized transportation routes, as outlined in the Mobility Element of the General Plan, would help ensure that the Project's increase in transportation would reduce potential impacts to energy use.[21]

Energy efficiency standards have demonstrated a net savings of billions of dollars, and millions of metric tons of carbon emissions.[22] The above-described State building and appliance efficiency standards along with the City's alternative transportation policies ensure that the Project would not

20 Calhoun Street Subdivision Traffic Analysis, prepared by Urban Crossroads, September 6, 2024.

21 City of Coachella General Plan 2035 Update, Mobility Element, April 22, 2015.

22 Office of Energy Efficiency and Renewable Energy, "Why Building Energy Codes?", Building Energy Codes Program, accessed June 12, 2024, https://www.energycodes.gov/why-building-energy-codes#:~:text=Building%20energy%20codes%20represent%20a,of%20avoided%20CO2%20emissions .

result in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

b) Less Than Significant Impact. In addition to the California Building Energy Efficiency Standards, and the City's Mobility goals and policies, the City's General Plan includes a Sustainability and Natural Environment element which prescribes goals and policies for new and existing development to ensure that as the City grows, the energy and water use do not exceed available resources.[23]

Goal 2 discusses policies for harnessing more renewable energy, efficient building orientation to reduce western sun exposure, and Title 24 construction standards.

Goal 3 addresses the need to conserve water resources through drought tolerant landscaping, technologies, the use of recycled water, retention basins, and more to benefit both the community and the environmental.

Goal 4 specifically addresses need for energy efficiency through green building design for existing and new buildings.

In 2015, the City of Coachella adopted a Climate Action Plan (CAP) to ensure that its General Plan and future growth would comply with state and regional GHG reduction targets. The CAP designated greenhouse gas emissions targets of 49% below 2010 emissions by 2035. Achieving this goal would require continual increases in energy efficiency for all buildings and lighting, increasing renewable energy use, adding more shade and shade trees, and upgrading transportation corridors to provide non-motorized vehicle routes. The Project will be reviewed to assure compliance with CAP measures for residential development, and will be required to comply with the Building Code, including energy efficiency standards, to assure compliance with energy reduction strategies. These requirements will assure that the Project's energy impacts remain less than significant.

The City of Coachella in partnership with the Coachella Valley Association of Governments (CVAG) developed the "Eastern Coachella Valley's Action Plan for Climate Resilience" (Action Plan) in 2019. The Action Plan identifies strategies where Eastern Coachella Valley communities can seek funding to pay for climate resilience projects. Many of these projects would lead to a reduction of energy use by increasing energy efficiency of buildings, providing additional shade, boosting area active transportation plans, offering home weatherization programs for low-income communities, installing water efficient appliances, and more.[24]

The Project would comply with local, regional, and state renewable energy and energy efficiency plans The City's General Plan and Climate Action Plan, the Eastern Coachella Valley's Action Plan for Climate Resilience, and the commitments by SoCalGas and Imperial Irrigation District to bolster sources of renewable energy, would all restrict the potential impacts on energy use by the Project. The Project's impacts would be less than significant.

[23] Sustainability and Natural Environment Element, General Plan Update, City of Coachella, April 22, 2015.

[24] "Eastern Coachella Valley Action Plan for Climate Resilience," prepared by Dudek, June 2019.

Mitigation Measures: None required.

Monitoring: None required.

Sources:
CalEEMod 2022.1

Calhoun Street Subdivision Traffic Analysis, prepared by Urban Crossroads, September 6, 2024
California Air Resources Board, In-Use Off-Road Diesel-Fueled Fleets Regulation, 2024

California Department of Finance, Table E-5 Population and Housing Estimates for Cities, Counties and the State, 2020-2024 with 2020 Census Benchmark, May 2024

California Energy Commission, Title 20 and Title 24

City of Coachella General Plan 2035 Update

City of Coachella General Plan 2035 Update EIR

Coachella Climate Action Plan, Table 7, Greenhouse Gas Reductions and Proposed Targets (2020 and 2035), April 22, 2015.

"Demographics and Growth Forecast Technical Report," 2020-2045 RTPSCS, Southern California Association of Governments

Imperial Irrigation District, 2024 Integrated Resource Plan, April 2024
Southern California Gas

U.S. Department of Energy, "Average Fuel Economy by Major Vehicle Category," Alternative Fuels Data Center, updated January 2024

VII. GEOLOGY AND SOILS **Would the project:**	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				✓
ii) Strong seismic ground shaking?			✓	
iii) Seismic related ground failure, including liquefaction?			✓	
iv) Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?			✓	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			✓	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				✓
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				✓
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓

Environmental Setting

Seismicity and Faulting

The Coachella Valley lies within the northwestern portion of a larger topographic feature known as the Salton Trough (also referred to as the Salton Sink, and the Salton Basin), which is a northwest-southeast trending structural depression extending from the Banning Pass to the Gulf of California. The Salton Trough is approximately 130 miles long by 70 miles wide and is dominated by the underlying Southern San Andreas Fault (SSAF) system running along the eastern/northeastern edge of the Coachella Valley and through the east edge of the City of Coachella. For several million years, the Salton Trough has been subsiding while sediment eroding from the adjacent mountain ranges which form the northeast and the southwest Valley boundaries fills in the Coachella Valley floor. From the west toward the east, the San Bernardino Mountains, Little San Bernardino Mountains and the Indio Hills form the north/northeast boundary of the Coachella Valley. The San Jacinto Mountains and the Santa Rosa Mountains extend along the south/southwest side of the Valley.

Most earthquakes that occur in southern California result from the strike-slip motion between the North American and Pacific tectonic plates. At a rate of about two inches per year, the North American plate is sliding southwest while the Pacific plate is sliding northwest. The San Andreas Fault, an 800-mile fault extending from Bombay Beach on the east shore of the Salton Sea to Cape Mendocino on the northern California coast, facilitates about 70% of this tectonic movement. The San Andreas Fault zone is made up of multiple fault strands splintering off the main tectonic fault, and in the Coachella Valley, the SSAF zone splits into strands known as the Banning Fault, the Mission Creek Fault, and the San Jacinto Fault Zones. According to a 2023 paper by the Scripps Institution of Oceanography, the SSAF experienced a major earthquake approximately every 180 years over the last 1,000 years. However, the last major earthquake in the Coachella Valley region of the SSAF was 300 years ago, leading analysts to assume that accumulated stress between the plates could result in a magnitude 7.8 earthquake.[25]

Soils

Soils in the City of Coachella are comprised of a mix of eroded sediments from the surrounding mountain ranges that have filled in the Valley floor over several million years. Presently, sediments deposited by water drainage (alluvial), or carried by wind (aeolian) are made up of fine silts, clay, gravel, and sand. Toward the southeast end of the Coachella Valley, soils contain higher amounts of very fine-grained lake (lacustrine) deposits and salts from repeated cycles of Colorado River inundation forming Ancient Lake Cahuilla.[26]

Liquefaction

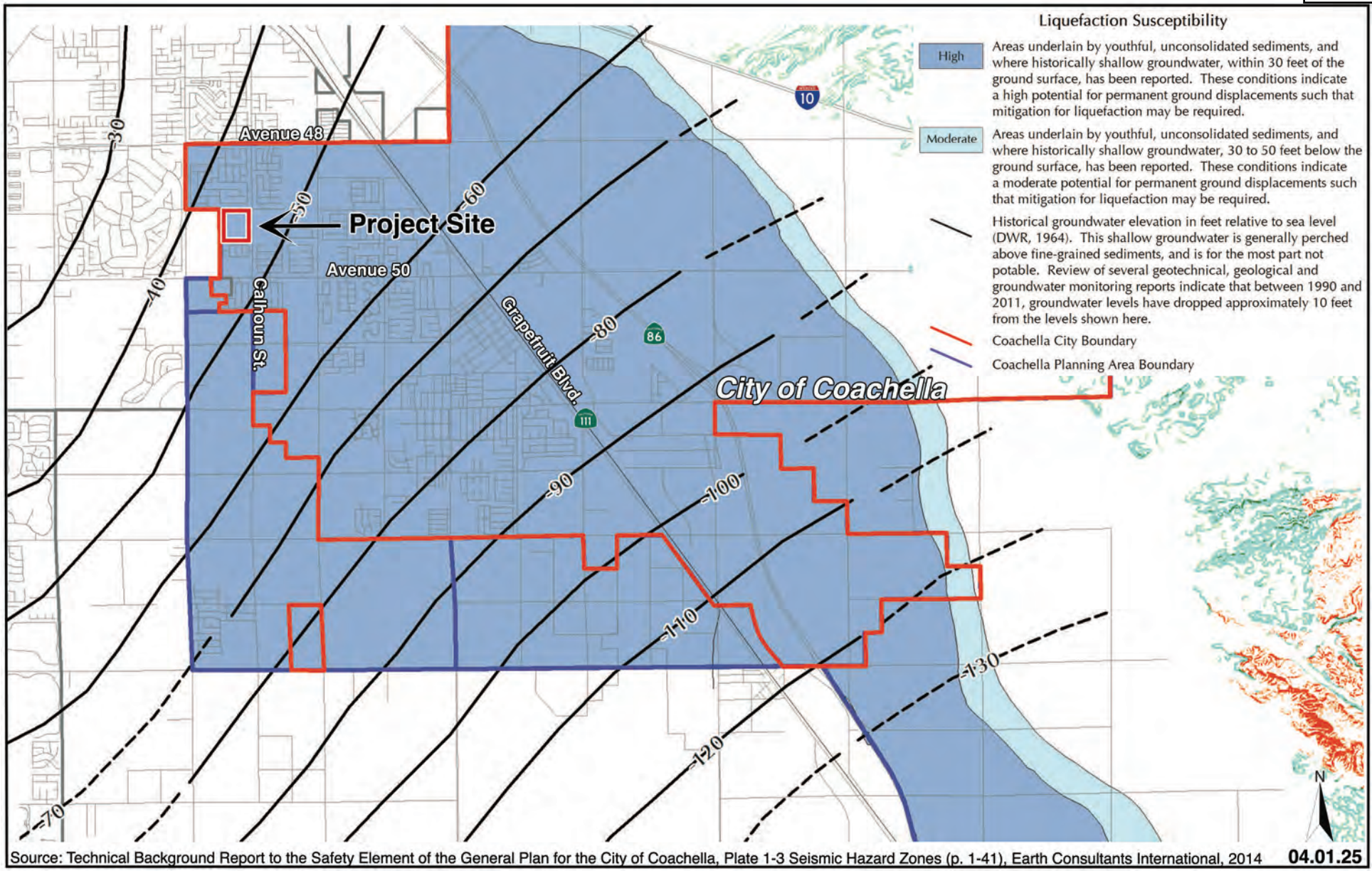
Liquefaction occurs when seismic ground shaking causes groundwater pressure to increase and fully saturate the the upper layers of soil causing the soil to become a fluid-like mass and lose stability or bearing strength. This occurs within the upper 50 feet of the ground surface in loose fine-grained to medium-grained sandy/silty soils. Ramifications can include damage to buildings and structures and subsurface infrastructure. Liquefaction leads to other ground failure conditions such as lateral spreading, flow failure, ground oscillation, and ground lurching.

[25] "California's Salton Sea May Be Staving off Earthquakes As It Disappears," Scripps Institutions of Oceanography, University of California San Diego, June 7, 2023.

[26] Existing Conditions, City of Coachella General Plan 2035 Update, April 2015.

Three geologic conditions need to be met for liquefaction to occur: long duration of ground shaking; the presence of young, loose, unconsolidated sediments; and the presence of groundwater within 50 feet of the surface. All three conditions may potenitally be met in the City of Coachella. Nearby active faults such as the Southern San Andreas or San Jacinto may experience earthquake events. Soils in the City west of the Whitewater River/Coachella Valley Stormwater Channel are made up of young unconsolidated sand, silt with clay and gravel. Although the water table fluctuates depending on the rate of extraction versus the rate of recharge, it is within 50 feet of the surface in portions of the City. Also, perched water, which is non-potable groundwater that occurs between the surface and an impermeable layer of clay that sits above the deeper aquifer can contribute to liquefaction. The east end of the Coachella Valley contains the clay layer and perched water. Exhibit 6 of this report shows Plate 1-3 from the Background Technical Report for the General Plan Safety Element, which describes the portion of the City that is highly susceptible to liquefaction.[27] The Project site is located within this area.

[27] Technical Background Report to the Safety Element of the General Plan for the City of Coachella, Plate 1-3 Seismic Hazard Zones (p. 1-41), Earth Consultants International, 2014.



Source: Technical Background Report to the Safety Element of the General Plan for the City of Coachella, Plate 1-3 Seismic Hazard Zones (p. 1-41), Earth Consultants International, 2014

04.01.25

TERRA NOVA®
PLANNING & RESEARCH, INC.

Liquefaction Susceptibility
Calhoun Street Housing Development
Coachella, California

Exhibit
6

Ground Subsidence

The gradual settling or sinking of the ground surface can occur as smaller local collapses or broader regional lowering of the ground occurs. A diverse range of causes commonly stem from both natural phenomenon such as earthquakes, and human activities such as construction, water and mineral extraction, as is common in southern California. Ground subsidence in the Coachella Valley has been associated with excessive groundwater pumping and the greatest extent has occurred in the central portions of the valley between Indian Wells and the Lake Cahuilla reservoir. The Coachella Valley Water District and the Desert Water Agency are primarily responsible for addressing the over-pumping and overdraft condition that has caused ground subsidence. A program of groundwater recharge has been underway for several decades and has slowed or overdraft and has slowed or stopped subsidence in most areas where it had occurred. The replenishment sites have seen an increase groundwater in storage.

Paleontological Resources

Paleontological resources are the fossilized remains of prehistoric plant and animal life dating more than 10,000 years ago, near the end of the last Pleistocene glaciation period and the beginning of the Holocene epoch. Fossil remains including bones, teeth, shells, and plant leaves are typically discovered in the geologic deposits where they were buried, although erosion can expose fossils to the surface.

The City's Planning Area contains four different rock types with varying levels of paleontological sensitivity: Ocotillo Conglomerate (low sensitivity), Palm Springs Formation (high sensitivity), Lake Cahuilla Sediments (high and undetermined sensitivity), Holocene Alluvium (low sensitivity).

Discussion of Impacts

a, i) No Impact. A fault rupture occurs when movement on a fault breaks through the surface of the Earth. Fault ruptures can range from one inch to fifty miles or more. While the City Planning Area is near the SSAF, which could potentially generate a magnitude 7.8 earthquake, there are no active faults on or near the Project site. According to the California Department of Conservation's Earthquake Hazards Zone Application (EQ Zapp), the Project site is located 3.18 miles southwest of the SSAF. Since there are no active faults on the Project site or in the near vicinity, no impacts from fault ruptures are expected.

a, ii) Less Than Significant Impact. The City's General Plan estimates that the City could be severely impacted if a major earthquake event occurred along the section of the SSAF that extends through the City's eastern planning area. The Project site is located 3.18 miles southwest of the fault zone and would be susceptible to considerable ground shaking should a major earthquake occur. The San Jacinto Fault Zone, approximately 17.6 miles southwest, is considered to be more active and could produce a magnitude 6.6 earthquake along certain segments, which could cause ground shaking in the City.

Buildings can be engineered to withstand a certain intensity of ground shaking. The Project is subject to the City's Municipal Code §15.66 Seismic Hazard Mitigation.[28] The General Plan also requires all new structures to designed with the most current California Building Code including provisions for

[28] Coachella, California Code of Ordinances §15.66, "Seismic Hazard Mitigation."

seismic loads, lateral forces and grading.[29] These standard requirements are designed to reduce the impacts of ground shaking to structures and people. Compliance with the most current state and local design standards would ensure that the impacts associated with ground shaking would be less than significant.

a, iii) Less Than Significant Impact. Liquefaction of soil may occur when a site contains soils that are particularly susceptible to liquefaction such as unconsolidated sandy and silty soil. Liquefaction also requires strong seismic shaking and the presence of groundwater within 50 feet of the surface. The California Department of Water Resources monitors groundwater wells in the Coachella Valley and provides data via a Current Groundwater Levels interactive map application. On March 7, 2024 the groundwater depth was recorded as 78.80 feet at a well located approximately 1.5 miles southwestof the Project site near the corner of Monroe Street and Avenue 50. On March 12, 2024 groundwater depth of 31.00 feet was recorded at a well located approximately 2.5 miles northeast of the Project site at Tyler Street and Avenue 48.[30] As discussed above, the region of the City of Coachella west of the Whitewater River/Coachella Valley Stormwater Channel is susceptible to liquefaction. The 2014 Technical Background Report to the Safety Element provides exhaustive research detailing the soil, groundwater and seismic conditions that lead to potential liquefaction in the City and provides an official Seismic Hazards Map that may be applied to projects in the City (see Exhibit 6).[31]

The General Plan Safety Policy 1.6 requires a liquefaction assessment study for any project located within the defined liquefaction susceptibility area "to be conducted in accordance with the provisions in the Seismic Hazards Mapping Act and the most recent version of the California Geological Survey's Special Publication 117: Guidelines for Evaluating and Mitigating Seismic Hazards in California." Furthermore, Policy 1.7 requires the implementation of mitigation measures to "all habitable structures, bridges, roadways, major utility lines and park improvements as a condition of approval" in areas where the geotechnical studies determine that the soil is susceptible to liquefaction.[32] The City will require the submittal of a geotechnical analysis concurrent with building plans, to address site- and project-specific conditions. This analysis will include recommendations, including over-excavation and soil compaction, foundation design and structure, to assure that liquefaction, if it occurs, is mitigated.

As the geotechnical assessment, soil mitigation and Project design requirements are met, the potential impacts resulting from seismic activity which result in liquefaction or associated ground failure will be less than significant.

a, iv) No Impact. The Project site is located on a relatively flat, low-lying central region of the Salton Trough where the soil consists of fine sand, silt and clay. The nearest hillside is the Santa Rosa Mountains foothills, 4.5 miles to the southeast. The Project site is not susceptible to landslides and no impacts from landslide events are anticipated.

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29 Safety Element, City of Coachella General Plan 2035 Update, April 22, 2015.

30 California's Groundwater Live: Current Groundwater Levels, California Department of Water Resources, accessed July 2024.

31 "Plate 1-3 Seismic Hazard Zones," Technical Background Report to the Safety Element, City of Coachella, Earth Consultants International, 2014.

32 Safety Element, City of Coachella General Plan 2035 Update, April 22, 2015.

b) Less Than Significant Impact. Development of residential neighborhoods including site preparation, grading, construction of building structures can cause soil erosion via wind and water. To control fugitive dust emitted from the Project site, the applicant must prepare a fugitive dust control plan to be approved by the City prior to obtaining grading and construction permits.[33] The fugitive dust control plan will implement one or more best available control measures as defined by the Coachella Valley Fugitive Dust Control Handbook.[34] To control erosion resulting from stormwater, the applicant must provide proof that the Project complies with State permitting for stormwater discharges from construction activities prior to obtaining the grading or construction permits from the City.[35] To implement this requirement, the City will require the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) concurrent with submittal of grading and improvement plans.

Post construction, the Project site will be stabilized by landscaping, roadways, and structures which will control dust and soil erosion from storm events. Stormwater flows will be controlled by the Project design which will have incorporated Best Management Practices as defined by the Project WQMP (Appendix E) to prevent soil erosion during storms.

With implementation of the fugitive dust control measures and stormwater best management practices, impacts from soil erosion during construction and operational phases will be reduced to less than significant levels.

c) Less than Significant Impact. The surface soil of the Project site is composed mainly of fine-grained sand, silt and clay that resulted from lacustrine deposits of Ancient Lake Cahuilla and distal fan deposits carried by streams bringing eroded material from upper elevations. The soil type is not prone to lateral spreading or collapse, nor is this soil type susceptible to on- or off-site landslide events.

However, as discussed above in impacts section (a.iii), the Project site occurs in an area that is susceptible to liquefaction due to the proximity to an earthquake fault zone, the soil type, and potentially also due to the perched groundwater level should it rise to at least 50 feet below the surface. Plate 1-3 of the Background Technical Report for the Safety Element should be regarded as the official liquefaction susceptibility map. Pursuant to the State's Seismic Hazards Mapping Act, projects occurring withing a State-delineated Seismic Hazard Zone for liquefaction must be evaluated by a Certified Engineering Geologist and/or a Registered Geotechnical Engineer. Furthermore, the project review conducted by the City must be performed by geologists and engineers with the same credentials and experience.

As described above, the City will review the geotechnical analysis and the required remediation prior to issuing construction permits. The engineering analysis and subsequent steps to prevent liquefaction would ensure that impacts resulting from potentially unstable soils would be less than significant.

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33 Coachella, California Code of Ordinances, §13.16.340, "Stormwater Quality Management Plan and BMPs."

34 "Rule 403.1 Supplement Fugitive Dust Control Requirement for Coachella Valley Sources," South Coast Air Quality Management District, April 2004.

35 Coachella, California Code of Ordinances, Chapter 8.20, "Fugitive Dust Control."

d) No Impact. Clay minerals can expand in size as the amount of moisture increases in the soil. Expansion can cause the ground to swell which can result in damage to buildings, structures, roadways, and other surface features. The soil found on the Project site contains a mix of fine- to medium-grained sand, silt and clays that have been deposited by wind and by periodic river flooding as well as remnant lakebed sediment. The soil composition of the Project site is not prone to expansion and, therefore, associated impacts are not expected to occur.

e) No Impact. The Project site will be served by the City of Coachella Sanitation Division, and as such, there are no plans to install septic systems. The area is currently served by 8-inch and 12-inch wastewater effluent lines on Calhoun Street. The infrastructure will be extended to serve the proposed residential community. Therefore, there will be no Project impacts from the use of septic tanks or alternative wastewater systems.

f) No Impact. The potential for discovery of paleontological resources on the Project site is low as there are no records of any such discoveries in the nearby vicinity of the City's Planning Area. The Project occurs within an area of the City designated as an area of undetermined sensitivity. The Project is not expected to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. There would no impacts.

Mitigation Measures: None required.

Monitoring: None required.

Sources:

City of Coachella General Plan 2035 Update, April 2015

City of Coachella General Plan 2035 Update, Technical Background Report to the Safety Element "Plate 1-3 Seismic Hazard Zones," Earth Consultants International, 2014

City of Coachella General Plan 2035 Update EIR, June 2014

Coachella, California Code of Ordinances §15.66, "Seismic Hazard Mitigation"

Safety Element, City of Coachella General Plan 2035 Update, April 22, 2015

California Geological Survey
"California's Salton Sea May Be Staving off Earthquakes As It Disappears," Scripps Institutions of Oceanography, University of California San Diego, June 7, 2023.

California's Groundwater Live: Current Groundwater Levels, California Department of Water Resources.

VIII. GREENHOUSE GAS EMISSIONS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				✓

Environmental Setting

The lower troposphere of the Earth's atmosphere contains a mix of gases that sustain life. Greenhouse gases (GHGs) comprise a small percentage, 0.04%, of these tropospheric gases and trap just enough heat to maintain a relatively constant and livable air temperature. Even small alterations in this composition are well documented via proxy and direct climate measurements.

Human activities including the burning of fossil fuels, clearing native vegetation, altering landscapes to accommodate hardscapes and built environments all emit additional GHGs and reduce the Earth's ability to cycle and sequester carbon resulting in exponential net increase in atmospheric GHG levels. While no one development project can have a globally significant impact on greenhouse gas increases, the cumulative impacts of regional development can result in locally significant environmental changes, which in turn contribute to wider climatic changes. Hence, the state and local jurisdictions have adopted policies and thresholds that cap GHG emissions and mandate mitigations when needed to ensure new land uses minimize their impacts.

The major greenhouse gases present in the atmosphere and increased by human activities are described in Table VIII-1.

Table VIII-1
Description of Major Greenhouse Gases

Greenhouse Gas	Emissions Sources	Global Warming Potential	Atmospheric Lifetime
Carbon Dioxide (CO_2)	Next to water vapor, carbon dioxide is the most abundant GHG. Human activities emit CO_2 when burning fossil fuels and burning and removing forests and other vegetation. Looking back 800,000 years prior to the Industrial Revolution, the level of CO_2 in the atmosphere never climbed above 300 parts per million. Today we measure CO_2 at 419.81 parts per million.	1	1,000s of years

Table VIII-1
Description of Major Greenhouse Gases

Greenhouse Gas	Emissions Sources	Global Warming Potential	Atmospheric Lifetime
Methane (CH_4)	Methane is the third most abundant GHG in the atmosphere. It is released during the extraction, refining, and burning of fossil fuels, and the burning and clearing of native vegetation. Raising of livestock, decay of organic waste, and landfills also emit methane.	25	About 10 years
Nitrous Oxide (N_20)	Like carbon dioxide and methane, nitrous oxide naturally occurs in the atmosphere. It is also released by agricultural activities and agricultural chemicals, fossil fuel combustion, wastewater treatment and industrial processes.	298	More than 100 years
Fluorinated Greenhouse Gases	Chlorofluorocarbons (CFCs), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulfur Hexafluoride (SF_6) Together these 30 different gases are referred to as fluorinated GHGs. F-GHGs are solely emitted as by-products of industrial processes such as aluminum and semi-conductor manufacturing and used as refrigerants and aerosol propellants.	Between 12 and 22,800	Tens to thousands of years

Sources: Overview of Greenhouse Gases, Environmental Protection Agency, accessed March 2025, https://www.epa.gov/ghgemissions/overview-greenhouse-gases; Global Warming Potentials, IPCC Fourth Assessment Report, 2007.

The 2016 Senate Bill 32 (SB 32) requires California to reduce overall greenhouse gas emissions by 40% below 1990 levels by the year 2030. This bill furthers the mandates of the prior 2006 Assembly Bill 32 which required the state the reduce GHG emissions to 1990 levels by 2020. Going beyond SB 32 is the 2022 Scoping Plan proposed by the California Air Resources Board (CARB) which sets forth a plan to achieve statewide 100% carbon neutrality by 2045.

The City of Coachella is under the jurisdiction of the SCAQMD, the local agency that determines pollution emissions standards from stationary sources. The CARB determines emissions standards for mobile sources for the entire state. In 2015 the City of Coachella adopted a Climate Action Plan (CAP) to ensure that its General Plan and future development would comply with the original 2006 AB 32 goals, CARB's 2022 Scoping Plan, and SCAQMD's GHG emissions thresholds.

City of Coachella Climate Action Plan

In April 2015 the City adopted a Climate Action Plan (CAP) to help implement General Plan policies and programs aimed at reducing greenhouse gas emissions via the reduction of energy consumption, vehicle miles traveled, resource consumption and the generation of waste. In order to meet the State AB 32 GHG reduction target in place at the time, the CAP estimated that to achieve a target of 49% below 2010 by 2035, the City would need to reduce greenhouse gas emissions by 5.1 metric tons of carbon dioxide equivalent ($MTCO_2e$) per person, resulting in a per person emission rate of 4.2 $MTCO_2e$, or a total of 786,993 $MTCO_2e$ citywide.[36] Emissions reductions would stem from sectors including, but not limited to greater energy efficiency achievements, reduction of solid waste,

[36] Coachella Climate Action Plan, Table 7, Greenhouse Gas Reductions and Proposed Targets (2020 and 2035), April 22, 2015.

installation of renewable energy systems, increase the amount of open space and shade vegetation, and the growth of alternative transportation systems. The City's CAP has not been updated since its initial adoption.

Greenhouse Gas Thresholds

Since each GHG affects the atmosphere differently, for purposes of project analysis, GHG emissions are converted to carbon dioxide equivalencies and measured in metric tons ($MTCO_2e$). When evaluating potential GHG emissions from proposed non-industrial projects, SCAQMD applies a tiered approach. If a project does not conform to at least one of the tiers described below, the project's impacts would be considered significant.

Tier 1: Consider whether the project qualifies for any applicable exemption under CEQA. If the project qualifies for an exemption, then the project is not significant and no other action is required.

Tier 2: Consider whether the project complies with a local greenhouse gas reduction plan that is at minimum consistent with AB 32.

Tier 3: Consider whether the project is below an absolute threshold of either 10,000 $MTCO_2e$/year for industrial projects or 3,000 $MTCO_2e$/year for residential projects.

Tier 4: Consider whether the project is below a set performance threshold. This threshold is yet to be set and is not recommended for analysis at this time.

Tier 5: Consider whether off-site mitigation would reduce the project's GHG emission impacts to less than the proposed screening level.

Discussion of Impacts

a) Less Than Significant Impact. If the Project generates greenhouse gas emissions in excess of the established thresholds, either directly or indirectly, then the Project's impact would be significant. As stated above, project-based impacts are compared against the SCAQMD tiered greenhouse gas emissions thresholds. Emissions generated by the proposed Project are measured against Tier 3, 3,000 $MTCO_2e$/year for residential and commercial projects.

A CalEEMod analysis was conducted in November 2025 and was based on the most recent Project site plan which included 257 units on a net area of 37.28 acres, a 3.53-acre park with retention basin, common landscaped areas, four additional landscaped retention basins, asphalt streets, and 2,517 daily trips. CalEEMod accounts for landscaping and driveway hardscape for residences. Table III-3 provides a summary of the Project's land use data that was applied to the model. The detailed CalEEMod report for the Project is available in Appendix A.

The CalEEMod analysis that forms the basis for this discussion was generated in November 2025 For analysis purposes, a three-year build out timeframe was assumed for the construction of 257 homes, the 3.13-acre park, streets, retention basins, and common area landscaping. CalEEMod accounts for landscaping and driveway hardscape for single family residences. Table III-3 in the Air Quality section provides details of the CalEEMod inputs, and a full copy of the report is provided in Appendix A.

Construction and Operation

Since SCAQMD does not provide GHG construction thresholds for projects, the total amount of CO_2e emissions from the construction phase of the Project is amortized over 30 years to estimate the CO_2e emissions over a one-year operational cycle. Upon buildout, six emissions source categories would contribute either directly or indirectly to operational greenhouse gas emissions including area emissions (pavement and architectural coating off-gassing) building energy usage, mobile energy usage, solid waste disposal, water usage, and refrigeration. Table VIII-2 summarizes annual construction and operational greenhouse gas emissions and then compares the Project's total annual emissions, 2,683 $MTCO_2e$, to the SCAQMD Tier 3 threshold. The Project would not exceed the 3,000 MT/YR CO2e standard for residential and commercial projects. Therefore, Project construction and operation activities would have a less than significant impact on greenhouse gas emissions.

Table VIII-2
Projected GHG Emission Summary
(Metric Tons per Year)

Construction	CO_2e (MT/YR rounded)
3 Years	1,548
30-Year Amortized*	52
Operation	**CO_2e (MT/YR rounded)**
Area	3.2
Energy	986
Mobile	1,291
Waste	344
Water	34
Refrigeration	1.2
Total Operational	2,659
Total Annual Operational (30-Year amortized + Operational)	**2,711**
SCAQMD Annual Threshold	3,000
Exceeds?	No

*Buildout construction emissions were amortized over 30 years then added to buildout operational GHG emissions.
Source: CalEEMod 2022.1

b) Less than Significant Impact. A project is considered to have a significant impact if it conflicts with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. As described above, the City of Coachella adopted a Climate Action Plan (CAP) in 2015 to ensure that its General Plan and future growth would comply with state and regional GHG reduction targets. According to the City's 2015 CAP, the total direct and indirect 2010 GHG emissions emitted by the City was 382,787 $MTCO_2e$. Of the seven community sectors evaluated

for this figure, the Transportation sector, which included gas and diesel fueled vehicles, accounted for 54% of the City's total emissions, or 206,909 $MTCO_2e$. If the City continues with business as usual (BAU), and implements no GHG reduction strategies, by 2035 the total Coachella emissions would reach 1,543,672 $MTCO_2e$. The 2015 CAP proposes emissions reductions of 49% below 2010 emissions, which would reduce annual emissions to 756,679 $MTCO_2e$ by 2035. The City's greatest reduction potential relies on various strategies to reduce Land Use and Transportation emissions.

Per the most current Project site plan, the development could potentially add 1,077 residents to the City based on an estimated average household size of 4.19.[37] This would result in a Project-per capita GHG emission rate of 2.49 $MTCO_2e$. Again, as described above, the CAP found that in order to achieve the GHG reduction target of 49% below 2010 by 2035, City residents would need to emit no more than 4.2 $MTCO_2e$ by 2035. The per capita GHG emissions impacts resulting from the build out of the Project comply with this goal and are therefore consistent with the emissions reduction targets established by the CARB 2022 Scoping Plan for Achieving Carbon Neutrality and SCAG's 2024 RTP/SCS, which are all consistent with California's AB 32 and SB 32. Based on this analysis, the proposed Project subdivision and future build out will not conflict with and would not significantly impact an applicable plan, policy or regulation with the purpose of reducing GHG emissions.

Mitigation Measures: None required.

Monitoring: None required.

Sources:
City of Coachella General Plan 2035 Update, April 2015

Coachella Climate Action Plan, April 2015

California Emissions Estimator Model (CalEEMod) Version 2022.1

South Coast Air Quality Management District, Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, December 2008.

[37] E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2024, California Department of Finance, released May 1, 2025.

IX. HAZARDS AND HAZARDOUS MATERIALS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✓
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				✓

Environmental Setting

As the human population grows, so grows our use of hazardous substances for industrial, agricultural, and domestic activities. Likewise, our exposure to myriad forms of hazards increases. Prior to the 1970s, federal and state laws governing the transportation, application and disposal of toxic and hazardous substances were either lax, insufficient, or non-existent. Past and current landmark

investigations have led to numerous legislative actions to control and properly manage hazardous materials. Today, development is subject to requirements ranging from local ordinances to federal laws.

The City of Coachella has historically been a major agricultural hub for the Coachella Valley and despite recent land use conversions to urban and industrial uses, 33% of the City's land, in the south and east regions of the City's Planning Area, remains under agricultural use, and nearly 30% of the jobs are still in the agricultural sector.[38] Fertilizer and pesticide applications can pose public health risks via air transport and infiltration into surface and groundwater sources.

There are hazardous materials producers, waste generators, disposal sites, and clean-up sites in the City of Coachella. The majority, not all, of these business and sites are located along Grapefruit Boulevard and Harrison Street and in the Downtown area. Small waste generators may be smaller businesses such as dry cleaners, auto repair shops, stores, hospitals, or metal plating shops that generate between 100 and 1,000 kilograms of waste per month. Large generators produce more than 1,000 kilograms per month and can include chemical manufacturers, gas stations, military installations and munitions manufacturing plants. The three large waste generators, Armtec Defense Products, Inc. on Avenue 53 and Tyler Street, Peter Rabbit Farms on Grapefruit Boulevard and the Chevron Station on Dillon Road, are located between two and three miles from the Project site.

The discussion of impacts from hazards and hazardous materials is based on the 2014 Technical Background Report for the Safety Element, California Office of Environmental Health Hazard Assessment (OEHHA), Department of Toxic Substances Control (DTSC), the State Water Resource Control Board GeoTracker, and the Riverside County Department of Environmental Health. According to these sources, there are no large hazardous materials generators or clean-up sites within two miles of the Project site.

Discussion of Impacts

a, b) Less Than Significant Impact. The Project proposes to construct 257 single-family residences, a community pool, a community park, and landscaped open spaces on a currently vacant parcel.

Construction Phase: Construction would necessitate the transporting of potentially hazardous materials such as paints, solvents, concrete and asphalt. The use of heavy equipment that would consume limited quantities of diesel fuel and oil would be required. During construction, a staging area would be identified where equipment and construction supplies would be stored, pursuant to City and Cal OSHA standards. Should any spillage or leakage of hazardous substances occur, it would occur in this staging area where it could be contained and cleaned. The construction phase is temporary, and the use of hazardous materials would not be in quantities that would pose risks to public health or environmental health. Impacts from the transport, handling and disposal of hazardous materials related to construction are expected to be less than significant. The containment of construction-related hazardous materials to a staging area where an accidental release of a hazardous substance to the environment would be quickly remediated reduces potential impacts to less than significant levels.

[38] City of Coachella General Plan 2035 Update, April 2015.

Operational Phase: As a residential community, a certain limited amount of toxic or hazardous chemicals may be used to maintain the community pool, landscaping, or to clean public areas. The amount of chemicals stored on site by the community facilities operators would be in small quantities and would not pose a public or an environmental health risk. For purposes of proper disposal, businesses must comply with federal and state laws by classifying their waste products and follow guidelines for the appropriately sized very small or small quantity generator.

Residential units are anticipated to use and dispose of toxic and hazardous materials such as cleaners, landscaping chemicals, paints, oil, batteries, lightbulbs and electronic waste, collectively known as household hazardous waste (HHW). Residents may store small quantities of potentially hazardous materials at their homes, and the disposal of HHW would be subject to State and County guidelines and carried out by Burrtec, Inc., the waste management company contracted by the City. Burrtec, Inc. provides educational materials online regarding residential hazardous waste disposal and offers curbside pick-up of certain materials. Residents may also drop-off anti-freeze, batteries, oil and paint (ABOP) at the Burrtec Coachella Valley Transfer Station on Landfill Road in Coachella.

State and County regulatory oversight regarding the transport, handling, and disposal of hazardous materials ensure that the construction and operational phases of the Project would generate less than significant impacts. The use of hazardous materials in small quantities during construction and operational phases and the use of a construction staging area would contain potential accidental releases to the environment and reduce their impacts to less than significant levels.

c) No Impact. The Project development will result in 257 single-family homes, retention basins and a park. This type of development is not expected to generate or emit hazardous materials or acutely hazardous substances or produce waste that would jeopardize a school.

The two schools closest to the Project site are the Imagine Dual Language Charter School, 0.71 miles south on Calhoun Street, and Cesar Chavez Elementary School, located 1.75 miles east on Avenida De Oro. Since neither school is within a quarter mile of the Project and the Project will not emit or release hazardous materials and waste that would pose a health risk to a school, there will be no impacts from the Project.

d) No Impact. Government Code Section 65962.5 is also known as the Hazardous Waste and Substances Sites, or Cortese List. The California Environmental Protection Agency (CalEPA) annually compiles this list of hazardous materials release sites based on data from the DTSC, the California Department of Health Care Services (DHCS), and the State Water Resources Control Board (WRCB). In the City of Coachella, there is one state response site, Foster-Gardener, Inc., located 1.75 miles east of the Project site. Foster-Gardener produces pesticides, herbicides, and fertilizers for agricultural application. The site has been remediated, the groundwater has been tested with acceptable levels of contaminants being present, and residential use of the site has been prohibited.

One other Cortese Listed site in the City is US Auto Salvage, a scrap metal recycling facility located 1.14 miles northeast of the Project site. The soil surface was determined to contain unhealthy levels of contaminants including lead, copper, zinc, and PCB. The site is under review.

There are no hazardous materials or waste sites on or near the proposed Project site. The Project site is not included in the Cortese List. Thus, the Project site would not pose any impacts associated with hazardous materials sites.

e) No Impact. The Project site is located 3.66 miles northwest of the Jacqueline Cochran Regional Airport, and 1.9 miles northwest of the Airport Influence Area boundary. Due to this distance, the Project area is not in an airport safety hazard zone and no excessive noise for people living or working at the Project site would occur. There would be no impacts associated with the nearby airport.

f) No Impact. The Project site is located at the southwest corner of Avenue 49 and Calhoun Street. One driveway access point will occur on the north side of the Project at Avenue 49, and another driveway access point will be located on the east side at Calhoun Street. Calhoun Street is a north-south Collector route which connects Avenue 49 and Avenue 50. Avenue 49 is designated as a Primary Arterial, and Avenue 50, which is 0.4 miles south of the proposed east driveway, is a Major Arterial.[39] Presently, Avenue 49 west of Calhoun to Jackson Street is an unimproved path. The Project proposes improvements to the 0.25-mile section of Avenue 49 between Calhoun and the Project site's west boundary in order to convert this section of the street to a Primary Arterial. Project access points on Avenue 49 and Calhoun Street will not alter the City's current circulation pattern or interfere with the City's emergency response and evacuation plans, since both are planned City roadways, and their improvement will expand the City's roadway system.

Project review by the Police and Fire Departments will be necessary to assure that the Project's driveways and streets would accommodate emergency vehicles. Traffic management during the Project's construction will be implemented so that the Project will not interfere with the City's emergency response plan or emergency evacuation plan. The Project is not expected to impact the implementation of or physically interfere with the City's emergency response plan or emergency evacuation plan.

g) No Impact. The City of Coachella is not at risk of experiencing wildland fires and does not contain any fire hazard severity zones.[40] Likewise, the proposed Project, being in an urban residential area of the City, is not susceptible to wildfires. No impacts from exposing people or structures to wildfires in the Project area are expected. Wildland fire is discussed more thoroughly below in Section XX, Wildfire.

Mitigation Measure: None required.

Monitoring: None required.

Sources:
City of General Plan 2035 Update, April 2015

Technical Background Report to the Safety Element, City of Coachella General Plan 2035 Update, Earth Consultants International, 2014.

[39] City of Coachella General Plan 2035 Update, Mobility Element, April 2015.

[40] Fire Hazard Severity Zone Viewer, California Department of Forestry and Fire Protection, updated April 1, 2024.

California Office of Environmental Health Hazard Assessment (OEHHA)

Envirostor, California Department of Toxic Substances Control (DTSC)

State Water Resource Control Board GeoTracker

Riverside County Department of Environmental Health

CalFire Fire Hazard Severity Zones Map Viewer

X. HYDROLOGY AND WATER QUALITY **Would the project:**	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			✓	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			✓	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			✓	
i) result in substantial erosion or siltation on- or off-site;			✓	
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;			✓	
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			✓	
iv) impede or redirect flood flows?			✓	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				✓

Environmental Setting

Domestic Water

The Coachella Valley Groundwater Basin is the main source of municipal, or domestic, water for the entire Coachella Valley and is managed by six different water agencies: Coachella Valley Water District (CVWD), Coachella Water Authority (CWA), Desert Water Agency (DWA), Indio Water Authority (IWA), Mission Springs Water District (MSWD), and the Myoma Dunes Mutual Water Company (MDMWC). Local rainwater and snowmelt have filled the basin with water over a period of several million years, but human activities continue to pump more water than can be naturally

recharged. CVWD and DWA have supplemented recharge efforts by importing and percolating Colorado River water into the basin. Both agencies also supplement irrigation water with recycled wastewater.

The Coachella Valley Groundwater Basin is comprised of several subbasins which are divided by faults. Fresh water for the City's residential, commercial and industrial uses is sourced from the East Indio Subbasin, which is part of the larger Indio Subbasin. CVWD, IWA and CWA collectively manage the East Indio Subbasin.

Currently, the CWA serves the area west of Grapefruit Boulevard and smaller industrial/commercial corridor north of Avenue 48, while the largely agricultural use to the east is served by the Coachella Canal and privately owned wells. CWA delivers municipal freshwater, collects wastewater, and manages local drainage. Six wells with a total pumping capacity of 11,400 gpm, or 16.5 MGD are owned and operated by the City. Three storage reservoirs provide a total storage capacity of 10.5 MG (million gallons). The distribution network includes 120 miles of pipeline with pipe diameters of 4 inches to 36 inches.

Water Quality

As water naturally flows over the land in rivers, streams, springs, and lakes, and collects in groundwater basins, both naturally occurring contaminants and those emitted from human activity can end up in water supply systems. Thus, water districts and regulatory agencies regularly test water for contaminant levels and mitigate as needed. Contaminants include microorganisms, inorganics (salts, metals), pesticides and herbicides, organic chemicals, and radioactive particles. The CWA publishes water quality test results in an annual Water Quality Consumer Confidence Report (CCR). As of 2023, the City's water supply has had no contamination violations and levels of contaminants are well below the allowable limits as set by the federal Environmental Protection Agency and the State Water Resources Control Board.[41]

Wastewater Treatment

The City of Coachella Sanitation Division (CSD)treats wastewater at its 4.5 MGD (million gallons per day) wastewater reclamation plant (WRP) located at the east end of Avenue 54. Wastewater is treated to a secondary level and discharged into the adjacent Whitewater River/Coachella Valley Stormwater Channel. During the 2023-2024 Water Year, the CSD WRP treated 3,082 af of wastewater.[42]

The CSD collects and treats water from residential, commercial and industrial areas. The collection system consists of 90 miles of pipeline ranging in diameter of 4 inches to 54 inches, 1,580 manholes and two pump stations. The Project would be able to connect to the existing pipeline on Calhoun Street that extends north of Avenue 50.[43]

41 2023 Water Quality Consumer Confident Report, Coachella Water Authority and Sanitary District, issued July 2024.

42 Indio Subbasin Annual Report for Water Year 2023-2024, Table 5-10 WY 2023-2024 Wastewater Treatment, Reuse, and Disposal in the Indio Subbasin, March 2025.

43 City of Coachella 2015 Sewer System Master Plan, prepared by CDM Smith, June 2015.

Floodplain Management

The Coachella Valley lies within the Whitewater River Watershed, the regional drainage feature that extends from the slopes of Mount San Gorgonio to the Salton Sea. The Whitewater River is the main drainage feature and is fed by mountain streams along its course. In the higher elevation of the Whitewater River, water runs generally year-round, but is ephemeral in the low desert, and has been channelized at the eastern end of the Valley to control stormwater. The CVWD maintains major tributary facilities that guide floodwater into the Coachella Valley Stormwater Channel, but drainage throughout the Coachella Valley generally falls under the supervision of the local cities or the county where it occurs.

Historically the City of Coachella has not constructed extensive infrastructure to control stormwater flows. The 2021 City of Coachella Stormwater Master Plan lays out plans to identify and construct stormwater drainage infrastructure in partnership with the CVWD. Self-contained residential neighborhoods, such as the proposed Project, are required to contain their own drainage basins which manage stormwater flows within their properties, and prevent off-site flooding.

Discussion of Impacts

a) Less Than Significant Impact. The Calhoun Street Housing Development is located in the Whitewater River watershed which drains into the Salton Sea and is part of the larger Colorado River Watershed. Development such as the proposed Project is required to comply with the Clean Water Act, Porter-Cologne Water Quality Control Act, Regional Water Quality Control. Plans, Safe Drinking Water Act, and recycled water regulations. The proposed Project impacts would be significant if the Project were to violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. In compliance with the National Pollutant Discharge Elimination System (NPDES) regulations to minimize the pollutant load associated with urban and development activities, a Project-Specific Preliminary Water Quality Management Plan (WQMP) dated January 17, 2025 was prepared for the Project by The Altum Group (see the full WQMP in Appenidx E).[44]

Pollutants potentially discharged from the Project site may include bacteria/viruses, heavy metals, nutrients, toxic organic compounds, sediment, trash and debris, oil and grease. Per local requirements, the Project will implement permanent Site Design Best Management Practices (BMPs), Source Control, LID Site Design (Low Impact Development), and Treatment Control BMPs where necessary. On-site retention and filtration facilities such as landscape swales and strips, biofiltration capability, an extended retention basin, a sand filter basin, an infiltratration basin, permeable pavement, and a bioretention basin will be implemented to address the pollutants of concern. The Infiltration Basin system is designed to capture 100% of a 100-year storm event and meets the City's standards.

For construction drainage, the Project would be required to implement a SWPPP to ensure that construction activities do not contaminate surface or ground water quality. The SWPPP would affirm the potential for pollutant discharge, as well as practical monitoring and reporting processes and other strategies to ensure pollutant discharge does not adversely impact water quality.

[44] Project-Specific Preliminary Water Quality Management Plan, Calhoun Street Subdivision, prepared by The Altum Group, January 17, 2025.

Adherence to these water quality requirements ensures that the Project will not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality. Any potential impacts will remain at less than a significant levels.

b) Less Than Significant Impact. In compliance with the 2014 Sustainable Groundwater Management Act and to forecast the water demand on the Indio Subbasin, CWA along with three other local water agencies prepared a water management framework known as the Indio Subbasin Water Management Plan (CVWMP). The most recent 2022 update (Alternative Plan Update) includes forecasted water demand calculations for current and potential future customers within the Indio Subbasin Plan Area, which includes the East Indio Subbasin. The 2022 Alternative Plan Update relies on population growth forecasts supplied by the 2020 SCAG Regional Growth Forecast, SCAG Land Use Inventories, housing and employment analyses. Additionally, the water agencies have prepared a series of Indio Subbasin Annual Reports, the most recent of which explains that the actual total water use for the 2023-2024 Water Year was lower than the forecasted water use described in the 2022 Alternative Plan Update.

To estimate the Project's annual water demand for indoor use, a calculation was made based on an average household size of 4.19 people in the City of Coachella.[45] Using the California State standard for indoor residential water use of 47 gallons per capita daily (gpcd), the Project's 257 housing units would consume approximately 56.71 acre-feet per year (afy).[46]

Total Project outdoor water use for household and common area landscaping, based on CVWD outdoor irrigation factors, would be 23.83 afy.[47] The total daily water demand for all 257 homes and common area landscaping would be 80.54 af/y. Table X-1 below provides details regarding estimated indoor and outdoor water demand upon build out of the Project.

According to the Indio Subbasin Annual Report for Water Year 2023-2024, the total amount of groundwater extractions amounted to 267,495 af. Of this total amount, the urban water use sector accounted for 224,479 af.[48] The urban water use sector includes municipal, residential, commercial, golf courses and other uses. The impacts of increased urban water use on the Indio Subbasin were accounted for in the 2022 Alternative Plan Update. The Project's water demand for both indoor and outdoor uses would account for 0.036% of the urban groundwater extraction from the Indio Subbasin. To comply with the regional Sustainable Groundwater Management Plan, the Project would remain consistent with the City's water resource conservation policies outlined the General Plan and install drought tolerant landscaping and low water-use appliances. [49] Water demand by the Project would be less than significant. Table X-1 summarizes the Project's estimated domestic demand compared to the most recent groundwater extraction data for the Indio Subbasin.

45 E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2024, California Department of Finance, released May 1, 2025.

46 Standards for Indoor Residential Water Use, California Water Code §10609.4(a).

47 Calculations based on Chapter 3.15 Landscape and Irrigation System Design Criteria, CVWD Ordinance Code, updated 2024.

48 Indio Subbasin Annual Report for Water Year 2023-2024, Table 4-1 WY 2023-2024 Groundwater Extractions by Water Use Sector in the Indio Subbasin, March 2025.

49 City of Coachella General Plan Update 2023, Sustainability and Natural Environment Element, Goal 3, Water Resources, April 2015.

Table X-1
Project Water Demand

Land Use: Single-Family Residential	No. of Dwelling Units (DU)	Estimated Occupants per Home	Gallons per Day (gpd) per Occupant[2]	gpd/DU	Project Daily Water Demand (gpd)	Project Annual Water Demand acre-feet/year (af/y)
HH Indoor Water Use	257	4.19[1]	47[2]	197	50,629	56.71 af/y
HH Outdoor Water Use[3]	257			14.52	3,732.48	4.18 af/y
Landscaping (Common Areas acreage)	303,533 sf				17,540.65	19.65 af/y
					TOTAL	**80.54 af/y**
					2023-2024 Indio Subbasin Urban Water Use	**224,479 af**
					Project's Percentage of 2023-2024 Indio Subbasin Water Use	**0.036%**

1. California Department of Finance, Table E-5, City/County Population and Housing Estimates, 1/1/2025.
2. CA Indoor Residential Water Use Standards, 2025-2030.
3. 250 sf per DU, City of Coachella Code of Ordinances §17.14.030.
4. Common open space includes: the park (minus parking lot), retention basins, decorative landscaped areas.
5. Outdoor water demand calculations based on CVWD Evapotranspiration (ETo), Evapotranspiration Adjustment Factor (ETAF), and Conversion Factor (CVWD Landscape Ordinance §3.15, Appendices C and D). Each residence has 250 sf of open space = 64,250 sf. Common open space = 303,533 sf.
6. DU = Dwelling Unit, HH = Household

The Project's wastewater demand was also calculated, based on an assumption that approximately 90% of domestic water use would enter the wastewater treatment system. As described above, the 2023-2024 Annual Report provides wastewater treatment data for water agencies that manage the Indio Subbasin. During 2023-2024, the City of Coachella Wastewater Reclamation Plant (WRP) treated 3,082 af of wastewater. Based on the 2023-2024 data, the Project would comprise 1.65% of the CWA total wastewater treatment. Table X-2 provides a summary of the Project's estimated wastewater demand compared to the most recent treatment data for the CSD WRP.

Table X-2
Project Wastewater Generation

Land Use: Single-Family Residential	No. of Dwelling Units (DU)	Estimated Occupants per Home[1]	Gallons per Day (gpd) per Occupant[1]	gpd/DU	Project Daily Wastewater Flow (gpd)	Project Annual Wastewater acre-feet/year (af/y)
Wastewater Flow	257	4.19	42.3	177.2	45,540	51
					Total 2023-2024 Acre-Feet Treated at CSD WRP	**3,082 af**
					Project's Percentage of 2023-2024 CSD WRP	**1.65%**

1. Between 60% and 90% of potable water may be sent to wastewater treatment. This estimate is based on 90%.

ci-civ) Less Than Significant Impact. The Project site is undeveloped, relatively flat, and contains no rivers or streams. The parcel slopes slightly from north to south as the elevation is -27 feet at the northeast corner and -33 feet at the southeast corner. Construction of the 39.98-acre parcel will entail the removal of mature palms, clearing, grubbing, rough and precise grading, roadway construction, the construction of 257 homes with landscaping for each lot and within common areas, and the addition of a recreational 3.13-acre park on the east side along Calhoun Street.

Proposed Drainage System

A Preliminary Hydrology Report was prepared by The Altum Group (Appendix D) which describes the Project's drainage system as it complies with the design criteria required by the City and the Riverside County Flood Control District.[50] The impermeable surfaces of the Project will increase on-site storm flows. However, the Project will direct storm runoff to flow across the surface via streets toward five different on-site retention basins. The basins will be designed to collectively retain 100% of flows from a 100-year storm event. Flows that exceed this capacity will be directed to exit the Project site and flow north on Calhoun Street to Avenue 48. Then storm water would flow eastward to the MS4 storm drain inlet facility on Van Buren Street where it would flow underground for one mile and empty into the Coachella Valley Storm Channel. On-site retention of 100-year storm flows would contain the increased runoff and prevent the Project from contributing runoff that exceeds the capacity of existing City storm drainage systems.

Compliance with Required Erosion and Pollution Mitigation

The proposed Project will be required to comply with the City's Code of Ordinances, Chapter 13.16, Water Quality Control. Included in the requirements are the approvals of a SWPPP, a project-specific final hydrology study, and a final WQMP prior to the issuance of building permits. In compliance with the National Pollutant Discharge Elimination System (NPDES) the Project will mitigate silt runoff from Project-induced erosion through the implementation of BMPs prescribed in the WQMP (Appendix E). Implementation of required BMPs will also reduce pollutants of concern that may enter nearby receiving waters and help reduce short and long-term water quality impacts caused by the construction and operation of the proposed Project. Approval of the WQMP, SWPPP, and the required BMPs will reduce impacts to surface waters by reducing erosion, siltation, and eliminating pollutants in storm flows. With the implementation of these standard requirements, the impacts to downstream water bodies associated with surface water pollution will be less than significant.

d) No Impact. According to the FEMA National Flood Hazard Layer Viewer, the Project site occurs in a flood zone X, an area of minimal flood hazard and low flood risk. The Whitewater River/Coachella Valley Stormwater Channel flows through the City 1.7 miles northeast/east of the Project site. The Stormwater Channel is the backbone of the Coachella Valley stormwater flood control system and is constructed to control as much as 80,000 cubic feet of water per second, which is greater than a 100-year storm event. Given the Project's distance from the Stormwater Channel and the flood zone X designation, impacts from flood hazards and seiches are not expected to occur. The City of Coachella is also not located near the coast and there will be no impacts from tsunami hazards.

[50] SW Corner – Calhoun Street at 49th Avenue Subdivision, Coachella, CA, Preliminary Hydrology Report, prepared for Pacific Coast Properties, prepared by The Altum Group, January 17, 2025.

e) No Impact. The Project will comply with all applicable water quality standards and will implement a SWPPP and a WQMP approved by the City of Coachella and the Regional Water Quality Control Board for both construction activities and the long-term operation of the site.

The Project will implement the City's drought-tolerant landscaping requirements and adhere to water conservation strategies established in the General Plan. Estimated operational annual water demand will be 0.036% of the total urban use groundwater extraction from the Indio Subbasin, which will be an incremental portion of the local water supply. Also, the water demand by the Project was included in the 2022 Alternative Plan Update forecasted water demand calculations for the years 2020-2045, since the Project is consistent with the land use designation for the site. As documented by the 2023-2024 Annual Water Report for the Indio Subbasin, the actual water demand on the Indio Subbasin between 2020 and 2024 was lower than the forecasted demand by 50,000 af. Water demand for the region has not expanded as quickly as previously forecasted, meaning the Project's water use impacts on the groundwater source will be less significant given the groundwater savings that have occurred over the past five years.

In summary, the Project would not obstruct the implementation of the City's water quality control plan or the region's sustainable groundwater management plan. There would be no impacts.

Mitigation Measures: None required.

Monitoring: None required.

Sources:

2020 Coachella Valley Regional Urban Water Management Plan, June 30, 2021

2023 Water Quality Consumer Confidence Report, Coachella Water Authority and Sanitary District, issued July 2024

City of Coachella 2015 Sewer System Master Plan, prepared by CDM Smith, June 2015.
City of Coachella General Plan Update 2023, Sustainability and Natural Environment Element, Goal 3, Water Resources, April 2015.

SW Corner – Calhoun Street at 49th Avenue Subdivision, Coachella, CA, Preliminary Hydrology Report, prepared for Pacific Coast Properties, prepared by The Altum Group, January 17, 2025.

Indio Subbasin Annual Report for Water Year 2023-2024, Tables 4-1, 5-10 WY 2023-2024, March 2025.

Project-Specific Preliminary Water Quality Management Plan, Calhoun Street Subdivision, prepared by The Altum Group, January 17, 2025.

E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2024, California Department of Finance, released May 1, 2024.

Standards for Indoor Residential Water Use, California Water Code §10609.4(a).

Fuel Consumption Rate Factors, Table D-21," Carl Moyer Program Guidelines, Volume I: Program Overview, California Environmental Protection Agency Air Resources Board, June 20, 2017

XI. LAND USE AND PLANNING **Would the project:**	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?				✓
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✓

Environmental Setting
The City's General Plan 2035 Update governs the development of this Project site. The City established Subareas to guide land uses and zoning as the City continues to grow. The Project is in the West Coachella Neighborhoods Subarea 1; the land use and zoning designations for the subject parcel are both "General Neighborhood," and the surrounded land use and zoning designations are "Suburban Neighborhood."[51]

The City participates in the regional Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), and the subject parcel is within a fee area and is subject to development impact fees associated with the CVMSHCP.

The planning and construction of the proposed Calhoun Street Housing Development is guided by a Planned Unit Development (PUD) document which establishes specific land uses, intensity of use, and development standards for the Project while remaining consistent with the City's General Plan and Zoning regulations.

a) No Impact. The adjacent residential neighborhoods to the north and south are independently operated communities and will not be divided by the proposed Project. The 38-acre parcel to the east on the other side of Calhoun Street contains one single-family residence. The neighboring 35-acre parcel to the west is in the City of Indio and is currently being developed as a single-family residential use. Development on these parcels will be unaffected by development on the Project site, since each parcel will be, or has been developed as an independent community. The Project will not divide an established community. No impact will occur.

b) No Impact. The General Neighborhood land use and zoning designations for the Project site as established by the City's General Plan 2035 Update permit the development of both single- and multi-family housing units with a density of 7 to 25 dwelling units per acre. The proposed Project is consistent with these stipulations and supports the City's General Plan. The location of the Project site is not in a designated conservation area per the CVMSHCP and will not impact this environmental plan. There are no environmental conflicts with respect to the land use policy or adopted environmental mitigation policy. No Project impacts are expected.

51 General Land Use Designations, City of Coachella General Plan Update 2035, updated April 2015.

Mitigation Measures: None required.

Monitoring: None required.

Sources:
City of Coachella General Plan Update 2035, updated April 2015

City Land Use Map, City Zoning Map

XII. MINERAL RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✓

Environmental Setting
Mineral resources in City's Planning Area include gravel, clay, oil, gas and geothermal commodities. Subarea 17, known as Eastern Coachella, contains two mineral resource zones designated as MRZ 2a, where mineral resources are significant. Two permitted mining operations occur in these zones.

Discussion of Impacts

a, b) No Impact. According to Figure 4.5-9 of the General Plan Update 2035 Environmental Impact Report, much of the City west of the Whitewater River/Coachella Valley Stormwater Channel is designated as an MRZ 1, an area where there the presence of significant mineral resources is unlikely due to the geologic formation. Since there are no mineral resources of value to the state, region or the local area in the MRZ 1, and the Project is located in this zone, the Project will not result in any loss of availability of valuable mineral resources. There will be no impacts.

Mitigation Measures: None required.

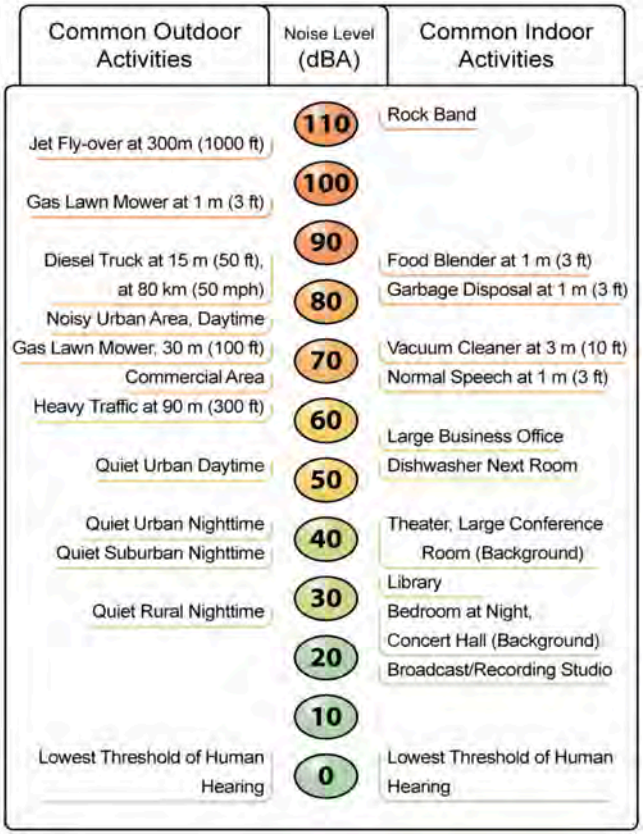
Monitoring: None required.

Sources:
City of Coachella General Plan Update Final EIR, October 2014

XIII. NOISE **Would the project result in:**	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✓	
b) Generation of excessive groundborne vibration or groundborne noise levels?			✓	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓

Environmental Setting

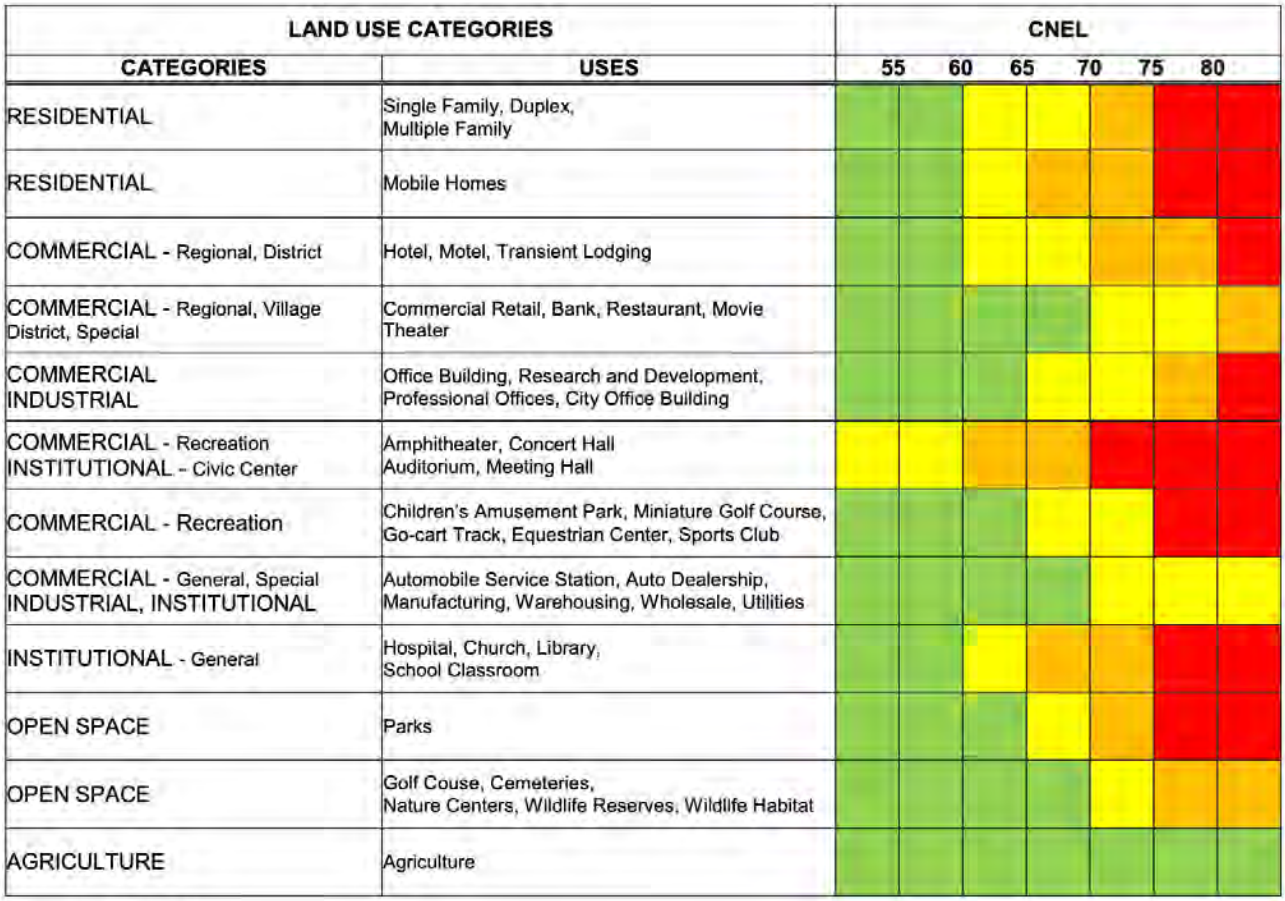
Ambient noise are background sounds emitted from a variety of sources and can either be unintrusive sounds from wind, wildlife, and neighborhood activity, or intrusive sounds from construction equipment, traffic, landscaping equipment, mechanical equipment such as HVAC systems, barking dogs, radios and stereo systems, and so forth. Noise levels are expressed as decibels (dB). The A-weighted decibel scale (dBA) filters out very high and very low frequencies such that the scale correlates to the sound a human ear would detect. 25 dBA is a very quiet sound such as a rural nighttime environment, 50 dBA would be the noise level of a refrigerator running, 80 dBA is the noise level of a tractor idling, and 105 dBA would be a louder sound such as a jet flying overhead. Exposure to 70 dBA noise level and higher over certain periods of time can damage a person's hearing.



Source: Standard Environmental Reference, CalTrans, February 2018.

To measure noise for city planning purposes, the Community Noise Equivalent Level (CNEL) scale is applied as it measures the average intensity of a sound over a 24-hour period. CNEL scale measures sound levels by assigning heavier dBA weights, or adding decibel "penalties," to existing sound dBA levels if those sounds occur in either certain sensitive zones or during unpermitted times. Figure XIII-1 provides the City's acceptable CNEL for residential land uses.

Figure XIII-1
General Plan CNEL Levels



LAND USE CATEGORIES		CNEL						
CATEGORIES	USES	55	60	65	70	75	80	
RESIDENTIAL	Single Family, Duplex, Multiple Family							
RESIDENTIAL	Mobile Homes							
COMMERCIAL - Regional, District	Hotel, Motel, Transient Lodging							
COMMERCIAL - Regional, Village District, Special	Commercial Retail, Bank, Restaurant, Movie Theater							
COMMERCIAL INDUSTRIAL	Office Building, Research and Development, Professional Offices, City Office Building							
COMMERCIAL - Recreation INSTITUTIONAL - Civic Center	Amphitheater, Concert Hall Auditorium, Meeting Hall							
COMMERCIAL - Recreation	Children's Amusement Park, Miniature Golf Course, Go-cart Track, Equestrian Center, Sports Club							
COMMERCIAL - General, Special INDUSTRIAL, INSTITUTIONAL	Automobile Service Station, Auto Dealership, Manufacturing, Warehousing, Wholesale, Utilities							
INSTITUTIONAL - General	Hospital, Church, Library, School Classroom							
OPEN SPACE	Parks							
OPEN SPACE	Golf Couse, Cemeteries, Nature Centers, Wildlife Reserves, Wildlife Habitat							
AGRICULTURE	Agriculture							

INTERPRETATION

ZONE A (GREEN) CLEARLY COMPATIBLE	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal construction, without any special noise insulation requirements.
ZONE B (YELLOW) NORMALLY COMPATIBLE	New construction or development should be undertaken only after an analysis of the noise reduction requirements is made and needed noise insulation features included in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning will normally suffice.
ZONE C (ORANGE) NORMALLY INCOMPATIBLE	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
ZONE D (RED) CLEARLY INCOMPATIBLE	New construction or development should generally not be undertaken.

* Construction of new residential uses will not be allowed within the 65 dBA CNEL contour for airport noise.

Groundborne vibrations can be characterized as rumbling sounds which travel through the ground. Typically groundborne vibrations from human activity such as construction activity, heavy traffic, or jet planes flying overhead are felt indoors and are rarely a problem outdoors. Construction equipment may be categorized as either continuous vibration (excavation and grading equipment), low-rate repeated impact vibration (blasting, drop balls, impact pile drivers), or high-rate repeated impact vibration (jackhammers, hoe rams). The duration and amplitude of groundborne vibration from construction equipment varies. A blast would emit a high amplitude over a short duration, but grading equipment would emit a low amplitude over a longer duration.[52] Groundborne vibration as it relates to disturbance to people is measured in vibration decibels (VdB). Vibration veloctiy level of 65 VdB is considered to be barely perceptible by humans and a lower vibration velocity would be undetectable.

"Sensitive receptors" is a CEQA label granted to land uses where there are people in the community who may be particularly sensitive to noise such as residential areas, schools, libraries, churches, nursing homes, health care facilities. Four sensitive receptors are in proximity to the Project site. Two residential neighborhoods occur on adjacent properties; one single-family neighborhood is immediately south and the other single-family neighborhood is to the west in the City of Indio. Both are separated from the Project site by 6-foot block walls. A third single-family community occurs to the north across Avenue 49, and is also is bounded by a six-foot concrete block wall. Finally, the fourth sensitive receptor is a single residence to the east on the opposite side of Calhoun Street approximately 68 feet from the Project boundary.

The City's Noise Element of the General Plan provides goals and policies for ensuring that noises are maintained at appropriate levels for the various land uses. Within single- and multi-family residential land uses, 55-70 CNEL dBA are compatible exterior noise levels for the land use, but noise levels above 70 CNEL dBA are incompatible noise levels. The City Noise Ordinance provides guidance for controlling incidents of incompatible noise levels. Construction activities are exempted from the Noise Ordinance with the condition that they occur within acceptable hours of the day.[53]

Discussion of Impacts

a, b) Less Than Significant Impact. The addition of 257 new homes will increase ambient noise levels for the surrounding neighborhoods during the construction period and during the on-going operational phase. As described above, two residential communities immediately border the Project site and are separated by a six-foot block wall. The third community is further from the Project site on the north side of Avenue 49, and the single residence on the east side of Calhoun is the furthest from the Project site.

Construction Phase Impacts:
The construction equipment may generate intermittent noise as well as mild groundborne vibration. At a distance of 25 feet, a large bulldozer may produce 87 VdB, and a loaded truck could generate 86 VdB.[54] However, construction equipment moves across a site during grading, and the construction phase is temporary and all impacts related to vibration will stop when construction is complete. Table XIII-1 provides typical Equivalent Energy Levels (L_{eq}) for construction equipment and construction

52 Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020.

53 City of Coachella Code of Ordinances, Title 7.04 Noise Control.

54 "Transit Noise and Vibration Impact," Federal Transit Administration, May 2006.

phases from a 50-foot distance away from the piece of equipment or the loudest piece of equipment during a phase. L_{eq} is understood as the average sound pressure level over a period of time, usually one hour. If the sound level varies, the L_{eq} is a calculation of the average sound level over one hour.

Table XIII-1
Noise Levels from Construction Equipment and Phases

Construction Equipment	Noise Level (dBA, Leq at 50 feet)
Generator	76
Portable air compressor	81
Concrete mixer	85
Backhoe	85
Dozer	87
Dump truck	88
Scraper	88
Jackhammer	88
Paver	89
Rock drilling	98
Construction Phase	**Noise Level (dBA, Leq at 50 feet)**
Foundations	78
Ground clearing	84
Erection	85
Excavation	89
Finishing	89
Rock blasting	115

Source: "Noise from Construction Equipment and Operations, Building Equipment and Home Appliances," US Environmental Protection Agency, December 1971.

A noise level decreases by 6 dBA as the distance from the sound source doubles. If a noise from a generator produces 76 dBA at a distance of 50 feet, then the sound level would decrease to 70 dBA at 100 feet away, and 64 dBA at a distance of 200 feet. During construction, the noise would not emanate from one fixed location, but rather, as the equipment moves, nearby receptors would not be exposed to construction noise from a fixed location during the entire construction period. The homes located to the south of the Project site could experience unmitigated noise levels of 78-89 dBA during construction, as equipment moves across the site. The existing perimeter wall, which is made of solid masonry construction, would reduce the noise levels by at least 6 dBA, which would further attenuate construction noise on adjacent lots. As the construction completes, the noise would no longer occur.

As stated above, construction activities are exempt from the Noise Ordinance with the condition that they occur within acceptable hours of the day.[55] The City's Municipal Code §7.04.070 specifies days and hours when construction activity is permitted. These hours are confined to less sensitive daytime hours, which reduces impacts from noise. Table XIII-2 provides the permitted days and times for construction activities.

[55] City of Coachella Code of Ordinances, Title 7.04 Noise Control.

Table XIII-2
Hours for Construction Activities

Construction Activities	October 1 – April 30	May 1 – September 30
Monday - Friday	6:00am – 5:30pm	5:00am – 7:00pm
Saturday	8:00am – 5:00pm	8:00am – 5:00pm
Sunday	8:00am – 5:00pm	8:00am – 5:00pm
Holidays	8:00am – 5:00pm	8:00am – 5:00pm

The temporary nature of construction, the existence of the perimeter wall for the subdivision to the south, and the City's time restrictions on when construction may occur would confine the increases in ambient noise levels and groundborne vibration from construction activity to less than significant impacts.

Operational Phase Impacts:
Noise produced by residents would be consistent with noise produced from neighboring residential communities and would be subject to the City's Noise Control Ordinance §7.04.

The Project is subject to the City's Municipal Code §7.04.075 which defines permitted times for on-going property maintenance activities, including landscaping, as shown in Table X-III3. Tables XIII- 4 below provides the permitted hours for fixed noise sources which include stationary pieces of equipment such as air conditioners, pumps, fans, and refrigerators.

Table XIII-3
Hours for Property Maintenance Activities

Property Maintenance Activities	October 1 – April 30	May 1 – September 30
Monday - Sunday	9:00am – 5:30pm	8:00am – 5:30pm
Holidays	Not permitted	Not permitted

Table XIII-4
Permitted Sound Levels for Fixed Noise Sources

Zone	Time	Applicable 10-Minute Avg CNEL dBA (Exterior)
All Residential Zones	6:00am – 10:00pm	55
All Residential Zones	10:00pm – 6:00am	45
All Commercial Zones	6:00am – 10:00pm	65
All Commercial Zones	10:00pm – 6:00am	55

The City's General Plan Update EIR reports the CNEL dBA for existing roadway noise. The Project is located at the intersection of Avenue 49 and Calhoun Street. Calhoun Street north of Avenue 48 where it extends between two single-family residential neighborhoods, is rated as a 65 dBA CNEL at a distance of 50 feet from centerline. At the Project build out, a similar condition may be expected for Calhoun Street south of Avenue 49 to Avenue 50. Since the City's standard for residential units is 65 dBA CNEL, the Project's residents will not experience noise levels in excess of the City's standard, and impacts from roadway traffic will be less than significant.

The location of the Project in the West Coachella Neighborhoods Subarea aligns with the City's General Plan and would not introduce noise that is unexpected or inappropriate for the land use. During the operational phase, residential land use would not generate groundborne vibration. The City's Noise Control Ordinance also ensures that all receptors are protected from inappropriate or excessive noise. The operational phase would result in less than significant impacts.

c) No impact. The Jacqueline Cochran Regional Airport is located 3.66 miles southeast of the Project, and the Airport Influence Area boundary is 1.9 miles southeast. Due to this distance, people residing and working in the Project area would not be exposed to excessive noise from the airport. No impact is expected to occur from airport noise.

Mitigation Measures: None required.

Monitoring: None required.

Sources:

City of Coachella Code of Ordinances, Title 7.04 Noise Control

"Noise from Construction Equipment and Operations, Building Equipment and Home Appliances," US Environmental Protection Agency, December 1971.

Standard Environmental Reference, CalTrans, February 2018.

Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020

"Transit Noise and Vibration Impact," Federal Transit Administration, May 2006

XIV. POPULATION AND HOUSING Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

Environmental Setting

The population of the City of Coachella is approximately 44,384,[56] and by the 2045, the population could potentially expand to 129,300.[57] The number of households are also expected to increase from 9,600 households in 2019 to an estimated 35,600 households by 2050. Furthermore, the number of jobs in Coachella is expected to expand from 8,900 in 2019 to 17,200 in 2035 and up to 23,200 by 2050.[58] To accommodate this growth, the City requires an increase in housing opportunities. By 2035, the City plans to provide approximately 45% of its housing with single-family units and 55% with multi-family units.[59]

Discussion of Impacts

a) Less Than Significant Impact. The City uses a system of Subareas to guide growth and development to minimize environmental impacts by concentrating residential growth in areas closer to the downtown area rather than expanding outward into remote Subareas. This strategy increases access to alternative transportation corridors and reduces commute time to City employment areas. The Project would be located in Subarea 1, West Coachella Neighborhoods, an area specifically positioned to accommodate more housing.

According to the 2025 Population and Housing Estimates from the California Department of Finance, the average persons per household in Coachella is 4.19. The Project proposes to build 257 homes, which would result in an additional 1,077 people. If the City's population increases by 129,300 people by 2045 as described above, then the Project would contribute 0.83% of that growth. Also, using the household estimates provided above, the City could see a growth of 36,500 households by 2050, and

[56] Table E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2024 with 2020 Census Benchmark, Department of Finance, May 2025.

[57] "Demographics and Growth Forecast Technical Report," 2020-2045 RTPSCS, Southern California Association of Governments.

[58] "Demographics and Growth Forecast Technical Report," 2024-2050 RTPSCS, Southern California Association of Governments.

[59] Final EIR for the City of Coachella General Plan 2035 Update, April 2015.

the Project's 257 units could represent 0.7% of that growth. The City has projected the population to grow and has planned to accommodate this growth by setting aside specific areas where residential growth could reasonably occur. The City's population growth has been accounted for and planned, the Project complies with those plans, and Project impacts to population growth would be less than significant.

The Project proposes to improve Avenue 49 to allow residents to access one of the driveways on the north side. This would reduce potential congestion on Calhoun Street where the second driveway access would be placed. Improving Avenue 49 would also provide additional east-west road access to Jackson Street, which would improve circulation in this section of the City.

The Project's new homes would be located in an area where existing utility infrastructure has already been installed for residential neighborhoods immediately north and south of the Project site. The Project would not necessitate the expansion of new infrastructure. Impacts to City infrastructure would be less than significant.

b) No Impact. The Project site is currently vacant. The proposed homes would not displace existing residents or require the construction of replacement housing in another location. The Project would result in no impacts.

Mitigation Measures: None required.

Monitoring: None required.

Sources:
City of Coachella General Plan Update 2035 Environmental Impact Report, 2014.

Table E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2024 with 2020 Census Benchmark, Department of Finance, May 2024

"Demographics and Growth Forecast Technical Report," from 2020-2045 & 2024-2050 RTPSCS, Southern California Association of Governments.

XV. PUBLIC SERVICES Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?			✓	
b) Police protection?			✓	
c) Schools?			✓	
d) Parks?			✓	
e) Other public facilities?			✓	

Environmental Setting

The 257 new residences proposed by the Project could potentially add 1,077 people to the City, which would pose a minor increase in the demand for public services. The City imposes a development impact fee of $267 per dwelling unit for new residential developments to support the additional costs associated with increased demand for fire, police, street facilities, parks, and library services and general government facilities.[60]

Fire Protection

The City of Coachella contracts with the Riverside County Fire Department (RCFD) to receive fire protection services including fire suppression, fire prevention, and hazardous materials response. The RCFD also provides emergency medical services including paramedic services and urban search and rescue. RCFD Station 79 is currently the only station in the City. Located at 1377 6th Street, the station is 2.53 miles southeast of the Project site. The station is staffed by 18 full-time personnel including six firefighters on duty, ten volunteer firefighters, and 10 explorer cadets. The national standard for fire service is one firefighter staff per 1,000 residents, and the City has 0.4 staff per 1,000 residents according to the 2014 General Plan EIR. Recommendations have been made to add another station and increase the number of personnel.[61]

Police Protection

The Riverside County Sheriff's Department is contracted by the City to provide police services. The police station is located at 86625 Airport Boulevard, in the community of Thermal, 6.6 miles southeast from the Project site. As of the 2014 General Plan EIR, there are 26 sworn positions and five non-sworn support staff serving the City, which at the time, equated to a ratio of 0.64 sworn officers per

60 City of Coachella Code of Ordinances, §4.45.130, updated June 26, 2024.

61 City of Coachella General Plan 2035 Update EIR, June 2014.

1,000 residents. The ratio recommended by the Riverside County Sheriff's Department is 1.3 staff per 1,000 residents.

In addition to patrol and enforcement activities, police protection services provided by contract to the City include: SWAT, Hostage Negotiations Team, Forensic Services Team, Traffic Reconstructions, Canine Units, Hazardous Device Team, Coachella Valley Narcotics Task Force, Coachella Valley Violent Crime Gang Task Force, Central Homicide Unit-East, Aviation Unit, Dive Team, Desert Search and Rescue, Sheriff's Mounted Posse, and Explorer Post #503.

Schools

Coachella Valley Unified School District (CVUSD) serves the City with K-12 educational services. As of 2022, the school district's student capacity was 21,004 students, and the 2022-23 enrollment was 16,497. The school district operates 14 elementary schools, 3 middle schools, four high schools, and one adult school. College of the Desert is the local community college serving all Coachella Valley cities.

Parks

The City of Coachella has a total of nine parks comprising 60.2 acres. The park facilities include community parks with a full range of recreational amenities, mini parks and tot lots. From the Project site, Rancho Las Flores is the nearest public park at 1.22 miles away.

The Proposed Project will have limited impact on Public Services, as discussed below.

Discussion of Impacts

a) Less Than Significant Impact. In cooperation with the RCFD, the City proposes to increase the ratio of firefighters to residents to 2.0 personnel per 1,000 residents and construct more fire stations such that fire protection would be within a 1.5-mile radius and the response times would be no more than five minutes.[62]

The Fire Planning Division with in the RCFD reviews all proposed developments to guarantee compliance with standards, codes and regulations. Response times, fire station locations and equipment availability, and the increase of calls are assessed. In addition, access to, from and throughout the Project development would be reviewed by the fire department.

The City has planned to accommodate the increased need for fire protection services, and the Project would be required to comply with the City and RCFD safety standards and pay the development impact fee to mitigate costs associated with providing fire protection. Due to these requirements and on-going planning for growth, the Project would result in a less than significant impact on the City's fire protection services.

b) Less Than Significant Impact. The Project would potentially increase the number of calls for police service, but the increase would be minor. To maintain adequate protection for a growing population, the City proposes to raise the ratio of police officers per 1,000 people to 1.3.[63] Emergency

[62] Infrastructure and Public Services Element, City of Coachella General Plan 2035 Update, April 2015.

[63] Infrastructure and Public Services Element, City of Coachella General Plan 2035 Update, April 2015.

police access to the Project could be facilitated by Avenue 49 and Calhoun Street locally, both of which connect to larger streets, Jackson Street and Avenue 50.

The Project would comply with all Riverside County Sheriff's Department procedures, regulations and policies. The development impact fee required for each dwelling unit would mitigate the associated costs of providing police protection services. Impacts to police protection services would be less than significant.

b) Less Than Significant Impact. As new dwelling units are built and the population increases, the school district plans future expansion needs by applying a student generation rate calculation to estimate the number of new students added to the district. The Project proposes to construct 257 new single-family homes. Using the CVUSD's most recent student generation rates, the Project could potentially add 143 students to the school district. This would not be a significant impact considering the school district enrollment is lower than its capacity at this time.

To meet the costs of accommodating additional students, the Project would be subject to CVUSD developer fees, which are calculated on a square foot basis. As of January 16, 2023, new residential construction is required to pay $4.79 per square foot. The school developer fee would mitigate any impacts associated with the Project's student generation. The estimated total square feet for the Project's 257 homes would be approximately 460,913 x 4.79 = $2,207,773. With the implementation of the fee, the Project would offset the costs of the additional enrollments and impacts to educational services would be less than significant.

Table XV-1
Project Student Generation

School Level	Student Generation Rate	Students Generated by Project (rate x 257 rounded)
Elementary School (TK-6)	0.2942	76
Middle School (7-8)	0.0849	22
High School (9-12)	0.1742	45
Total		**143**

Source: Coachella Valley Unified School District Fee Justification Study for New Residential and Commercial/Industrial Development, November 2, 2022.

d, e) Less Than Significant Impact. The applicant proposes to construct a 3.13-acre public park as part of the Project. The park would include a walking trail, playground equipment, basketball court, and a small parking lot which will be available to the public. While the public can access the park via the parking lot, pedestrian gates would allow residents to access the park from the Project. More information regarding the City's park facilities is provided in Section XVI Recreational Resources. The Project would not result in substantial adverse physical impacts or create the need for new park facilities.

Mitigation Measures: None required.

Monitoring: None required.

Sources:

City of Coachella Code of Ordinances, §4.45.130, updated June 26, 2024

City of Coachella General Plan 2035 Update EIR, June 2014.

Coachella Valley Unified School District Fee Justification Study for New Residential and Commercial/Industrial Development, November 2, 2022

Infrastructure and Public Services Element, City of Coachella General Plan 2035 Update, April 2015

XVI. RECREATION Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓	
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			✓	

Environmental Setting

The City of Coachella maintains nine parks comprising a total of 60.2 acres. The park facilities include a range of amenities from Bagdouma Park, which encompasses 46 acres and provides a full suite of amenities such as a swimming pool, tennis courts, sports fields, and a playground to Dateland Park which provides skateboarding features, and mini parks and tot lots. The newest city park, Rancho Las Flores, is the nearest public park to the Project at 1.22 miles away.

The City is also located within the Desert Recreation District (DRD) boundary, the largest park and recreation district in California. The DRD offers services, programs and classes across 1,800 square miles of the Coachella Valley extending from Cathedral City to the communities of Mecca and Oasis. In the City of Coachella, the DRD operates programs at Bagdouma and Rancho Las Flores parks.

Discussion of Impacts

a, b) Less Than Significant Impact. The Project would not significantly increase the use of existing neighborhood park facilities, nor would it result in the expansion of public recreational facilities. At buildout, the Project would include approximately 257 single family residences, which could potentially house 1,077 people.[64] As described in the Section XV, Public Services, the Project proposes to construct a 3.13-acre public park. Included in the park design is a walking trail, playground equipment, basketball court, ramadas with picnic tables, and a small parking lot which would be available to the public.

All new development is required to pay the City's development impact fee, a percentage of which is dedicated to maintaining the City's public parks. The required development impact fee and the Project's proposed park facility would mitigate potential impacts of additional park goers affecting City recreation facilities and reduce impacts to less than significant levels.

Mitigation Measures: None required.

64 California Department of Finance, Table E-5, City/County Population and Housing Estimates, 1/1/2024.

Monitoring: None required.

Sources:
City of Coachella Parks and Recreation

Desert Recreation District

California Department of Finance, Table E-5, City/County Population and Housing Estimates, 1/1/2024

XVII. TRANSPORTATION Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?		✓		
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			✓	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				✓
d) Result in inadequate emergency access?				✓

Environmental Setting

The transportation system throughout the City of Coachella is comprised of roadways from two-lane country roads to six-lane major arterials with bicycle facilities. Higher capacity corridors such as Hwy 111, State Highway 86 and Interstate 10 provide regional access to and from the City. Multiple jurisdictions including the federal government, California Department of Transportation, Riverside County Transportation Department, and the City manage different components of the transportation system. The City's Mobility Element of the General Plan Update emphasizes goals of developing more alternative transportation routes to increase accessibility throughout the City including bicycle routes, pedestrian trails and low-speed electric vehicles.

The City applies a Level of Service (LOS) metric when assessing the performance of the transportation network and intersection delays. LOS provides a ranked measurement of roadway operating conditions, that ranges from "A" (free flow, best conditions) to "F" (worst conditions, serious delays, and system failure). The General Plan establishes LOS D as the minimum acceptable level of service for Coachella.

Senate Bill 743 (2013) updates the methodology for analyzing transportation impacts by projects to more accurately measure transportation-related air pollutants and greenhouse gas emissions, and to more effectively reduce emissions via the development of multimodal transportation networks and diversification of land uses. CEQA Guidelines section 15064.3 describes the use of Vehicle Miles Traveled (VMT) as the metric by which to measure project transportation impacts. However, certain projects are exempt from preparing a VMT analysis.

Urban Crossroads prepared a Traffic Analysis for the Project in September 2024 based on a total of 259 dwelling units. A copy of the Traffic Analysis is provided in Appendix F.[65] Since then, the number of dwelling units has been reduced to 257, which means the Traffic Analysis data represents a marginally more conservative analysis of Project conditions. The opening year for the Proposed Project is assumed to be 2026. The Traffic Analysis evaluates potential deficiencies in the City's circulation system that may result from the Project and recommends improvements to the Project and the City's circulation system to achieve the acceptable LOS. A VMT letter was also prepared, and is included in Appendix G.

Discussion of Impacts

a) Less Than Significant Impact with Mitigation Incorporated. If a project conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, then its impacts would be significant. The Project's land uses are consistent with the City's General Neighborhood land use and zoning for the parcel. The applicant proposes to build a 257-unit single-family residential neighborhood with a 3.13-acre park. Access to the Project will be facilitated by two driveways allowing vehicle entry and exit from Calhoun Street, a Collector Roadway, and Avenue 49, a Primary Arterial Roadway. Pedestrian access will be provided by new sidewalks and 26-foot landscaped setbacks along the north and east Project boundaries.

Proposed Site-Adjacent Street Improvements

The applicant proposes to construct the following improvements to assure compliance with City standards:

- Avenue 49 Improvements:
  - For 1,300 linear feet between Calhoun Street and the Project's northwesterly site boundary, the Project will provide full-width street improvements as a Primary Arterial roadway including curbs, gutters, six-foot sidewalks and landscaping on both sides. Along the Project frontage, a 26-foot landscaped setback will be provided.
- Calhoun Street Improvements:
  - For 1,300 feet from the Project's northerly site boundary to the southerly site boundary, the Project will widen Calhoun Street at its ultimate westerly half-section width as a Collector Roadway with a landscaped parkway and a bicycle lane, Also, a six-foot sidewalk and a 26-foot landscaped setback will be included.
  - At the Calhoun Street / Avenue 49 (#3) intersection, the Project will install a new traffic signal with potential future reimbursement contingent upon cumulative development activity.
  - On the Project's easterly boundary, public pedestrian access to the 3.13-acre public park from Calhoun Street will be provided. In addition, to a small parking lot will be publicly accessible from the Calhoun Street community entrance. subject to park development access and parking plans (to be determined).

These improvements are consistent with the City's standards, and will assure that adjacent roadways are developed consistent with their General Plan roadway classification.

[65] Calhoun Street Subdivision Traffic Analysis, prepared by Urban Crossroads, September 6, 2024.

The City requires that all intersections achieve at least an LOS D during morning and evening peak hours. The following scenarios were analyzed for the purpose of assessing the impact of the Project on intersection Level of Service (LOS):

- Existing (2024) Conditions
- Existing plus Ambient plus Project (EAP) (2026)
- Existing plus Ambient plus Cumulative (EAPC) (2026)

Table XVII-1 provides a list of intersections that were analyzed in the Traffic Analysis study area.

Table XVII-1
Intersection Analysis Locations

ID	Intersection Location
#1	Calhoun St. / Dr. Carreon Blvd.
#2	Calhoun St. / Avenue 48
#3	Calhoun St. / Avenue 49
#4	Calhoun St. / Avenue 50
#5	Jackson St. /Avenue 49-Odlum Dr.
#6	Calhoun St. / Access 1
#7	Access 2 / Avenue 49

The City's standards provide that a project's traffic impact is significant if the project degrades intersection level of service to an unacceptable level below LOS D, or if a project causes an intersection already at LOS E to degrade to LOS F. At intersections, an increase in delay of 2 seconds or more at existing LOS E intersections, or 1 second or more at LOS F intersections caused by a project would also be considered a significant impact.

Table XVII-2 provides an overview of intersection LOS during existing (2024), EAP (2026), and EAPC (2026) conditions. Below, these sets of conditions are discussed in more detail.

Table XVII-2
Intersection Analysis for Existing (2024), EAP (2026), EAPC (2026) Conditions

Intersection	Existing (2024)		EAP (2026)		EAPC (2026)	
	AM	PM	AM	PM	AM	PM
#1 Calhoun St. / Dr. Carreon Blvd.						
• Without improvements	🔴	🟢	🔴	🟡	🔴	🔴
• With improvements	N/A	N/A	🟢	🟢	🟢	🟢
#2 Calhoun St. / Avenue 48	🟢	🟢	🟢	🟢	🟢	🟢
#3 Calhoun St. / Avenue 49						
• Without improvements	🔴	🟢	🔴	🟡	🔴	🔴
• With improvements	N/A	N/A	🟢	🟢	🟢	🟢
#4 Calhoun St. / Avenue 50	🟢	🟢	🟢	🟢	🟢	🟢
#5 Jackson St. / Avenue 49-Odlum Dr.						
• Without improvements	🔴	🟢	🔴	🟢	🔴	🟡
• With improvements	N/A	N/A	🟢	🟢	🟢	🟢
#6 Calhoun St. / Access 1	N/A	N/A	🟢	🟢	🟢	🟢

Table XVII-2
Intersection Analysis for Existing (2024), EAP (2026), EAPC (2026) Conditions

Intersection	Existing (2024)		EAP (2026)		EAPC (2026)	
	AM	PM	AM	PM	AM	PM
#7 Avenue 49 / Access 2	N/A	N/A	●	●	●	●

Source: Calhoun Street Subdivision Traffic Analysis, prepared by Urban Crossroads, September 6, 2024.
Legend: ● LOS A-D ● LOS E ● LOS F

Existing (2024) Traffic Conditions

Existing traffic conditions offer a baseline against which the proposed Project's impact may be measured. The Project site is currently vacant and generates no traffic. Adjacent roads include Calhoun Street, a north-south Collector with Bicycle Facility and Avenue 49, an east-west unimproved path. Nearby roads include Jackson Street, a north-south Collector, and Avenues 48 and 50, which are east-west roadways classified as Major Arterial with Bicycle Facility. To measure existing (2024) traffic counts, data was collected in January and July 2024 during two peak hour timeframes: 7:00 and 9:00 AM, and 4:00 and 6:00 pm.

For Existing (2024) traffic conditions, three unsignalized study area intersections operate at unacceptable LOS of E or F: Calhoun St. / Dr. Carreon Blvd. (#1); Calhoun St. / Avenue 49 (#3); and Jackson St. / Avenue 49-Odlum Dr. (#5). All three intersections currently meet the traffic volume warrants for installation of a traffic signal based on existing traffic counts. Table XVII-3 summarizes existing traffic conditions for each study area intersection.

Table XVII-3
Intersection Analysis for Existing (2024) Conditions

Intersection	Traffic Control[1]	Delay[2] (secs)		Level of Service	
		AM	PM	AM	PM
#1 Calhoun St. / Dr. Carreon Blvd.	AWS	>80	28.7	F	D
#2 Calhoun St. / Avenue 48	TS	32.2	28.6	C	C
#3 Calhoun St. / Avenue 49	AWS	51.2	20.3	F	C
#4 Calhoun St. / Avenue 50	TS	33.1	28.5	C	C
#5 Jackson St. / Avenue 49-Odlum Dr.	AWS	51.9	23.0	F	C
#6 Calhoun St. / Access 1	Future Intersection				
#7 Avenue 49 / Access 2	Future Intersection				

Source: Calhoun Street Subdivision Traffic Analysis, prepared by Urban Crossroads, September 6, 2024.
[1] TS = Traffic Signal; AWS = All Way Stop
[2] Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal, or all way stop control.

Project Trip Generation

The Traffic Analysis applied two land use codes to calculate the potential number of trips generated by the Project. The first code was derived from the Institute of Transportation Engineers (ITE) Land Use Code for Single Family Detached housing, and the second was supplied by the San Diego Association of Governments (SANDAG) for City Park. At the time that the Traffic Analysis was prepared, the Project included a 1.5-acre park with a dog run, which would have generated more trips

than a park without dog run. SANDAG provided a more appropriate land use code to account for the higher number of park trips. Additionally, as explained above, the number of dwelling units was changed from 259 to 257 after the Traffic Analysis was prepared. Hence, the Traffic Analysis provides a more conservative trip generation calculation. On a daily basis, the residential units and the park are anticipated to generate 2.517 trips. Table XVII-4 shows the total daily trips and the total AM and PM peak hour trips that the Project may generate as estimated by ITE and SANDAG.

Table XVII-4
Project Daily Trip Generation

Land Use	Land Use Code	Quantity	Total Daily Trips	AM Peak Hour Trips	PM Peak Hour Trips
Single Family Detached	210[1]	259 units[2]	2,442	182	244
Park (with Dog Run)	---	1.5 acres[3]	75	10	6
		Project Total	**2,517**	**192**	**250**

Source: Calhoun Street Subdivision Traffic Analysis, prepared by Urban Crossroads, September 6, 2024
1. Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).
2. In September 2024, the Traffic Analysis assumed 259 dwelling units. The Project currently includes 257 units.
3. In September 2024, the Traffic Analysis assumed a 1.5-acre park with a dog run, which would've generated more trips than a park without a dog run. SANDAG provided the trip generation estimate for a city park with a higher volume of trips to account for the dog run.

Existing Plus Ambient Plus Project (EAP) (2026) Conditions

EAP (2026) includes Existing (2024) volumes, ambient growth traffic calculated at an increase of 4.04% over two years, and the Project traffic. Per the Traffic Analysis, no additional intersections are expected to operate at unacceptable LOS during peak hours beyond the above-described three intersections which currently operate with deficiencies without the Project. Traffic signal installation at each of the three intersections would sufficiently address the deficiencies, and result in acceptable operations, as shown in Table XVII-2, above.

Intersection #6 Calhoun Street / Access 1 currently operates at an acceptable LOS for EAP conditions, however, it meets the volume warrants for installation of a traffic signal. At this time, the installation of a traffic signal at intersection #6 is not recommended because the intersection is expected to operate at an acceptable LOS for EAP (2026) and EAPC (2026) conditions with cross-street stop control. Also, access to the Project is provided at the Access 2 / Avenue 49 (#7) intersection, which is anticipated to operate at LOS "A" during peak hours for both EAP (2026) and EAPC (2026) conditions. See Table XVII-5 for a summary of the EAP (2026) conditions.

Table XVII-5
Intersection Analysis for EAP (2026) Conditions

Intersection	Traffic Control[1]	Delay[2] (secs) AM	Delay[2] (secs) PM	Level of Service AM	Level of Service PM
#1 Calhoun St. / Dr. Carreon Blvd.					
• With existing All Way Stop	AWS	>80	41.7	F	E
• *With traffic signal improvement*	*TS*	*39.0*	*31.9*	*D*	*C*
#2 Calhoun St. / Avenue 48	TS	33.7	30.3	C	C
#3 Calhoun St. / Avenue 49					
• With existing All Way Stop	AWS	>80	46.2	F	E
• *With traffic signal improvement*	*TS*	*10.4*	*7.9*	*B*	*A*
#4 Calhoun St. / Avenue 50	TS	34.3	29.3	C	C
#5 Jackson St. / Avenue 49-Odlum Dr.					
• With existing All Way Stop	AWS	74.2	35.0	F	D
• *With traffic signal improvement*	*TS*	*12.4*	*9.2*	*B*	*A*
#6 Calhoun St. / Access 1	CSS	27.3	25.1	D	D
#7 Avenue 49 / Access 2	CSS	8.7	8.8	A	A

Source: Calhoun Street Subdivision Traffic Analysis, prepared by Urban Crossroads, September 6, 2024.
[1] TS = Traffic Signal; AWS = All Way Stop; CSS = Cross-Street Stop
[2] Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal, or all way stop control. For intersections with cross street stop control, the delay and LOS for the worst individual movement (or movement sharing a single lane) are shown.

Existing Plus Ambient Plus Project Plus Cumulative (EAPC) (2026) Conditions

EAPC (2026) includes existing (2024) volumes, ambient growth traffic calculated at an increase of 4.04% over two years, the Project traffic, and traffic from cumulative development proposed in the area. No additional intersections are expected to operate at unacceptable LOS levels during peak hours for the EAPC 2026 traffic conditions. As described in the previous paragraphs, installation of traffic signals at the currently deficient intersections would address the deficiencies and improve the LOS for the three intersections. The installation of a traffic signal at intersection #6 Calhoun Street / Access 1 is not recommended as the intersection is expected to operate an acceptable LOS with a cross-street stop control under EAPC (2026) conditions.

Table XVII-6 summarizes future EAPC (2026) traffic conditions for each study area intersection.

Table XVII-6
Intersection Analysis for EAPC (2026) Conditions

Intersection	Traffic Control[1]	Delay[2] (secs) AM	Delay[2] (secs) PM	Level of Service AM	Level of Service PM
#1 Calhoun St. / Dr. Carreon Blvd.					
• With existing All Way Stop	AWS	>80	>80	F	F
• *With traffic signal improvement*	*TS*	*43.6*	*32.6*	*D*	*C*
#2 Calhoun St. / Avenue 48	TS	34.7	31.0	C	C

Table XVII-6
Intersection Analysis for EAPC (2026) Conditions

Intersection	Traffic Control[1]	Delay[2] (secs) AM	PM	Level of Service AM	PM
#3 Calhoun St. / Avenue 49					
• With existing All Way Stop	AWS	>80	75.4	F	F
• *With traffic signal improvement*	*TS*	*10.9*	*7.8*	*B*	*A*
#4 Calhoun St. / Avenue 50	TS	37.8	30.5	D	C
#5 Jackson St. / Avenue 49-Odlum Dr.					
• With existing All Way Stop	AWS	>80	47.9	F	E
• *With traffic signal improvement*	*TS*	*15.7*	*11.9*	*B*	*B*
#6 Calhoun St. / Access 1	CSS	32.2	30.6	D	D
#7 Avenue 49 / Access 2	CSS	8.7	8.8	A	A

Source: Calhoun Street Subdivision Traffic Analysis, prepared by Urban Crossroads, September 6, 2024.
[1] TS = Traffic Signal; AWS = All Way Stop; CSS = Cross-Street Stop
[2] Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal, or all way stop control. For intersections with cross street stop control, the delay and LOS for the worst individual movement (or movement sharing a single lane) are shown.

Traffic signals are recommended to improve the level of service at study area intersections #1, #3, and #5, where the LOS is currently deficient and will continue to decline after the Project is constructed and with the cumulative development conditions. Although the Project has not contributed to the current unacceptable LOS for these three intersections, it will add to the deficiencies unless the traffic signals are installed. In order to assure that the Project's impact on these intersections is reduced to acceptable levels, Project "fair share" contribution was calculated and is included in Mitigation Measure TRA-1.

Build out of the 257 residential units and the public park will contribute additional traffic to adjacent streets. To reduce the impacts of this traffic increase, the Project will be responsible for installing on-site and site-adjacent improvements. Mitigation Measure TRA-2 provides a list of the necessary on-site and site-adjacent street improvements which will ensure that Project traffic impacts are less than significant.

Public Transit

SunLine Transit Agency provides bus routes throughout the Coachella Valley extending from Desert Hot Springs at the far west end to the North Shore Community near the Salton Sea. Route 8 is operated through the City of Coachella along Dr. Carreon Blvd, Van Buren Street, and passes the Project site along Calhoun Street between Avenue 48 and Avenue 50. The nearest bus stop to the Project is located 2.4 miles southeast at the intersection of Cesar Chavez and 4th Street. SunLine Transit service is periodically updated to keep pace with the growing demand for service throughout the region. The Project will not have direct access to bus service, but will not interfere with SunLine's ability to provide service.

Pedestrian and Bicycle Facilities

Bike lanes are available along Calhoun Street, Avenue 48 and Avenue 50. Sidewalks occur on Avenue 48 and Avenue 50, and portions of sidewalks occur on Calhoun Street, Jackson Street, Dr. Carreon Boulevard, and Odlum Drive and Avenue 49. The Project will build out adjacent street half-widths to General Plan standards, including sidewalks and parkways. The proposed Project will not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. No project related impacts to alternative transportation are anticipated.

Summary

Based on the Traffic Analysis, the project site may generate up to 2,517 daily vehicle trips. To reduce the impacts of additional traffic in the study area, the Project will contribute to traffic signal installation at three intersections and will be responsible for implementing on-site and site-adjacent street improvements. All improvements, detailed in the Mitigation Measures section, will keep the study area intersections operating at acceptable levels of service. With implementation of Mitigation Measures TRA-1 and TRA-2, impacts associated with traffic will be reduced to less than significant levels.

b) Less Than Significant Impact.

Exemptions from VMT Analysis

The City uses the County of Riverside's Transportation Analysis Guidelines to analyze VMT. As provided in the Guidelines, projects meeting certain criteria are exempt from preparing VMT analyses, thus, detailed CEQA assessments are not required for land uses associated with exempt project types.[66] Exempting certain projects avoids unnecessary analyses as these projects are deemed to have less than significant impacts due to project size, proximity to high quality transit, whether local services are provided, and whether affordable housing is provided. To determine if a project is exempt, the County's Guidelines provide a set of Screening Criteria for Development Projects.

As described in the VMT letter prepared by Urban Crossroads in September 2024 (Appendix G), the proposed Project meets two of the County's Screening Criteria:

- Map-Based Low VMT Screening
- Local Essential Service Screening

The map-based screening criteria uses the sub-regional Riverside Transportation Analysis Model (RIVTAM) to gauge the amount of personal motorized trips within particular regions against the average number of personalized trips for the Countywide population. The Project site occurs within RIVTAM Zone "TAZ 4787" where residents make fewer trips and generate VMTs below the County's established significance threshold.

The local essential service screening criteria considers the Project's public park to be a net benefit because it is sited such that Project residents and nearby City residents will not need to travel far to access the park and thus reduce overall VMTs spent on non-discretionary trips to the park.

Given that the Project meets these two Screening Criteria, the Project is consistent with CEQA Guideline section 15064.3 (b) and impacts with regard to VMTs would be less than significant.

66 Figure 3 "Screening Criteria for Development Projects," Transportation Analysis Guidelines for Level of Service, Vehicle Miles Traveled, County of Riverside, December 2020.

c, d) No Impact. As described above, access to the Proposed Project will be provided through Calhoun Street and Avenue 49. The Project does not propose to alter the City's roadway system or change traffic patterns. Regional access to the site will be provided via I-10 freeway, Major Arterials, Collectors, and a variety of local roads. Prior to construction, both the Fire Department and Police Department will review the site plan to ensure safety measures are addressed, including emergency access and geometric design. Therefore, the Proposed Project will not result in inadequate emergency access or increase hazards due to a geometric design feature.

Mitigation Measures:

TRA-1 Traffic Signal Installation

Traffic signal control will address the operational deficiencies at three intersections that presently experience unacceptable levels of service. Although the Project is not currently contributing to the deficiencies, traffic conditions upon build out will impact these intersections and further degrade the level of service at each intersection. The Project Fair Share Contributions listed in Table XVII-7 show the Project's percentage of the total traffic volume and deficiency. To reduce the Project's expected impacts to less than significant levels, the Project will be responsible for paying its share as shown in the table.

Table XVII-7
Project Fair Share Contributions to Impacted Intersections

Intersection	Existing (2024) Traffic	EAPC (2026) Traffic[1]	Project-Only Traffic	Total New Traffic[2]	Project Fair Share (%)[3]
#1 Calhoun St. / Dr. Carreon Bl.					
• AM Peak Hour	2,002	2,357	58	355	16.3%
• PM Peak Hour	1,585	1,962	75	377	**19.9%**
#3 Calhoun St. / Avenue 49					
• AM Peak Hour	1,159	1,403	96	244	39.3%
• PM Peak Hour	1,050	1,350	125	300	**41.7%**
# 5 Jackson St. / Avenue 49 – Odlum Dr.					
• AM Peak Hour	1,209	1,413	38	204	18.6%
• PM Peak Hour	1,253	1,505	50	252	**19.8%**

1. Existing Plus Ambient Plus Project Plus Cumulative (2026) Conditions
2. Total New Traffic = (EAPC 2026 - Existing Traffic)
3. Project Fair Share % = (Project Only Traffic / Total New Traffic)

TRA-2 On-Site and Site-Adjacent Improvements

The recommendations listed here are the minimum improvements required to accommodate site access and maintain acceptable peak hour operation for the Project. Installation of these improvements will ensure that impacts related to traffic entering and exiting the Project will be reduced to less than significant levels.

#3 – Calhoun Street / Avenue 49

- Provide a separate northbound left turn lane.
- Modify southbound approach striping to provide a separate southbound right turn lane.
- Provide a shared eastbound left/thru/right lane.

#6 – Calhoun Street / Access 1

- Provide a separate northbound left turn lane.
- Provide a shared eastbound left/thru/right turn lane.

#7 – Avenue 49 / Access 2

- Provide a shared northbound left/right turn lane.
- Provide a shared eastbound thru/right turn lane.
- Provide a shared westbound left/thru lane.

Monitoring:

TRA.A The City Engineer shall approve project improvement plans prior to the issuance of grading permits. Project improvements and fair share contributions shall be completed prior to the occupancy of any portion of the Project.

Responsible Parties: Project applicant, project engineer, City Engineer.

Sources:

Calhoun Street Subdivision Traffic Analysis, prepared by Urban Crossroads, September 6, 2024.

Figure 3 “Screening Criteria for Development Projects,” Transportation Analysis Guidelines for Level of Service, Vehicle Miles Traveled, County of Riverside, December 2020.

XVIII. TRIBAL CULTURAL RESOURCES a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or			✓	
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		✓		

Environmental Setting

California state law requires a government-to-government consultation process between project lead agencies and California Native American tribes who have an interest in protecting cultural resources in a project area. The consultation process must begin prior to the release of an environmental impact report, mitigated negative declaration, or negative declaration. Native American tribes participating in the consultation process are those who have requested notice of all proposed projects within the jurisdiction of the lead agency.

Assembly Bill 52

Public Resources Code (PRC) 21074(a) states that if a project has the potential to cause a substantial adverse change or impairment to a tribal cultural resource (TCR), then the project may cause an adverse effect on the environment. The passage of Assembly Bill 52 in 2014 created a new CEQA category of resources called, Tribal Cultural Resources, whereby a formal consultation process was established between lead agencies and impacted California Native American tribes to address concerns regarding a project's potential impacts to tribal cultural resources. Tribal Cultural Resources include California Native American archaeological sites, cultural landscapes and sacred places.[67]

[67] Guidelines for Determining the Significance of and Impact to Cultural Resources: Archaeological, Historic, and Tribal Cultural Resources, Society for California Archaeology, April 2020.

CRM TECH prepared an "Historical/Archaeological Resources Survey Report for Assessor's Parcel Number 612-260-010," (Report) which included a consultation with the Torres Martinez Desert Cahuilla Indian tribe and the Cabazon Band of Mission Indians to obtain their input and recommendations regarding the Project site. Due to previously recorded historical resources in the Coachella area and the history of Cahuilla activity around the lakeshore of Ancient Lake Cahuilla, the Torres Martinez recommend that a tribal archaeological monitor be present during construction related ground disturbance. The details of the Report and consultation are detailed in above in Section V, Cultural Resources. The complete Report is attached as Appendix C. The consultation response letter from the Torres Martinez tribe is provided in Appendix 2 of the Report. A complete description of Tribal lifeways is provided in the Report and summarized in Section V.

In addition, the City conducted Tribal consultation consistent with AB 52. The City's letters to consulting tribes were sent in June of 2025. The Agua Caliente Band of Cahuilla Indians requested consultation, and worked with City staff to develop modifications to the mitigation measures contained in Section V. With inclusion of these mitigation measures, the Tribe concluded consultation.

Discussion of Impacts

a, i) Less Than Significant Impact. The Historical/Archaeological Resources Report for the Project site describes the results of records search at the Eastern Information Center (EIC) at the University of California, Riverside, an historical background research, and a field survey of the subject site. Per the Report, the Project site contains no historical nor archaeological resources that are listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources identified on the Project site, thus there would be no impacts to any such resources.

a, ii) Less Than Significant Impact with Mitigation Incorporated. While the surface of the subject site has been extensively graded and cultivated since the 1930s, the subsurface has not been researched for historical and archaeological cultural resources, hence, the presence of such artifacts under the surface cannot be precluded. During the most recent inundation of Ancient Lake Cahuilla in the 1730s, when the high stand of the shoreline is documented as being 42 feet above sea level, the Project site would have been under water for a time, but eventually would have been exposed and become part of the shoreline as the lake dried. In this region of the Salton Basin, many recorded Native American resources are associated with the receding Ancient Lake Cahuilla shoreline.

Based on the recommendation of the Report, and the City's consultation with…, Mitigation Measure CUL-1 will assure that impacts to Tribal Cultural Resources will be reduced. The implementation of this mitigation measure would ensure that newly identified and potentially significant historical/archaeological artifacts would be protected, and impacts would be reduced to less than significant levels.

Mitigation Measures: See CUL-1, Section V.

Monitoring: See CUL-A, Section V.

Sources:
"Historical/Archaeological Resources Survey Report for Assessor's Parcel No. 612-260-010," prepared by CRM TECH, May 21, 2024.

“Guidelines for Determining the Significance of and Impact to Cultural Resources: Archaeological, Historic, and Tribal Cultural Resources,” Society for California Archaeology, April 2020.

“Determining the Significance of Impacts to Archaeological and Historical Resources,” California Code of Regulations, Title 14 §15064.5.

“The Cahuilla People,” Augustine Band of Cahuilla Indians, 2018, accessed March 28, 2024.

XIX. UTILITIES AND SERVICE SYSTEMS **Would the project:**	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			✓	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			✓	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✓	
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			✓	

Environmental Setting

Domestic Water

As described above in Section X, Hydrology, the primary source of domestic water for the City is the Indio Subbasin, which is one of four subbasins within the Coachella Valley Groundwater Basin. The Coachella Water Authority (CWA) along with the Coachella Valley Water District (CVWD), Desert Water Agency (DWA), and the Indio Water Authority (IWA) manage the Indio Subbasin. CVWD and DWA have supplemented recharge efforts by importing and percolating Colorado River water into the basin. These two agencies also supplement irrigation water with recycled wastewater.

The Coachella Water Authority (CWA) delivers potable, municipal domestic water, collects wastewater, and manages local drainage control. Six wells with a total pumping capacity of 11,400 gpm, or 16.5 MGD are owned and operated by the City. Three storage reservoirs provide a total

storage capacity of 10.5 MG (million gallons). The distribution network includes 120 miles of pipeline with pipe diameters of 4 inches to 36 inches.

Currently, the CWA mainly serves the area west of Grapefruit Boulevard and smaller industrial/commercial corridor north of Avenue 48, while the largely agricultural land to the east is served by the Coachella Canal and privately owned wells.

The 2020 Coachella Valley Regional Urban Water Management Plan forecasted a growth in water demand for the Coachella Valley through the year 2045. However, the Indio Subbasin Annual Report for water year 2023-2024 found that actual water demand within the Indio Subbasin was 50,000 acre-feet less than the forecasted demand.[68] Neither the City's population growth nor the demand for domestic water grew at the rates that had been planned.

Wastewater Treatment

The Coachella Sanitation Division (CSD), also managed by the City, treats wastewater at its 4.5 MGD WRP located at the east end of Avenue 54. Wastewater is treated to a secondary level and discharged into the adjacent Whitewater River/Coachella Valley Stormwater Channel. During the 2023-2024 Water Year, the CSD WRP treated 3,082 af of wastewater.[69]

The CSD collects and treats water from residential, commercial and industrial areas. The collection system consists of 90 miles of pipeline ranging in diameters of 4 inches to 54 inches, 1,580 manholes and two pump stations. The Project would be able to connect to the existing pipeline in Calhoun Street that extends north of Avenue 50.[70]

Floodplain Management

The Coachella Valley lies within the Whitewater River Watershed, the regional drainage feature that extends from the slopes of Mount San Gorgonio to the Salton Sea. The Whitewater River is the main drainage feature and is fed by mountain streams along its course. In the higher elevation of the Whitewater River, water runs generally year-round, but is ephemeral in the low desert, and has been channelized at the eastern end of the Valley to control stormwater. The CVWD maintains major tributary facilities that guide floodwater into the Coachella Valley Stormwater Channel, but drainage throughout the Coachella Valley generally falls under the supervision of the local cities or the county where it occurs.

Historically the City of Coachella has not constructed extensive infrastructure to control stormwater flows. The 2021 City of Coachella Stormwater Master Plan lays out plans to identify and construct stormwater drainage infrastructure in partnership with the CVWD. Self-contained residential neighborhoods, such as the proposed Project, contain their own drainage basins which manage stormwater flows within their properties.

68 2020 Coachella Valley Regional Urban Water Management Plan, prepared by Water Systems Consulting, Inc., May 25, 2021.

69 Indio Subbasin Annual Report for Water Year 2023-2024, Table 5-10 WY 2023-2024 Wastewater Treatment, Reuse, and Disposal in the Indio Subbasin, March 2025.

70 City of Coachella 2015 Sewer System Master Plan, prepared by CDM Smith, June 2015.

Electricity
As discussed above in Section VI, Energy, Imperial Irrigation District (IID) will provide electricity to the Project site. IID is the sixth largest electric utility in California, as measured by peak load of 1,152 megawatts in 2023 and provides power to over 163,000 customers in Imperial County, and portions of Riverside and San Diego counties.[71] Electricity is purchased from various power generators and distributed along IID's transmission corridors to customers.

Natural Gas
Natural gas is provided to the City by Southern California Gas and is used for home heating, water heating, laundry dryers and gas stoves. More than 90% of the natural gas consumed in California is sourced from Texas and New Mexico, and the SoCalGas transmission network consists of storage facilities and pipelines.

Solid Waste Management
The City contracts with Burrtec Waste and Recycling Services to provide solid waste, recycling, and green waste disposal services. Pursuant to the State's recycling and landfill diversion regulations, Burrtec processes recyclable materials and green waste separately from solid waste. Recyclable materials will be sorted at a Burrtec MRF. Green waste may be composted or applied as alternative daily landfill cover. Solid waste will be taken to the Coachella Valley Transfer Station where it will then be transferred to the Lamb Canyon Landfill in Beaumont. Lamb Canyon Landfill has a remaining capacity of 14,540,000 cubic yards (36.64% of total capacity) with a maximum daily throughput of 5,000 cubic yards.

Communications Systems
Frontier and Spectrum provide phone, internet and cable television connectivity in the City of Coachella and facilities are currently available under Calhoun Street. Existing Spectrum cable facilities are also under Avenue 49. DIRECTV is also available in the City for television service.

Discussion of Impacts

a) Less Than Significant Impact. Surrounding residential land uses on the south and north sides of the Project have facilitated the installation of utility infrastructure throughout the surrounding vicinity.

Water and Sewer Infrastructure
Under Calhoun Street, a 12-inch water line and 8-inch sewer line extend along the entire east side of the Project site. The Project would connect to each line at the east entrance of the development, just south of the retention basin and north of the park. Another 8-inch water line would be installed under Avenue 49 from Jackson Street and enter the Project at the north entrance. The Project would not require the relocation or significant extension of water and sewer facilities.

Project Proposed Drainage System
According to the Preliminary Hydrology Report, (Appendix D) the Project would construct a self-contained drainage system comprised of five retention basins on-site which would retain 100% of flows from a 100-year storm event. Flows that exceed this capacity will be directed to exit the Project site and flow north on Calhoun Street to Avenue 48. Then storm water would flow eastward to the

[71] Imperial Irrigation District, 2024 Integrated Resource Plan, April 2024.

MS4 storm drain inlet facility on Van Buren Street where it would flow underground for one mile and empty into the Coachella Valley Storm Channel. On-site retention of 100-year storm flows would contain the increased runoff and prevent the Project from contributing runoff that exceeds the capacity of existing City storm drainage systems.[72]

Electricity Infrastructure

The Imperial Irrigation District distributes power via overhead and underground transmission lines throughout the City. Along Calhoun Street, IID provides overhead transmission along the entire length of the Project's east boundary. At the intersection of Avenue 49 and Calhoun Street, underground electricity lines also occur and extend west along Avenue 49 to Jackson Street. The Project would connect to existing electricity distribution lines and would not result in the relocation or significant extension of this service.

Telecommunications Service

As with other utility services, cable television lines occur under Calhoun Street along the east side of the Project and under Avenue 49 along the north side of the Project. Frontier facilities are available in the vicinity although the location of the infrastructure is unknown. Given the occurrence of nearby residential neighborhoods, all telecommunications services are likely in close proximity and would not require extensive relocations or extensions of utilities.

In summary, the location of the Project adjacent to existing residential neighborhoods assures that utility services are available to the site without the need to construct significant extensions or relocate infrastructure. The impacts resulting from the Project would not cause significant environmental effects. Impacts would be less than significant.

b) Less Than Significant Impact. In compliance with the 2014 Sustainable Groundwater Management Act and to forecast the water demand on the Indio Subbasin, CWA along with three other local water agencies prepared a water management framework known as the Indio Subbasin Water Management Plan (CVWMP). The most recent 2022 update (Alternative Plan Update) includes forecasted water demand calculations for current and potential future customers within the Indio Subbasin Plan Area, which includes the East Indio Subbasin. The 2022 Alternative Plan Update relies on population growth forecasts supplied by the 2020 SCAG Regional Growth Forecast, SCAG Land Use Inventories, housing and employment analyses. Additionally, the water agencies have prepared a series of Indio Subbasin Annual Reports, the most recent Report explains that the actual total water use for the 2023-2024 Water Year was lower than the forecasted water use described in the 2022 Alternative Plan Update.

To estimate the Project's annual water demand for indoor use, a calculation was made based on an average household size of 4.19 people in the City of Coachella.[73] Using the California State standard for indoor residential water use of 47 gpcd, the Project's 257 dwelling units would consume approximately 56.71 afy for indoor uses.[74]

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72 SW Corner – Calhoun Street at 49th Avenue Subdivision, Coachella, CA, Preliminary Hydrology Report, prepared for Pacific Coast Properties, prepared by The Altum Group, January 17, 2025.

73 E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2024, California Department of Finance, released May 1, 2025.

74 Standards for Indoor Residential Water Use, California Water Code §10609.4(a).

Calculations for the outdoor water use are based on outdoor irrigation factors provided by CVWD Landscape Ordinance §3.15.[75] The average yard size for each dwelling unit is estimated to be 250 sf. The common landscaped areas and retention basins would be xeriscaped with drought-tolerant plants while the park would contain grass and native, drought- tolerant trees and bushes. The total estimated outdoor use for the Project is 23.83 afy. Annually, the Project is expected to demand approximately 80.54 af, which would increase the most recently reported Indio Subbasin annual urban use extraction by 0.036%. Table XIX-1 below provides details regarding estimated indoor and outdoor water demand upon buildout of the Project.

Table XIX-1
Project Water Demand

Land Use: Single-Family Residential	No. of Dwelling Units (DU)[6]	Estimated Occupants per Home	Gallons per Day (gpd) per Occupant[2]	gpd/DU	Project Daily Water Demand (gpd)	Project Annual Water Demand acre-feet/year (af/y)
HH Indoor Water Use	257	4.19[1]	47[2]	197	50,629	56.71 af/y
HH Outdoor Water Use[3]	257			14.52	3,732.48	4.18 af/y
Landscaping (Common Areas acreage)	303,533 sf				17,540.65	19.65 af/y
					TOTAL	**80.54 af/y**
					2023-2024 Indio Subbasin Urban Water Use	**224,479 af**
					Project's Percentage of 2023-2024 Indio Subbasin Water Use	**0.036%**

1. California Department of Finance, Table E-5, City/County Population and Housing Estimates, 1/1/2025.
2. CA Indoor Residential Water Use Standards, 2025-2030.
3. 250 sf per DU, City of Coachella Code of Ordinances §17.14.030.
4. Common open space includes: the park (minus parking lot), retention basins, decorative landscaped areas.
5. Outdoor water demand calculations based on CVWD Evapotranspiration (ETo), Evapotranspiration Adjustment Factor (ETAF), and Conversion Factor (CVWD Landscape Ordinance §3.15, Appendices C and D). Each residence has 250 sf of open space = 64,250 sf. Common open space = 303,533 sf.
6. DU = Dwelling Unit, HH = Household

According to the Indio Subbasin Annual Report for the Water Year 2023-2024, the total amount of groundwater extractions amounted to 267,495 af. Of this total amount, the urban water use sector accounted for 224,479 af.[76] The impacts of the region's increased urban water use through the year 2045 on the Indio Subbasin were accounted for in the 2022 Alternative Plan Update. The Project's water demand for both indoor and outdoor uses and would account for 0.036% of the groundwater extraction for urban uses. To comply with the regional Sustainable Groundwater Management Plan, the Project would comply with the City's water resource conservation policies outlined the General Plan and install drought tolerant landscaping and low water-use appliances.[77] Domestic water

75 Chapter 3.15 Landscape and Irrigation System Design Criteria, CVWD Ordinance Code, updated 2024.

76 Indio Subbasin Annual Report for Water Year 2023-2024, Table 4-1 WY 2023-2024 Groundwater Extractions by Water Use Sector in the Indio Subbasin, March 2025.

77 City of Coachella General Plan Update 2023, Sustainability and Natural Environment Element, Goal 3, Water Resources, April 2015.

demand by the Project would cause an incremental increase in local water demand resulting in impacts that would be less than significant, because the Project has been accounted for in water planning, since it is consistent with the General Plan land use assigned to the property.

c) Less Than Significant Impact. The Coachella WRP has a daily capacity of 4.5 million gallons, which equates to 5040.65 afy. During 2023-2024, the CSD WRP treated a total of 3,082 af of wastewater, which was 1,958.65 af under the annual capacity. Based on this recent actual wastewater demand, the Project's anticipated wastewater demand would increase the CSD's current demand by 1.63%. The Project's wastewater demand would account for 1.0% of the CSD's total annual capacity. Table XIX-2 provides a summary of the Project's estimated wastewater demand compared to the most recent treatment data for the CSD WRP. The Calhoun Street Housing Development would provide 257 single-family for the City and contribute an incremental increase to the City's wastewater demand, particularly given that the CSD does not treat wastewater at full capacity. Impacts would be less than significant.

Table XIX-2
Project Wastewater Generation

Land Use: Single-Family Residential	No. of Dwelling Units (DU)	Estimated Occupants per Home[1]	Gallons per Day (gpd) per Occupant[1]	gpd/DU	Project Daily Wastewater Flow (gpd)	Project Annual Wastewater acre-feet/year (af/y)
Wastewater Flow	257	4.19	42.3	177.2	45,540	51
					Total 2023-2024 Acre-Feet Treated at CSD WRP	**3,082 af**
					Project's Percentage of 2023-2024 CSD WRP	**1.65%**

1.Between 60% and 90% of potable water may be sent to wastewater treatment. This estimate is based on 90%.
2.CSD 2023-2024 Water Year wastewater demand = 3082 af.
3.CSD total annual wastewater capacity – 5040.65 af.

d, e) Less than Significant Impact. As described above, Burrtec Waste and Recycling Services provides solid waste, recycling, and green waste disposal services to the City of Coachella. Burrtec processes recyclable materials and green waste separately from solid waste and helps the City achieve the mandatory 50% diversion rate. Recyclable materials would be sorted at a Burrtec MRF. Green waste may be composted or applied as alternative daily landfill cover. The remaining solid waste would be delivered to the Coachella Valley Transfer Station where it will then be transferred to the Lamb Canyon Landfill in Beaumont. Lamb Canyon Landfill has a remaining capacity of 14,540,000 cubic yards (36.64% of total capacity) with a maximum daily throughput of 5,000 cubic yards. See Table XIX-3 for a summary of the Project's impacts on the local landfill.

Table XIX-3
Project Estimated Solid Waste Generation

Land Use	Generation Rate	Proposed Development	Daily Total (lbs)	Annual Total (US tons)
Residential Single Family	11.4 lb/dwelling unit/day[1]	257 DU	2,930	534.73
		With 50% solid waste diversion	**1,465**	**267.4**
		Conversion to cubic yards[2]	**9.77 c.y.**	**3,565.3 c.y.**
		Percent of landfill capacity[3]	**0.2% of daily throughput**	**0.025% of remaining cap.**

1. Estimated Solid Waste Generation Rates for Manufacturing/Warehouse (May 1997), CalRecycle, accessed April 2025, https://www2.calrecycle.ca.gov/wastecharacterization/general/rates.
2. National Recycling Coalition Measurement Standards and Reporting Guidelines, 2006. Estimates that 150 pounds of uncompacted municipal solid waste material is equal to 1 cubic yard of waste.
3. Landfill daily throughput (or intake) is 5,000 cubic yards, and remaining capacity is 14,540,000 cubic yards, CalRecycle SWIS Facility/Site Activity Details, https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2246?siteID=2368, accessed April 2025.

At buildout, the Project's daily solid waste generation will contribute less than 1% of the Lamb Canyon daily capacity of 5,000 cubic yards, and less than 0.1% of the remaining capacity on an annual basis. Commingled recyclable materials (e.g., paper, plastic, glass, cardboard, aluminum) will be transported to Burrtec's material recovery facilities for recycling and reuse.

Burrtec is responsible for maintaining standards that assure that all waste is handled in a manner that meets local, state and federal standards. These requirements will assure that impacts associated with solid waste disposal remain less than significant.

Mitigation Measures: None required.

Monitoring: None required.

Sources:

2020 Coachella Valley Regional Urban Water Management Plan, prepared by Water Systems Consulting, Inc., May 25, 2021.

Chapter 3.15 Landscape and Irrigation System Design Criteria, CVWD Ordinance Code, updated 2024.

City of Coachella General Plan Update 2023, Sustainability and Natural Environment Element, Goal 3, Water Resources, April 2015.

City of Coachella 2015 Sewer System Master Plan, prepared by CDM Smith, June 2015.

Coachella Valley Water District, Landscape Ordinance §1302.5.

E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2024, California Department of Finance, released May 1, 2024.

Indio Subbasin Annual Report for Water Year 2023-2024, March 2025.

Imperial Irrigation District, 2024 Integrated Resource Plan, April 2024.

Standards for Indoor Residential Water Use, California Water Code §10609.4(a).

SW Corner – Calhoun Street at 49th Avenue Subdivision, Coachella, CA, Preliminary Hydrology Report, prepared for Pacific Coast Properties, prepared by The Altum Group, January 17, 2025.

XX. WILDFIRE If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				✓
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				✓
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				✓
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				✓

Environmental Setting

Wildfires are natural events that promote ecosystem regeneration, and ecosystems throughout much of the western United States including California are naturally susceptible to wildfires. In southern California, the winter rains lead to spring germination, then by the fall, the vegetation dries up as the high summer temperatures and lack of rainfall dominate the weather. Wildfire is fed by vegetative fuel load, slope and lack of precipitation. However, wildfires become hazards when they spread into human development areas, or when the built environment encroaches upon wildfire zones. Areas where wilderness and urban land uses meet are referred to as the wildland-urban interface (WUI), and these areas pose an elevated risks of fire hazards to human health and property. In particular, WUI areas near wilderness areas that have not burned for 30+ years are poised for higher risks of burning in the near future due to the buildup of vegetative fuels.

The California Department of Forestry and Fire Protection (Cal Fire) maintains the Fire Hazard Severity Zone Viewer (FHSZ Viewer), a State map of fire hazard zones that are ranked as either moderate, high, or very high. The FHSZ Viewer also shows geographic responsibility areas that are protected with either federal, state or local financial resources.

The City of Coachella lies within the low desert ecosystem of the Colorado Desert section of the Sonoran Desert Bioregion where the fuel load is sparse, and the slope of the terrain is minimal compared to the higher elevations of the surrounding mountain ranges. The sparse desert vegetation and relatively flatter landscape greatly reduce the risk of wildfire in the City. The urban areas of the City have replaced much of the native Colorado Desert vegetation with development and landscaping while agricultural activity is the predominant condition of the southern and eastern regions of the Coachella Planning Area. Due to these conditions, the risk of wildfire in the City is extremely low. The Project site is approximately seven miles northeast from a moderate fire zone area within a state responsibility area (SRA) in the Santa Rosa Mountains.[78]

Discussion of Impacts

a) No Impact. The Primary Evacuation routes for the City of Coachella include Interstate 10, Avenue 48, Avenue 50, Avenue 52, Harrison Street, Highway 111/Grapefruit Boulevard, and State Route 86S.[79] The Project is on the southeast corner of Calhoun Street and Avenue 49, and Calhoun Street connects to both Avenue 48 to the north and Avenue 50 to the south. The Project also proposes to improve Avenue 49, which would grant additional access from the Project site to the primary evacuation routes. The Project does not propose to alter any of the existing evacuation routes and would not substantially impair the City's adopted emergency evacuation and response plans. No impacts would result from the Project.

b, c) No Impact. The Project site and surrounding area are not located within a wildfire hazard severity zone, nor are they located within a WUI. The Project is over seven miles northeast from the nearest wildfire severity zone, which is rated as a moderate severity. The Project, surrounded by urban land uses, would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The Project would not require any installation or maintenance of wildfire emergency infrastructure. There would be no impacts.

d) No Impact. The City of Coachella lies at the far southeastern end of the Coachella Valley, a low desert, low-elevation and relatively flat area within of the Colorado Desert ecoregion. The terrain mildly slopes downward toward the southeast. There is low to no risk of wildfire in the low desert region of the Coachella Valley or the City, and no risk of post-wildfire flooding, landslide, or hillside instability. The Project would not expose residents, workers or structures to such post-fire hazards. No impacts are expected.

Mitigation Measures: None required.

Monitoring: None required.

Sources:
Fire Hazard Severity Zone Viewer, California Department of Forestry and Fire Protection
Technical Background Report to the Safety Element, City of Coachella General Plan 2035 Update

78 Fire Hazard Severity Zone Viewer, California Department of Forestry and Fire Protection, accessed July 2024.

79 Technical Background Report to the Safety Element, City of Coachella General Plan 2035 Update, September 2014.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

NOTE: If there are significant environmental impacts which cannot be mitigated and no feasible project alternatives are available, then complete the mandatory findings of significance and attach to this initial study as an appendix. This is the first step for starting the environmental impact report (EIR) process. **Does the project:**	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			✓	
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?			✓	

a) Less Than Significant Impact with Mitigation Incorporated.

Biological Resources:
The Project site is not located within a CVMSHCP-designated conservation area and does not contain any wildlife corridors or biological linkage areas. However, the vegetative scrub and date palms on the Project site could potentially be used by both resident and migratory nesting birds, many of which are not special status species, but all are protected under the Migratory Bird Treaty Act (MBTA) and

the California Fish and Game Code (FGC). Therefore, a pre-construction survey will be required to avoid impacts to nesting birds covered by the MBTA. Mitigation Measure BIO-1 provides details for conducting the nesting bird survey.

Western burrowing owls are protected under the MBTA, the US Fish and Wildlife Service as a Bird of Conservation Concern (BCC) and receives protection under the California Endangered Species Act (CESA). Neither burrowing owls nor signs of burrowing owls were observed during the site survey, however, because suitable habitat is present on the Project site, burrowing owls could potentially relocate to the Project site prior to the start of construction. Mitigation Measure BIO-2 describes the required pre-construction burrowing owl survey.

Finally, as the City is a signatory to the CVMSHCP, the Project is subject to payment of the Development Mitigation Fee to mitigate potential impacts to covered species under the CVMSHCP.

The Proposed Project will not significantly reduce fish or wildlife habitat or otherwise adversely impact a fish or wildlife species. The construction of the Project has the potential to impact nesting birds, but the mitigation measures included in this document and payment of the CVMSHCP Development Mitigation Fee will reduce those impacts to less than significant levels.

Cultural Resources

The Project site was evaluated by qualified non-Tribal and Tribal archaeologists and was found to have a low potential for resources as no surface deposits were discovered during the field survey. However, the potential for buried resources, including Tribal resources, requires the implementation of mitigation to reduce impacts to less than significant levels. The CUL-1 Mitigation Measure requires the monitoring of earth moving activities, which will reduce these impacts.

b) Less Than Significant Impact. The Project will result in less than significant impacts to the environment, apart from biological and cultural resources, and the transportation network surrounding the Project. The Project is consistent with the City's General Plan Update land use designation assigned to the property, and would therefore not generate any greater impacts than those expected from the build out of the General Plan Update. Cumulative impacts are expected to be less than significant with the implementation of the prescribed mitigation measures.

c) Less Than Significant Impact with Mitigation. The proposed Project will generally not significantly impact people. It will provide additional housing opportunities to existing and future residents, as well as a public park facility for the City. Air quality, GHG, hazardous materials and noise impacts have been determined to be less than significant in the discussions above.

Transportation

At the present time, three intersections within the Traffic Analysis study area operate at unacceptable levels of service (LOS E and F) during peak traffic hours, and the Traffic Analysis finds that traffic signals would adequately address these deficiencies. Although the Project is not contributing to these current deficiencies, traffic conditions upon build out will impact these intersections and further degrade the level of service at each intersection. Therefore, the Project will contribute its fair share towards the installation of traffic signals at these three intersections. Mitigation Measure TRA-1 provides information regarding the Fair Share Contribution.

Along Avenue 49 and Calhoun Street, traffic will be impacted by vehicles entering and exiting the Project's two driveways. To reduce impacts to less than significant levels, several on-site and site adjacent street improvements are recommended in Mitigation Measure TRA-2.

CHAPTER 3: MITIGATION MONITORING & REPORTING PROGRAM
City of Coachella / Calhoun Street Housing Development
Environmental Assessment 25-02 / SCH No.

Resource Topic	Level of Impact After Mitigation	Mitigation Measures	Responsible Party/ Monitoring Party	Implementation Timing
Biological Resources	Less than Significant	**BIO-1** Bird nesting season for resident birds in Southern California occurs between February 1 and August 31. To avoid impacts to nesting birds, all vegetation clearing, ground disturbance, and construction activity should be scheduled between September 1 and January 31 if possible. If construction occurs during the nesting season, a certified avian biologist must conduct a pre-construction nesting bird survey (NBS) immediately prior to scheduled construction activity. If active nests are identified, the biologist will demarcate a no-work buffer zone(s) around the active nest(s) and check the nest site(s) weekly until the young birds fledge and the nest(s) become inactive. The buffer zone size would be based on the nesting species, its sensitivity to disturbance, nesting stage and the expected intensity and duration of disturbance. No ground or vegetation disturbance shall occur within the nest site buffer zone(s) until the qualified biologist determines that the young have successfully fledged, and the nest is inactive. Per CDFW recommendations, a buffer of 500 feet shall be set for listed species and birds of prey, and a buffer of 100 to 300 feet shall be set for unlisted songbirds.	Project applicant, Project biologist, Planning Department, City Engineer	The Project applicant shall complete preconstruction surveys and provide them to the City prior to issuance of any permit allowing ground disturbance on the Project site. Results of the preconstruction surveys are to be kept on file at City Hall.

Resource Topic	Level of Impact After Mitigation	Mitigation Measures	Responsible Party/ Monitoring Party	Implementation Timing
Biological Resources continued	Less than Significant	**BIO-2** To ensure that no burrowing owls have moved to the Project site since the biological site survey was conducted, avoidance surveys of the Project site must be conducted immediately preceding development, in compliance with the CDFW Staff Report for Burrowing Owl (2012) protocols. The first survey should occur 14-30 days prior to initiating ground disturbance activities, and the second survey should take place withing 24 hours of ground disturbance. Should burrowing owls be detected, CDFW shall be contacted as soon as possible to determine the next course of action. CDFW must grant permission to relocate burrowing owls.	Project applicant, Project biologist, Planning Department, City Engineer	The Project applicant shall complete preconstruction surveys and provide them to the City prior to issuance of any permit allowing ground disturbance on the Project site. Results of the preconstruction surveys are to be kept on file at City Hall.
Cultural Resources	Less than Significant	**CUL-1** <u>Tribal Resource Discovery and Documentation</u> A Cultural Resources Monitoring and Discovery Plan (Plan) will be prepared by the Project archaeologist in collaboration with ACBCI and provided to the City and ACBCI prior to the issuance of grading permits for the property. The Plan will require that a qualified archaeological and Tribal monitor from ACBCI be present during all ground-disturbing activities within the Project site. Monitoring requirements and locations should be defined along with resource discovery protocols and guidance for reducing or terminating site monitoring in the	Project Archaeologist, City Planning Department, City Engineer	The Project archaeologist shall provide the City with a copy of the Cultural Resources Monitoring and Discovery Plan prior to the issuance of any ground disturbing permit on the site. The Plan will be prepared in collaboration with ACBCI. Within 30 days following the completion of monitoring activities, the Project archaeologist shall provide the City with a report of monitoring activities.

Resource Topic	Level of Impact After Mitigation	Mitigation Measures	Responsible Party/ Monitoring Party	Implementation Timing
		case that no artifacts are identified, or that documentation finds that ground disturbance will occur in soils with more potential for discovering artifacts. Should an artifact be discovered, all construction activity within 100 feet of the discovery shall stop until the qualified archaeologist can evaluate the significance of the artifact and make a determination whether further study is necessary. Should the artifact be found to be significant under CEQA, an archaeological treatment plan and further data recovery may be required. If the qualified archaeologist and ACBCI monitor determine that on-site reburial is the appropriate measure to be taken for the artifact(s) discovered on the Project site, they will recommend a location to the City and project proponent. That location will be described and recorded as an easement in favor of ACBCI on the property in perpetuity prior to the completion of the first house on the property. This is confidential information, and the exact nature of this area will not be called out on the grading plans.		
Transportation	Less than Significant	**TRA-1** **Traffic Signal Installation** Traffic signal control will address the operational deficiencies at three intersections that presently experience unacceptable levels of service. Although the Project is not currently contributing to the deficiencies, traffic conditions upon build	Project applicant, Project engineer, City Engineer	The City Engineer shall approve project improvement plans prior to the issuance of grading permits. Project improvements and fair share contributions shall be completed prior to the occupancy of any portion of the Project.

<table>
<tr><th>Resource Topic</th><th>Level of Impact After Mitigation</th><th>Mitigation Measures</th><th>Responsible Party/ Monitoring Party</th><th>Implementation Timing</th></tr>
<tr><td></td><td></td><td>out will impact these intersections and further degrade the level of service at each intersection. The Project Fair Share Contributions listed in Table XVII-7 show the Project's percentage of the total traffic volume and deficiency. To reduce the Project's expected impacts to less than significant levels, the Project will be responsible for paying its share as shown in the table.

Table XVII-8
<table>
<tr><th>Intersection</th><th>Project Fair Share (%)</th></tr>
<tr><td>#1 Calhoun St. / Dr. Carreon Bl.</td><td></td></tr>
<tr><td>• AM Peak Hour</td><td>16.3%</td></tr>
<tr><td>• PM Peak Hour</td><td>19.9%</td></tr>
<tr><td>#3 Calhoun St. / Avenue 49</td><td></td></tr>
<tr><td>• AM Peak Hour</td><td>39.3%</td></tr>
<tr><td>• PM Peak Hour</td><td>41.7%</td></tr>
<tr><td># 5 Jackson St. / Avenue 49 – Odlum Dr.</td><td></td></tr>
<tr><td>• AM Peak Hour</td><td>18.6%</td></tr>
<tr><td>• PM Peak Hour</td><td>19.8%</td></tr>
</table></td><td></td><td></td></tr>
<tr><td>Transportation continued</td><td>Less than Significant</td><td>TRA-2
On-Site and Site-Adjacent Improvements
The recommendations listed here are the minimum improvements required to accommodate site access and maintain acceptable peak hour operation for the Project.</td><td>Project applicant,

Project engineer,

City Engineer</td><td>The City Engineer shall approve project improvement plans prior to the issuance of grading permits. Project improvements and fair share contributions shall be completed</td></tr>
</table>

Resource Topic	Level of Impact After Mitigation	Mitigation Measures	Responsible Party/ Monitoring Party	Implementation Timing
		Installation of these improvements will ensure that impacts related to traffic entering and exiting the Project will be reduced to less than significant levels. **#3 – Calhoun Street / Avenue 49** • Provide a separate northbound left turn lane. • Modify southbound approach striping to provide a separate southbound right turn lane. • Provide a shared eastbound left/thru/right lane. **#6 – Calhoun Street / Access 1** • Provide a separate northbound left turn lane. • Provide a shared eastbound left/thru/right turn lane. **#7 – Avenue 49 / Access 2** • Provide a shared northbound left/right turn lane. • Provide a shared eastbound thru/right turn lane. • Provide a shared westbound left/thru lane.		prior to the occupancy of any portion of the Project.
Tribal Cultural Resources	Less than Significant	**See CUL-1** <u>Tribal Resource Discovery and Documentation</u> A Cultural Resources Monitoring and Discovery Plan (Plan) will be prepared by the Project archaeologist in collaboration with ACBCI and provided to the City and ACBCI prior to the issuance of grading permits for the property.	Project Archaeologist, City Planning Department, City Engineer	The Project archaeologist shall provide the City with a copy of the Cultural Resources Monitoring and Discovery Plan prior to the issuance of any ground disturbing permit on the site. The Plan will be prepared in collaboration with ACBCI. Within 30 days following the completion of monitoring activities, the Project

Resource Topic	Level of Impact After Mitigation	Mitigation Measures	Responsible Party/ Monitoring Party	Implementation Timing
		The Plan will require that a qualified archaeological and Tribal monitor from ACBCI be present during all ground-disturbing activities within the Project site. Monitoring requirements and locations should be defined along with resource discovery protocols and guidance for reducing or terminating site monitoring in the case that no artifacts are identified, or that documentation finds that ground disturbance will occur in soils with more potential for discovering artifacts. Should an artifact be discovered, all construction activity within 100 feet of the discovery shall stop until the qualified archaeologist can evaluate the significance of the artifact and make a determination whether further study is necessary. Should the artifact be found to be significant under CEQA, an archaeological treatment plan and further data recovery may be required. If the qualified archaeologist and ACBCI monitor determine that on-site reburial is the appropriate measure to be taken for the artifact(s) discovered on the Project site, they will recommend a location to the City and project proponent. That location will be described and recorded as an easement in favor of ACBCI on the property in perpetuity prior to the completion of the first house on the property. This is confidential information, and the exact nature of this area will not be called out on the grading plans.		archaeologist shall provide the City with a report of monitoring activities.

Appendix A
Calhoun Street Housing Development CalEEMod Report

Calhoun Street Housing Development Detailed Report

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3.12. Paving (2028) - Mitigated

3.13. Architectural Coating (2028) - Unmitigated

3.14. Architectural Coating (2028) - Mitigated

3.15. Architectural Coating (2029) - Unmitigated

3.16. Architectural Coating (2029) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated
5.16. Stationary Sources
5.16.1. Emergency Generators and Fire Pumps
5.16.2. Process Boilers
5.17. User Defined
5.18. Vegetation
5.18.1. Land Use Change
5.18.1.1. Unmitigated
5.18.1.2. Mitigated
5.18.1. Biomass Cover Type
5.18.1.1. Unmitigated
5.18.1.2. Mitigated
5.18.2. Sequestration
5.18.2.1. Unmitigated
5.18.2.2. Mitigated
6. Climate Risk Detailed Report
6.1. Climate Risk Summary
6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Calhoun Street Housing Development
Construction Start Date	1/6/2026
Operational Year	2029
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.00
Precipitation (days)	7.60
Location	33.691743355835385, -116.21030862160973
County	Riverside-Salton Sea
City	Coachella
Air District	South Coast AQMD
Air Basin	Salton Sea
TAZ	5695
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas
App Version	2022.1.1.30

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	257	Dwelling Unit	22.4	976	0.00	0.00	1,058	—

City Park	5.95	Acre	5.95	0.00	5.95	0.00	—	—
User Defined Parking	9.12	User Defined Unit	9.12	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Energy	E-2	Require Energy Efficient Appliances
Water	W-5	Design Water-Efficient Landscapes

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	71.5	71.4	28.8	29.7	0.07	1.15	4.22	5.37	1.06	1.58	2.64	—	8,233	8,233	0.29	0.27	6.54	8,326
Mit.	71.5	71.4	28.8	29.7	0.07	1.15	4.22	5.37	1.06	1.58	2.64	—	8,233	8,233	0.29	0.27	6.54	8,326
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	71.4	71.4	29.3	29.7	0.07	1.24	7.90	9.15	1.14	4.00	5.14	—	8,191	8,191	0.28	0.27	0.17	8,280
Mit.	71.4	71.4	29.3	29.7	0.07	1.24	7.90	9.15	1.14	4.00	5.14	—	8,191	8,191	0.28	0.27	0.17	8,280

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.1	14.0	14.0	16.4	0.03	0.55	2.33	2.88	0.50	0.92	1.42	—	4,078	4,078	0.13	0.13	1.84	4,122
Mit.	14.1	14.0	14.0	16.4	0.03	0.55	2.33	2.88	0.50	0.92	1.42	—	4,078	4,078	0.13	0.13	1.84	4,122
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.57	2.55	2.55	3.00	0.01	0.10	0.43	0.52	0.09	0.17	0.26	—	675	675	0.02	0.02	0.30	682
Mit.	2.57	2.55	2.55	3.00	0.01	0.10	0.43	0.52	0.09	0.17	0.26	—	675	675	0.02	0.02	0.30	682
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	Yes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mit.	—	Yes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.77	3.16	28.8	29.7	0.07	1.15	4.22	5.37	1.06	1.58	2.64	—	8,233	8,233	0.29	0.27	6.54	8,326
2027	1.72	1.46	10.6	20.9	0.03	0.35	1.44	1.79	0.32	0.35	0.67	—	4,550	4,550	0.12	0.17	5.95	4,611
2028	71.5	71.4	10.1	20.4	0.03	0.31	1.44	1.76	0.29	0.35	0.64	—	4,506	4,506	0.12	0.17	5.40	4,566
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.82	3.21	29.3	29.7	0.07	1.24	7.90	9.15	1.14	4.00	5.14	—	8,191	8,191	0.28	0.27	0.17	8,280
2027	1.65	1.39	10.7	17.6	0.03	0.35	1.44	1.79	0.32	0.35	0.67	—	4,355	4,355	0.12	0.17	0.15	4,410
2028	71.4	71.4	10.2	17.3	0.03	0.31	1.44	1.76	0.29	0.35	0.64	—	4,315	4,315	0.12	0.17	0.14	4,370
2029	71.4	71.4	0.87	1.87	< 0.005	0.01	0.24	0.25	0.01	0.06	0.07	—	350	350	0.01	0.01	0.02	353
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.90	1.60	14.0	16.4	0.03	0.55	2.33	2.88	0.50	0.92	1.42	—	4,078	4,078	0.13	0.13	1.30	4,122
2027	1.19	1.01	7.62	13.4	0.02	0.25	1.03	1.28	0.23	0.25	0.48	—	3,166	3,166	0.09	0.12	1.84	3,207
2028	14.1	14.0	4.99	8.87	0.01	0.16	0.61	0.77	0.15	0.15	0.29	—	1,979	1,979	0.06	0.07	0.98	2,003
2029	3.35	3.35	0.04	0.10	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.01	17.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.35	0.29	2.55	3.00	0.01	0.10	0.43	0.52	0.09	0.17	0.26	—	675	675	0.02	0.02	0.21	682
2027	0.22	0.18	1.39	2.44	< 0.005	0.05	0.19	0.23	0.04	0.05	0.09	—	524	524	0.01	0.02	0.30	531
2028	2.57	2.55	0.91	1.62	< 0.005	0.03	0.11	0.14	0.03	0.03	0.05	—	328	328	0.01	0.01	0.16	332
2029	0.61	0.61	0.01	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.84	2.84	< 0.005	< 0.005	< 0.005	2.86

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.77	3.16	28.8	29.7	0.07	1.15	4.22	5.37	1.06	1.58	2.64	—	8,233	8,233	0.29	0.27	6.54	8,326
2027	1.72	1.46	10.6	20.9	0.03	0.35	1.44	1.79	0.32	0.35	0.67	—	4,550	4,550	0.12	0.17	5.95	4,611
2028	71.5	71.4	10.1	20.4	0.03	0.31	1.44	1.76	0.29	0.35	0.64	—	4,506	4,506	0.12	0.17	5.40	4,566
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.82	3.21	29.3	29.7	0.07	1.24	7.90	9.15	1.14	4.00	5.14	—	8,191	8,191	0.28	0.27	0.17	8,280
2027	1.65	1.39	10.7	17.6	0.03	0.35	1.44	1.79	0.32	0.35	0.67	—	4,355	4,355	0.12	0.17	0.15	4,410
2028	71.4	71.4	10.2	17.3	0.03	0.31	1.44	1.76	0.29	0.35	0.64	—	4,315	4,315	0.12	0.17	0.14	4,370
2029	71.4	71.4	0.87	1.87	< 0.005	0.01	0.24	0.25	0.01	0.06	0.07	—	350	350	0.01	0.01	0.02	353
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.90	1.60	14.0	16.4	0.03	0.55	2.33	2.88	0.50	0.92	1.42	—	4,078	4,078	0.13	0.13	1.30	4,122
2027	1.19	1.01	7.62	13.4	0.02	0.25	1.03	1.28	0.23	0.25	0.48	—	3,166	3,166	0.09	0.12	1.84	3,207
2028	14.1	14.0	4.99	8.87	0.01	0.16	0.61	0.77	0.15	0.15	0.29	—	1,979	1,979	0.06	0.07	0.98	2,003
2029	3.35	3.35	0.04	0.10	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.01	17.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.35	0.29	2.55	3.00	0.01	0.10	0.43	0.52	0.09	0.17	0.26	—	675	675	0.02	0.02	0.21	682
2027	0.22	0.18	1.39	2.44	< 0.005	0.05	0.19	0.23	0.04	0.05	0.09	—	524	524	0.01	0.02	0.30	531
2028	2.57	2.55	0.91	1.62	< 0.005	0.03	0.11	0.14	0.03	0.03	0.05	—	328	328	0.01	0.01	0.16	332
2029	0.61	0.61	0.01	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.84	2.84	< 0.005	< 0.005	< 0.005	2.86

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	33.0	32.4	4.64	67.0	0.10	0.23	9.85	10.1	0.23	2.48	2.71	632	14,599	15,232	60.4	0.39	25.9	16,882
Mit.	33.0	32.4	4.64	67.0	0.10	0.23	9.85	10.1	0.23	2.48	2.71	632	14,520	15,152	60.4	0.39	25.9	16,802
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	1%	1%	< 0.5%	—	—	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.1	29.5	4.70	40.5	0.09	0.22	9.85	10.1	0.22	2.48	2.70	632	13,251	13,883	60.4	0.40	7.48	15,520
Mit.	30.1	29.5	4.70	40.5	0.09	0.22	9.85	10.1	0.22	2.48	2.70	632	13,172	13,804	60.4	0.40	7.48	15,440
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	1%	1%	< 0.5%	—	—	1%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	31.1	30.6	4.62	50.5	0.09	0.23	9.80	10.0	0.22	2.47	2.69	632	13,785	14,417	60.4	0.39	15.1	16,057
Mit.	31.1	30.6	4.62	50.5	0.09	0.23	9.80	10.0	0.22	2.47	2.69	632	13,706	14,338	60.4	0.39	15.1	15,978
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	1%	1%	< 0.5%	—	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.68	5.58	0.84	9.21	0.02	0.04	1.79	1.83	0.04	0.45	0.49	105	2,282	2,387	10.00	0.06	2.51	2,658
Mit.	5.68	5.58	0.84	9.21	0.02	0.04	1.79	1.83	0.04	0.45	0.49	105	2,269	2,374	10.00	0.06	2.51	2,645
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	1%	1%	< 0.5%	< 0.5%	—	< 0.5%
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—

Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	55.0	55.0	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,000
Unmit.	—	Yes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	No
Mit.	—	Yes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	No

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.80	8.38	2.20	51.4	0.08	0.04	9.85	9.89	0.03	2.48	2.52	—	8,494	8,494	0.46	0.27	18.9	8,604
Area	23.9	23.8	0.14	14.6	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	39.0	39.0	< 0.005	< 0.005	—	39.1
Energy	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	5,931	5,931	0.48	0.03	—	5,953
Water	—	—	—	—	—	—	—	—	—	—	—	38.8	135	174	0.14	0.09	—	203
Waste	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,076
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Total	33.0	32.4	4.64	67.0	0.10	0.23	9.85	10.1	0.23	2.48	2.71	632	14,599	15,232	60.4	0.39	25.9	16,882

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.25	6.82	2.39	39.5	0.07	0.04	9.85	9.89	0.03	2.48	2.52	—	7,184	7,184	0.50	0.28	0.49	7,281
Area	22.6	22.6	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	5,931	5,931	0.48	0.03	—	5,953
Water	—	—	—	—	—	—	—	—	—	—	—	38.8	135	174	0.14	0.09	—	203
Waste	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,076
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Total	30.1	29.5	4.70	40.5	0.09	0.22	9.85	10.1	0.22	2.48	2.70	632	13,251	13,883	60.4	0.40	7.48	15,520
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.63	7.22	2.25	42.3	0.08	0.04	9.80	9.84	0.03	2.47	2.50	—	7,700	7,700	0.47	0.27	8.15	7,800
Area	23.2	23.2	0.07	7.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	19.2	19.2	< 0.005	< 0.005	—	19.3
Energy	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	5,931	5,931	0.48	0.03	—	5,953
Water	—	—	—	—	—	—	—	—	—	—	—	38.8	135	174	0.14	0.09	—	203
Waste	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,076
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Total	31.1	30.6	4.62	50.5	0.09	0.23	9.80	10.0	0.22	2.47	2.69	632	13,785	14,417	60.4	0.39	15.1	16,057
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.39	1.32	0.41	7.72	0.01	0.01	1.79	1.80	0.01	0.45	0.46	—	1,275	1,275	0.08	0.04	1.35	1,291
Area	4.24	4.23	0.01	1.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.18	3.18	< 0.005	< 0.005	—	3.19
Energy	0.05	0.02	0.42	0.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	982	982	0.08	0.01	—	986
Water	—	—	—	—	—	—	—	—	—	—	—	6.42	22.4	28.8	0.02	0.01	—	33.6
Waste	—	—	—	—	—	—	—	—	—	—	—	98.2	0.00	98.2	9.82	0.00	—	344
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.16	1.16
Total	5.68	5.58	0.84	9.21	0.02	0.04	1.79	1.83	0.04	0.45	0.49	105	2,282	2,387	10.00	0.06	2.51	2,658

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.80	8.38	2.20	51.4	0.08	0.04	9.85	9.89	0.03	2.48	2.52	—	8,494	8,494	0.46	0.27	18.9	8,604
Area	23.9	23.8	0.14	14.6	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	39.0	39.0	< 0.005	< 0.005	—	39.1
Energy	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	5,852	5,852	0.47	0.03	—	5,873
Water	—	—	—	—	—	—	—	—	—	—	—	38.8	135	174	0.14	0.09	—	203
Waste	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,076
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Total	33.0	32.4	4.64	67.0	0.10	0.23	9.85	10.1	0.23	2.48	2.71	632	14,520	15,152	60.4	0.39	25.9	16,802
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.25	6.82	2.39	39.5	0.07	0.04	9.85	9.89	0.03	2.48	2.52	—	7,184	7,184	0.50	0.28	0.49	7,281
Area	22.6	22.6	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	5,852	5,852	0.47	0.03	—	5,873
Water	—	—	—	—	—	—	—	—	—	—	—	38.8	135	174	0.14	0.09	—	203
Waste	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,076
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Total	30.1	29.5	4.70	40.5	0.09	0.22	9.85	10.1	0.22	2.48	2.70	632	13,172	13,804	60.4	0.40	7.48	15,440
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.63	7.22	2.25	42.3	0.08	0.04	9.80	9.84	0.03	2.47	2.50	—	7,700	7,700	0.47	0.27	8.15	7,800
Area	23.2	23.2	0.07	7.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	19.2	19.2	< 0.005	< 0.005	—	19.3
Energy	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	5,852	5,852	0.47	0.03	—	5,873
Water	—	—	—	—	—	—	—	—	—	—	—	38.8	135	174	0.14	0.09	—	203
Waste	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,076
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99

Total	31.1	30.6	4.62	50.5	0.09	0.23	9.80	10.0	0.22	2.47	2.69	632	13,706	14,338	60.4	0.39	15.1	15,978
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.39	1.32	0.41	7.72	0.01	0.01	1.79	1.80	0.01	0.45	0.46	—	1,275	1,275	0.08	0.04	1.35	1,291
Area	4.24	4.23	0.01	1.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.18	3.18	< 0.005	< 0.005	—	3.19
Energy	0.05	0.02	0.42	0.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	969	969	0.08	0.01	—	972
Water	—	—	—	—	—	—	—	—	—	—	—	6.42	22.4	28.8	0.02	0.01	—	33.6
Waste	—	—	—	—	—	—	—	—	—	—	—	98.2	0.00	98.2	9.82	0.00	—	344
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.16	1.16
Total	5.68	5.58	0.84	9.21	0.02	0.04	1.79	1.83	0.04	0.45	0.49	105	2,269	2,374	10.00	0.06	2.51	2,645

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.74	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	2.80	2.76	< 0.005	0.12	—	0.12	0.11	—	0.11	—	508	508	0.02	< 0.005	—	510
Dust From Material Movement	—	—	—	—	—	—	0.74	0.74	—	0.38	0.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.51	0.50	< 0.005	0.02	—	0.02	0.02	—	0.02	—	84.1	84.1	< 0.005	< 0.005	—	84.4
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.09	0.88	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	217	217	< 0.005	0.01	0.02	219
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.1	31.1	< 0.005	< 0.005	< 0.005	32.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	Page 806	0.01	0.01	—	22.2	22.2	< 0.005	< 0.005	0.03	22.5

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.98	2.98	< 0.005	< 0.005	< 0.005	3.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	3.72
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.49	0.49	< 0.005	< 0.005	< 0.005	0.51
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.74	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	2.80	2.76	< 0.005	0.12	—	0.12	0.11	—	0.11	—	508	508	0.02	< 0.005	—	510

Dust From Material Movement	—	—	—	—	—	—	0.74	0.74	—	0.38	0.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.51	0.50	< 0.005	0.02	—	0.02	0.02	—	0.02	—	84.1	84.1	< 0.005	< 0.005	—	84.4
Dust From Material Movement	—	—	—	—	—	—	0.13	0.13	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.09	0.88	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	217	217	< 0.005	0.01	0.02	219
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.1	31.1	< 0.005	< 0.005	< 0.005	32.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.2	22.2	< 0.005	< 0.005	0.03	22.5
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.98	2.98	< 0.005	< 0.005	< 0.005	3.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	0.01	3.72

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.49	0.49	< 0.005	< 0.005	< 0.005	0.51
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.99	0.83	7.46	7.55	0.02	0.31	—	0.31	0.28	—	0.28	—	1,808	1,808	0.07	0.01	—	1,814
Dust From Material Movement	—	—	—	—	—	—	0.98	0.98	—	0.39	0.39	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.18	0.15	1.36	1.38	< 0.005	0.06	—	0.06	0.05	—	0.05	—	299	299	0.01	< 0.005	—	300
Dust From Material Movement	—	—	—	—	—	—	0.18	0.18	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.10	1.77	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	291	291	0.01	0.01	0.93	295
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.1	31.1	< 0.005	< 0.005	0.08	32.4
Hauling	0.04	0.03	1.46	0.34	0.01	0.03	0.36	0.38	0.03	0.09	0.12	—	1,312	1,312	0.01	0.21	2.73	1,377
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.10	1.00	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	248	248	< 0.005	0.01	0.02	251
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.1	31.1	< 0.005	< 0.005	< 0.005	32.4
Hauling	0.04	0.03	1.56	0.35	0.01	0.03	0.36	0.38	0.03	0.09	0.12	—	1,314	1,314	0.01	0.21	0.07	1,375
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	72.5	72.5	< 0.005	< 0.005	0.11	73.4

Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.52	8.52	< 0.005	< 0.005	0.01	8.88
Hauling	0.01	0.01	0.42	0.09	< 0.005	0.01	0.10	0.10	0.01	0.02	0.03	—	360	360	< 0.005	0.06	0.32	377
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.47
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	59.6	59.6	< 0.005	0.01	0.05	62.4

3.4. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.99	0.83	7.46	7.55	0.02	0.31	—	0.31	0.28	—	0.28	—	1,808	1,808	0.07	0.01	—	1,814
Dust From Material Movement	—	—	—	—	—	—	0.98	0.98	—	0.39	0.39	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.36	1.38	< 0.005	0.06	—	0.06	0.05	—	0.05	—	299	299	0.01	< 0.005	—	300
Dust From Material Movement	—	—	—	—	—	—	0.18	0.18	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.10	1.77	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	291	291	0.01	0.01	0.93	295
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.1	31.1	< 0.005	< 0.005	0.08	32.4
Hauling	0.04	0.03	1.46	0.34	0.01	0.03	0.36	0.38	0.00	0.09	0.12	—	1,312	1,312	0.01	0.21	2.73	1,377

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.10	1.00	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	248	248	< 0.005	0.01	0.02	251
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.1	31.1	< 0.005	< 0.005	< 0.005	32.4
Hauling	0.04	0.03	1.56	0.35	0.01	0.03	0.36	0.38	0.03	0.09	0.12	—	1,314	1,314	0.01	0.21	0.07	1,375
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	72.5	72.5	< 0.005	< 0.005	0.11	73.4
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.52	8.52	< 0.005	< 0.005	0.01	8.88
Hauling	0.01	0.01	0.42	0.09	< 0.005	0.01	0.10	0.10	0.01	0.02	0.03	—	360	360	< 0.005	0.06	0.32	377
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.41	1.41	< 0.005	< 0.005	< 0.005	1.47
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	59.6	59.6	< 0.005	0.01	0.05	62.4

3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.31	2.85	3.76	0.01	0.11	—	0.11	0.10	—	0.10	—	694	694	0.03	0.01	—	697
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.52	0.69	< 0.005	0.02	—	0.02	0.02	—	0.02	—	115	115	< 0.005	< 0.005	—	115
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.46	0.42	0.44	8.20	0.00	0.00	1.21	1.21	0.00	0.28	0.28	—	1,345	1,345	0.05	0.05	4.30	1,364
Vendor	0.04	0.03	0.88	0.38	0.01	0.01	0.24	0.25	0.01	0.06	0.08	—	854	854	0.01	0.12	2.24	891
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.35	0.48	4.65	0.00	0.00	1.21	1.21	0.00	0.28	0.28	—	1,145	1,145	0.02	0.05	0.11	1,159
Vendor	0.04	0.03	0.95	0.39	0.01	0.01	0.24	0.25	0.01	0.06	0.08	—	854	854	0.01	0.12	0.06	890
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.12	0.11	0.13	1.68	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	354	354	< 0.005	0.01	0.54	359
Vendor	0.01	0.01	0.27	0.11	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	247	247	< 0.005	0.03	0.28	258
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.31	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.7	58.7	< 0.005	< 0.005	0.09	59.4
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.0	41.0	< 0.005	0.01	0.05	42.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.37	0.31	2.85	3.76	0.01	0.11	—	0.11	0.10	—	0.10	—	694	694	0.03	0.01	—	697
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.52	0.69	< 0.005	0.02	—	0.02	0.02	—	0.02	—	115	115	< 0.005	< 0.005	—	115
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.46	0.42	0.44	8.20	0.00	0.00	1.21	1.21	0.00	0.28	0.28	—	1,345	1,345	0.05	0.05	4.30	1,364
Vendor	0.04	0.03	0.88	0.38	0.01	0.01	0.24	0.25	0.01	0.06	0.08	—	854	854	0.01	0.12	2.24	891
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.35	0.48	4.65	0.00	0.00	1.21	1.21	0.00	0.28	0.28	—	1,145	1,145	0.02	0.05	0.11	1,159
Vendor	0.04	0.03	0.95	0.39	0.01	0.01	0.24	0.25	0.01	0.06	0.08	—	854	854	0.01	0.12	0.06	890
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.13	1.68	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	354	354	< 0.005	0.01	0.54	359
Vendor	0.01	0.01	0.27	0.11	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	247	247	< 0.005	0.03	0.28	258
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.31	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.7	58.7	< 0.005	< 0.005	0.09	59.4
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01		< 0.005	< 0.005	—	41.0	41.0	< 0.005	0.01	0.05	42.7

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.71	9.24	0.02	0.24	—	0.24	0.22	—	0.22	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.16	0.13	1.22	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	283	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.40	0.40	7.63	0.00	0.00	1.21	1.21	0.00	0.28	0.28	—	1,318	1,318	0.01	0.04	3.89	1,336
Vendor	0.04	0.03	0.84	0.37	0.01	0.01	0.24	0.25	0.01	0.06	0.08	—	835	835	0.01	0.11	2.07	870
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.33	0.44	4.33	0.00	0.00	1.21	1.21	0.00	0.28	0.28	—	1,123	1,123	0.02	0.04	0.10	1,136
Vendor	0.04	0.03	0.90	0.37	0.01	0.01	0.24	0.25	0.01	0.06	0.08	—	836	836	0.01	0.11	0.05	869
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.25	0.28	3.87	0.00	0.00	0.86	0.86	0.00	0.20	0.20	—	857	857	0.01	0.03	1.20	868
Vendor	0.03	0.02	0.63	0.26	< 0.005	0.01	0.17	0.18	0.01	0.05	0.06	—	596	596	0.01	0.08	0.64	621
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.71	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	142	142	< 0.005	0.01	0.20	144
Vendor	0.01	< 0.005	0.11	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.7	98.7	< 0.005	0.01	0.11	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.71	9.24	0.02	0.24	—	0.24	0.22	—	0.22	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	283	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.40	0.40	7.63	0.00	0.00	1.21	1.21	0.00	0.28	0.28	—	1,318	1,318	0.01	0.04	3.89	1,336
Vendor	0.04	0.03	0.84	0.37	0.01	0.01	0.24	0.25	0.01	0.06	0.08	—	835	835	0.01	0.11	2.07	870
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.33	0.44	4.33	0.00	0.00	1.21	1.21	0.00	0.28	0.28	—	1,123	1,123	0.02	0.04	0.10	1,136
Vendor	0.04	0.03	0.90	0.37	0.01	0.01	0.24	0.25	0.01	0.06	0.08	—	836	836	0.01	0.11	0.05	869
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.25	0.28	3.87	0.00	0.00	0.86	0.86	0.00	0.20	0.20	—	857	857	0.01	0.03	1.20	868
Vendor	0.03	0.02	0.63	0.26	< 0.005	0.01	0.17	0.18	0.01	0.05	0.06	—	596	596	0.01	0.08	0.64	621
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.71	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	142	142	< 0.005	0.01	0.20	144
Vendor	0.01	< 0.005	0.11	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.7	98.7	< 0.005	0.01	0.11	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	0.36	3.27	4.73	0.01	0.11	—	0.11	0.10	—	0.10	—	877	877	0.04	0.01	—	880
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.60	0.86	< 0.005	0.02	—	0.02	0.02	—	0.02	—	145	145	0.01	< 0.005	—	146
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43	0.38	0.36	7.13	0.00	0.00	1.21	1.21	0.00	0.28	0.28	—	1,293	1,293	0.01	0.04	3.50	1,310
Vendor	0.04	0.03	0.80	0.35	0.01	0.01	0.24	0.25	0.01	0.06	0.08	—	815	815	0.01	0.11	1.91	850
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.32	0.40	4.01	0.00	0.00	1.21	1.21	0.00	0.28	0.28	—	1,102	1,102	0.02	0.04	0.09	1,116
Vendor	0.03	0.02	0.87	0.36	0.01	0.01	0.24	0.25	0.01	0.06	0.08	—	816	816	0.01	0.11	0.05	849
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.12	0.13	1.84	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	431	431	0.01	0.02	0.55	436
Vendor	0.01	0.01	0.31	0.13	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	298	298	< 0.005	0.04	0.30	311
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.34	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	71.3	71.3	< 0.005	< 0.005	0.09	72.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	49.4	49.4	< 0.005	0.01	0.05	51.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.43	0.36	3.27	4.73	0.01	0.11	—	0.11	0.10	—	0.10	—	877	877	0.04	0.01	—	880
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.08	0.07	0.60	0.86	< 0.005	0.02	—	0.02	0.02	—	0.02	—	145	145	0.01	< 0.005	—	146
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43	0.38	0.36	7.13	0.00	0.00	1.21	1.21	0.00	0.28	0.28	—	1,293	1,293	0.01	0.04	3.50	1,310
Vendor	0.04	0.03	0.80	0.35	0.01	0.01	0.24	0.25	0.01	0.06	0.08	—	815	815	0.01	0.11	1.91	850
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.32	0.40	4.01	0.00	0.00	1.21	1.21	0.00	0.28	0.28	—	1,102	1,102	0.02	0.04	0.09	1,116
Vendor	0.03	0.02	0.87	0.36	0.01	0.01	0.24	0.25	0.01	0.06	0.08	—	816	816	0.01	0.11	0.05	849
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.12	0.12	0.13	1.84	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	431	431	0.01	0.02	0.55	436
Vendor	0.01	0.01	0.31	0.13	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	298	298	< 0.005	0.04	0.30	311
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.34	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	71.3	71.3	< 0.005	< 0.005	0.09	72.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	49.4	49.4	< 0.005	0.01	0.05	51.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.40	0.40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.09	1.63	< 0.005	0.04	—	0.04	0.04	—	0.04	—	248	248	0.01	< 0.005	—	249
Paving	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.20	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.1	41.1	< 0.005	< 0.005	—	41.3
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	1.16	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	210	210	< 0.005	0.01	0.57	212
Vendor	0.01	< 0.005	0.15	0.06	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	148	148	< 0.005	0.02	0.35	155
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	31.4	31.4	< 0.005	< 0.005	0.04	31.8
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.4	24.4	< 0.005	< 0.005	0.02	25.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.20	5.20	< 0.005	< 0.005	0.01	5.26
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.04	4.04	< 0.005	< 0.005	< 0.005	4.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/d[illegible]y, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.40	0.40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.09	1.63	< 0.005	0.04	—	0.04	0.04	—	0.04	—	248	248	0.01	< 0.005	—	249
Paving	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.20	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.1	41.1	< 0.005	< 0.005	—	41.3
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	1.16	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	210	210	< 0.005	0.01	0.57	212
Vendor	0.01	< 0.005	0.15	0.06	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	148	148	< 0.005	0.02	0.35	155
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	31.4	31.4	< 0.005	< 0.005	0.04	31.8
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.4	24.4	< 0.005	< 0.005	0.02	25.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.20	5.20	< 0.005	< 0.005	0.01	5.26
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.04	4.04	< 0.005	< 0.005	< 0.005	4.21
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134

Architectural Coating	71.2	71.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	71.2	71.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.8	24.8	< 0.005	< 0.005	—	24.9
Architectural Coatings	13.2	13.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.11	4.11	< 0.005	< 0.005	—	4.12

Architectural Coatings	2.42	2.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	1.43	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	259	259	< 0.005	0.01	0.70	262
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.08	0.80	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	220	220	< 0.005	0.01	0.02	223
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	43.8	43.8	< 0.005	< 0.005	0.06	44.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.25	7.25	< 0.005	< 0.005	0.01	7.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/d Page 829 y, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	71.2	71.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	71.2	71.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.8	24.8	< 0.005	< 0.005	—	24.9
Architectural Coatings	13.2	13.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.11	4.11	< 0.005	< 0.005	—	4.12
Architectural Coatings	2.42	2.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	1.43	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	259	259	< 0.005	0.01	0.70	262
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.08	0.80	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	220	220	< 0.005	0.01	0.02	223
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	43.8	43.8	< 0.005	< 0.005	0.06	44.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	< 0.005	< 0.005	—	7.25	7.25	< 0.005	< 0.005	0.01	7.34	

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.79	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	71.2	71.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.27	6.27	< 0.005	< 0.005	—	6.29
Architectural Coatings	3.35	3.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.04	1.04	< 0.005	< 0.005	—	1.04
Architectural Coatings	0.61	0.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.07	0.76	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	217	217	< 0.005	0.01	0.02	219
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.9	10.9	< 0.005	< 0.005	0.01	11.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.80	1.80	< 0.005	< 0.005	< 0.005	1.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Architectural Coating (2029) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.79	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	71.2	71.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.27	6.27	< 0.005	< 0.005	—	6.29
Architectural Coatings	3.35	3.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.04	1.04	< 0.005	< 0.005	—	1.04

Architectural	0.61	0.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.07	0.76	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	217	217	< 0.005	0.01	0.02	219
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.9	10.9	< 0.005	< 0.005	0.01	11.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.80	1.80	< 0.005	< 0.005	< 0.005	1.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	8.55	8.14	2.14	50.1	0.08	0.04	9.63	9.67	0.03	2.43	2.46	—	8,303	8,303	0.45	0.26	18.5	8,410
City Park	0.25	0.24	0.06	1.23	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	—	191	191	0.01	0.01	0.42	194
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	8.80	8.38	2.20	51.4	0.08	0.04	9.85	9.89	0.03	2.48	2.52	—	8,494	8,494	0.46	0.27	18.9	8,604
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	7.04	6.63	2.33	38.5	0.07	0.04	9.63	9.67	0.03	2.43	2.46	—	7,023	7,023	0.48	0.27	0.48	7,117
City Park	0.21	0.20	0.06	0.98	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	—	162	162	0.01	0.01	0.01	164
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	7.25	6.82	2.39	39.5	0.07	0.04	9.85	9.89	0.03	2.48	2.52	—	7,184	7,184	0.50	0.28	0.49	7,281
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.35	1.28	0.40	7.53	0.01	0.01	1.75	1.76	0.01	0.44	0.45	—	1,246	1,246	0.08	0.04	1.32	1,262
City Park	0.04	0.04	0.01	0.19	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	28.7	28.7	< 0.005	< 0.005	0.03	29.1
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.39	1.32	0.41	7.72	0.01	0.01	1.79	1.80	0.01	0.45	0.46	—	1,275	1,275	0.08	0.04	1.35	1,291

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	8.55	8.14	2.14	50.1	0.08	0.04	9.63	9.67	0.03	2.43	2.46	—	8,303	8,303	0.45	0.26	18.5	8,410
City Park	0.25	0.24	0.06	1.23	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	—	191	191	0.01	0.01	0.42	194
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	8.80	8.38	2.20	51.4	0.08	0.04	9.85	9.89	0.03	2.48	2.52	—	8,494	8,494	0.46	0.27	18.9	8,604
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	7.04	6.63	2.33	38.5	0.07	0.04	9.63	9.67	0.03	2.43	2.46	—	7,023	7,023	0.48	0.27	0.48	7,117
City Park	0.21	0.20	0.06	0.98	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	—	162	162	0.01	0.01	0.01	164
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	7.25	6.82	2.39	39.5	0.07	0.04	9.85	9.89	0.03	2.48	2.52	—	7,184	7,184	0.50	0.28	0.49	7,281
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.35	1.28	0.40	7.53	0.01	0.01	1.75	1.76	0.01	0.44	0.45	—	1,246	1,246	0.08	0.04	1.32	1,262
City Park	0.04	0.04	0.01	0.19	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	28.7	28.7	< 0.005	< 0.005	0.03	29.1

User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.39	1.32	0.41	7.72	0.01	0.01	1.79	1.80	0.01	0.45	0.46	—	1,275	1,275	0.08	0.04	1.35	1,291

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	3,002	3,002	0.22	0.03	—	3,015
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Parking	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	3,002	3,002	0.22	0.03	—	3,015
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	3,002	3,002	0.22	0.03	—	3,015
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Parking	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	3,002	3,002	0.22	0.03	—	3,015

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	497	497	0.04	< 0.005	—	499
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Parking	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	497	497	0.04	< 0.005	—	499

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	2,923	2,923	0.21	0.03	—	2,936
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Parking	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,923	2,923	0.21	0.03	—	2,936
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	2,923	2,923	0.21	0.03	—	2,936
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

User Defined Parking	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,923	2,923	0.21	0.03	—	2,936
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	484	484	0.03	< 0.005	—	486
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Parking	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	484	484	0.03	< 0.005	—	486

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	2,929	2,929	0.26	0.01	—	2,937
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	2,929	2,929	0.26	0.01	—	2,937
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	2,929	2,929	0.26	0.01	—	2,937
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	2,929	2,929	0.26	0.01	—	2,937
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.05	0.02	0.42	0.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	485	485	0.04	< 0.005	—	486
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.42	0.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	485	485	0.04	< 0.005	—	486

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	2,929	2,929	0.26	0.01	—	2,937
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	2,929	2,929	0.26	0.01	—	2,937
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	2,929	2,929	0.26	0.01	—	2,937
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.27	0.14	2.31	0.98	0.01	0.19	—	0.19	0.19	—	0.19	—	2,929	2,929	0.26	0.01	—	2,937
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.05	0.02	0.42	0.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	485	485	0.04	< 0.005	—	486
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.42	0.18	< 0.005	0.03	—	0.03	0.03	—	0.03	—	485	485	0.04	< 0.005	—	486

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Consumer	20.9	20.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.66	1.66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.34	1.26	0.14	14.6	< 0.005	0.01	—	0.01	0.01	—	0.01	—	39.0	39.0	< 0.005	< 0.005	—	39.1
Total	23.9	23.8	0.14	14.6	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	39.0	39.0	< 0.005	< 0.005	—	39.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	20.9	20.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.66	1.66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	22.6	22.6	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	3.82	3.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.30	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.12	0.11	0.01	1.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.18	3.18	< 0.005	< 0.005	—	3.19
Total	4.24	4.23	0.01	1.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.18	3.18	< 0.005	< 0.005	—	3.19

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	20.9	20.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.66	1.66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.34	1.26	0.14	14.6	< 0.005	0.01	—	0.01	0.01	—	0.01	—	39.0	39.0	< 0.005	< 0.005	—	39.1
Total	23.9	23.8	0.14	14.6	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	39.0	39.0	< 0.005	< 0.005	—	39.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	20.9	20.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coating	1.66	1.66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	22.6	22.6	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	3.82	3.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.30	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.12	0.11	0.01	1.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.18	3.18	< 0.005	< 0.005	—	3.19
Total	4.24	4.23	0.01	1.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.18	3.18	< 0.005	< 0.005	—	3.19

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	38.8	113	152	0.14	0.09	—	181
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	22.1	22.1	< 0.005	< 0.005	—	22.2
Total	—	—	—	—	—	—	—	—	—	—	—	38.8	135	174	0.14	0.09	—	203

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	38.8	113	152	0.14	0.09	—	181
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	22.1	22.1	< 0.005	< 0.005	—	22.2
Total	—	—	—	—	—	—	—	—	—	—	—	38.8	135	174	0.14	0.09	—	203
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	6.42	18.7	25.1	0.02	0.01	—	29.9
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	3.66	3.66	< 0.005	< 0.005	—	3.68
Total	—	—	—	—	—	—	—	—	—	—	—	6.42	22.4	28.8	0.02	0.01	—	33.6

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	38.8	113	152	0.14	0.09	—	181
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	22.1	22.1	< 0.005	< 0.005	—	22.2
Total	—	—	—	—	—	—	—	—	—	—	—	38.8	135	174	0.14	0.09	—	203
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	38.8	113	152	0.14	0.09	—	181
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	22.1	22.1	< 0.005	< 0.005	—	22.2
Total	—	—	—	—	—	—	—	—	—	—	—	38.8	135	174	0.14	0.09	—	203
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	6.42	18.7	25.1	0.02	0.01	—	29.9
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	3.66	3.66	< 0.005	< 0.005	—	3.68
Total	—	—	—	—	—	—	—	—	—	—	—	6.42	22.4	28.8	0.02	0.01	—	33.6

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,075
City Park	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.96
User Defined Parking	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,076

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,075
City Park	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.96
User Defined Parking	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,076
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	98.2	0.00	98.2	9.81	0.00	—	343
City Park	—	—	—	—	—	—	—	—	—	—	—	0.05	0.00	0.05	< 0.005	0.00	—	0.16
User Defined Parking	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	98.2	0.00	98.2	9.82	0.00	—	344

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,075
City Park	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.96

User Defined Parking	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,076
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,075
City Park	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.96
User Defined Parking	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	593	0.00	593	59.3	0.00	—	2,076
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	98.2	0.00	98.2	9.81	0.00	—	343
City Park	—	—	—	—	—	—	—	—	—	—	—	0.05	0.00	0.05	< 0.005	0.00	—	0.16
User Defined Parking	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	98.2	0.00	98.2	9.82	0.00	—	344

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.16	1.16
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.16	1.16

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.99	6.99
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.16	1.16
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.16	1.16

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/29/2026	3/18/2026	5.00	35.0	—
Grading	Grading	3/19/2026	8/5/2026	5.00	100	—
Building Construction	Building Construction	8/6/2026	7/5/2028	5.00	500	—
Paving	Paving	7/6/2028	9/27/2028	5.00	60.0	—
Architectural Coating	Architectural Coating	9/28/2028	1/24/2029	5.00	85.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	[illegible]	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	[illegible]	8.00	89.0	0.36

Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Tri	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	1.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	1.00	10.2	HHDT,MHDT
Grading	Hauling	19.7	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	92.5	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	27.5	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	5.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	18.5	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Tri	Miles per Trip	Vehicle Mix

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	1.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	1.00	10.2	HHDT,MHDT
Grading	Hauling	19.7	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	92.5	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	27.5	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	5.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	18.5	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	1,959,188	653,063	0.00	0.00	23,403

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	30.0	0.00	—
Grading	15,749	0.00	300	0.00	—
Paving	0.00	0.00	0.00	0.00	12.0

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	2.83	0%
City Park	0.00	0%
User Defined Parking	9.12	100%

5.8. Construction Electricity Consumption and Emissions F

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	457	0.03	< 0.005
2027	0.00	457	0.03	< 0.005
2028	0.00	457	0.03	< 0.005
2029	0.00	457	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	2,424	2,424	2,424	884,581	13,899	13,899	13,899	5,073,042
City Park	75.0	75.0	75.0	27,376	315	315	315	115,007
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	2,424	2,424	2,424	884,581	13,899	13,899	13,899	5,073,042
City Park	75.0	75.0	75.0	27,376	315	315	315	115,007
User Defined Parking	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	100

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	100

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
1959187.5	653,063	0.00	0.00	0.00

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	2,400,186	457	0.0330	0.0040	9,140,029
City Park	0.00	457	0.0330	0.0040	0.00
User Defined Parking	0.00	457	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	2,336,876	457	0.0330	0.0040	9,140,029
City Park	0.00	457	0.0330	0.0040	0.00
User Defined Parking	0.00	457	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	18,153,156	1,352,281
City Park	0.00	5,493,847

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	18,153,156	1,352,281
City Park	0.00	5,493,781

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	1,100	—
City Park	0.51	—
User Defined Parking	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	1,100	—
City Park	0.51	—
User Defined Parking	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	22.4	annual days of extreme heat
Extreme Precipitation	0.10	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	

AQ-PM	9.65
AQ-DPM	36.6
Drinking Water	50.4
Lead Risk Housing	18.7
Pesticides	0.00
Toxic Releases	3.34
Traffic	10.5
Effect Indicators	—
CleanUp Sites	11.8
Groundwater	0.00
Haz Waste Facilities/Generators	50.1
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	36.0
Cardio-vascular	46.2
Low Birth Weights	57.4
Socioeconomic Factor Indicators	—
Education	80.7
Housing	79.3
Linguistic	98.8
Poverty	55.7
Unemployment	70.0

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	

Above Poverty	50.68651354
Employed	83.80597973
Median HI	47.77364301
Education	—
Bachelor's or higher	5.851405107
High school enrollment	100
Preschool enrollment	3.849608623
Transportation	—
Auto Access	98.98626973
Active commuting	15.30861029
Social	—
2-parent households	61.19594508
Voting	7.891697677
Neighborhood	—
Alcohol availability	97.0101373
Park access	2.194276915
Retail density	10.94572052
Supermarket access	29.03888105
Tree canopy	4.427049917
Housing	—
Homeownership	91.53086103
Housing habitability	90.19633004
Low-inc homeowner severe housing cost burden	20.18478121
Low-inc renter severe housing cost burden	97.81855511
Uncrowded housing	47.26036186
Health Outcomes	—
Insured adults	27.75567817
Arthritis	

Asthma ER Admissions	63.7
High Blood Pressure	71.3
Cancer (excluding skin)	87.6
Asthma	83.3
Coronary Heart Disease	63.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	51.3
Life Expectancy at Birth	33.9
Cognitively Disabled	94.6
Physically Disabled	49.3
Heart Attack ER Admissions	72.3
Mental Health Not Good	44.5
Chronic Kidney Disease	45.1
Obesity	19.9
Pedestrian Injuries	67.6
Physical Health Not Good	42.2
Stroke	80.6
Health Risk Behaviors	—
Binge Drinking	4.8
Current Smoker	40.7
No Leisure Time for Physical Activity	31.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	10.6
Elderly	98.7
English Speaking	4.3
Foreign-born	

Outdoor Workers	9.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	65.7
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	70.8
Other Decision Support	—
2016 Voting	17.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	31.0
Healthy Places Index Score for Project Location (b)	41.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	- 967,500 - Total single family home lot square footage (22.2107438 acres) - Landscaping for single family units is already included in CaleeMod, so the landscape area is zeroed out to avoid double counting it. - Recreational City Park accounts for the Park, retention basins, and other landscaped common areas in the subdivision (259,169sf, 5.94970156). - User Defined Parking accounts for the subdivision streets (390,047 sf) and parking area for the Park (86,775 for park - 7,200 sf parking lot approx).
Construction: Construction Phases	Grading extended to 100 days. Arch Coating extended to 85 days. No demolition phase.
Construction: Demolition	No demolition phase
Construction: Dust From Material Movement	There will be 15,749 cy of material imported per the grading plan.
Construction: Architectural Coatings	Parking refers to streets within the subdivison. No paint will be applied.
Operations: Vehicle Data	Traffic Scope estimates housing the residential units could generate up 2,404.65 trips per day (LU Code 210). If each unit generate 9.43 trips per day, the total trips = 2423.51. 2423.51 divided by 257 = 9.43 The park could generate up to 75 trips per day. Since the park was included in the acreage all landscaped areas, 75 trips is divided by 5.94970156.
Operations: Fleet Mix	Passenger cars and motorcycles would be the primary vehicles used in the residential and park uses.
Operations: Hearths	No wood stoves No fireplaces
Operations: Architectural Coatings	No coatings or paint applied to parking (streets).
Operations: Refrigerants	Park will not contain refrigeration.
Operations: Water and Waste Water	Water calculations from CVWD worksheet were input here to be consistent with the IS water use analysis.
Operations: Solid Waste	Applied the CalRecycle estimated solid waste generation rate for single family home of 11.4 pounds per unit per day. 4,161.2 pounds of solid waste. Divide in half (50% diversion rate) = 2,080.5. convert to tons.
Construction: Trips and VMT	Paving trips - 397,247 sf of asphalt for streets and parking lot. x .33333 foot depth of asphalt (4 inches) = 132,414.34125 cubic feet. / 27 = 4904.235 cubic yards of asphalt. / 16 (each truck carries 16 cy of asphalt) = 306 trucks. / 60 days in paving phase - 5.1 trips per day
Construction: Paving	no off gassing from landscaped areas

Appendix B
Calhoun Street Housing Development Biological Resources Report

DRAFT BIOLOGICAL RESOURCES ASSESSMENT & COACHELLA VALLEY MULTIPLE SPECIES HABITAT CONSERVATION PLAN CONSISTENCY ANALYSIS REPORT

CALHOUN STREET & AVENUE 49 RESIDENTIAL DEVELOPMENT PROJECT

Assessor's Parcel Number 612-260-010 (38.80 acres)

Coachella
Riverside County
California

Submitted to:
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19 March 2024

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1.0 INTRODUCTION

At the request of Terra Nova Planning & Research, this biological resources assessment report (BRAR) and Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) consistency analysis was prepared by WSP USA Environment & Infrastructure, Inc. (WSP) for the proposed residential development (project) of a 38.80-acre site in Coachella, Riverside County, California (Figure 1). Information contained herein is intended to be used for compliance with the CVMSHCP, the California Environmental Quality Act (CEQA) and other relevant environmental regulations.

2.0 PROJECT SITE / PROJECT DESCRIPTION

The 38.80-acre project site is located at the southwest junction of Calhoun Street and Avenue 49 in Coachella, Riverside County, California. The Assessor's Parcel Number (APN) is APN 612-260-010. The project site is currently zoned as "Vacant Land – Predominate Agriculture Use" by the Riverside County Assessor, County Clerk and Recorders website (Riverside County Information Technology 2024). The project site is located within Section 36, Township 5 South, Range 7 East, United States Geological Survey (USGS) 7.5' Indio, Calif. Quadrangle. Elevations range between approximately -7.6 to -9.1 meters (m) (-25 to -30 feet [ft]) below mean sea level (Figure 2).

The proposed project includes the development of new residential dwellings on the 38.80-acre vacant lot.

3.0 REGULATORY FRAMEWORK

3.1 Federal Endangered Species Act

The United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service are the designated federal agencies accountable for administering the federal Endangered Species Act (FESA). The FESA defines species as "endangered" or "threatened" and provides regulatory protection at the federal level.

- Section 9 of the FESA prohibits the "take" of listed (i.e., endangered or threatened) species. The FESA definition of take is "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct." Recognizing that take cannot always be avoided, Section 10(a) includes provisions for take that is incidental to, but not the purpose of, otherwise lawful activities. Specifically, Section 10(a)(1)(A) permits (authorized take permits) are issued for scientific purposes Section 10(a)(1)(B) permits (incidental take permits) are issued for the incidental take of listed species that does not jeopardize the species.
- Section 7 (a)(2) requires federal agencies to evaluate the proposed project with respect to listed or proposed listed, species and their respective critical habitat (if applicable). Federal

agencies must employ programs for the conservation of listed species and are prohibited from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or modify its "critical habitat." As defined by the FESA, "individuals, organizations, states, local governments, and other nonfederal entities are affected by the designation of critical habitat only if their actions occur on federal lands, require a federal permit, license, or other authorization, or involve federal funding.

- Section 10(a) of the FESA authorizes the issuance of incidental take permits and establishes standards for the content of habitat conservation plans (HCP). The CVMSHCP is an HCP, see discussion below.

3.2 Federal Migratory Bird Treaty Act

Treaties signed by the United States, Great Britain, Mexico, Japan and the countries of the former Soviet Union make it unlawful to pursue, capture, kill, and/or possess, or attempt to engage in any such conduct to any migratory bird, nest, egg or parts thereof listed in this document. The Secretary of the Interior can issue permits for incidental take of migratory bird species. The Migratory Bird Treaty Act (MBTA) also allows the Secretary of the Interior to grant permits for specific actions for the incidental take of these protected migratory bird species, but this rarely occurs.

3.3 Clean Water Act

Waters of the United States

On August 29, 2023, the U.S. Environmental Protection Agency and the Department of the Army issued a final rule amending the "Revised Definition of 'Waters of the United States," initially published in the Federal Register on January 18, 2023. This amendment aligns the definition of "waters of the United States" (WOTUS) with the U.S. Supreme Court's decision in the case of Sackett v. Environmental Protection Agency on May 25, 2023. The Supreme Court deemed certain parts of the January 2023 Rule invalid based on its interpretation of the CWA in the Sackett decision. Consequently, the agencies have modified key elements of the regulatory text to comply with the Court's ruling. The conforming rule, titled "Revised Definition of 'Waters of the United States'; Conforming," was published in the Federal Register and became effective on September 8, 2023.

Furthermore, due to ongoing litigation, the January 2023 Rule is currently not in effect in certain states and for certain parties. The agencies are applying the January 2023 Rule, as amended by the conforming rule, in 23 states, the District of Columbia, and the U.S. Territories. In the remaining 27 states and for specific parties, the agencies are interpreting WOTUS in accordance with the pre-2015 regulatory framework and the Supreme Court's decision in Sackett until further notice. To summarize some of the most applicable highlights, the agencies' new rule defines WOTUS as:

Categories of Jurisdictional Waters

1) Waters which are:

(i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(ii) The territorial seas; or

(iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

(i) Waters identified in paragraph (a)(1) of this section; or

(ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds, streams, or wetlands not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

Eight exclusions from the definition of WOTUS are codified at paragraph (b), and key terms are defined at paragraph (c). "Adjacent" is defined at (c)(2) as "having a continuous surface connection."

3.3.1 Regional Water Quality Control Board

The Regional Water Quality Control Board (RWQCB) regulates activities pursuant to Section 401(a)(1) of the CWA. Section 401 of the CWA specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. Through the Porter Cologne Water Quality Control Act, the RWQCB asserts jurisdiction over Waters of the State of California (WSC) which is generally the same as WUS but may also include isolated waterbodies. The Porter Cologne Act defines WSC as “surface water or ground water, including saline waters, within the boundaries of the state.”

3.3.2 California Environmental Quality Act

The basic goal of the CEQA is to maintain a high-quality environment now and in the future and the specific goals are for California's public agencies to:

1) Identify the significant environmental effects of their actions; and, either

2) Avoid those significant environmental effects, where feasible; or

3) Mitigate those significant environmental effects, where feasible.

The CEQA applies to "projects" proposed to be undertaken or requiring approval by State and local government agencies. Projects are activities which have the potential to have a physical impact on the environment and may include the enactment of zoning ordinances, the issuance of conditional use permits and the approval of tentative subdivision maps. Where a project requires approvals from more than one public agency, the CEQA requires one of these public agencies to serve as the "lead agency."

A "lead agency" must complete the environmental review process required by the CEQA. The most basic steps of the environmental review process are:

1) Determine if the activity is a "project" subject to the CEQA;

2) Determine if the "project" is exempt from the CEQA;

3) Perform an Initial Study to identify the environmental impacts of the project and determine whether the identified impacts are "significant". Based on its findings of "significance", the lead agency prepares one of the following environmental review documents:

a) Negative Declaration if it finds no "significant" impacts;

b) Mitigated Negative Declaration if it finds "significant" impacts but revises the project to avoid or mitigate those significant impacts;

c) Environmental Impact Report (EIR) if it finds "significant" impacts.

While there is no ironclad definition of "significance", Article 5 of the CEQA Guidelines provides criteria to lead agencies in determining whether a project may have significant effects.

The purpose of an EIR is to provide State and local agencies and the general public with detailed information on the potentially significant environmental effects which a proposed project is likely to have and to list ways in which the significant environmental effects may be minimized and indicate alternatives to the project.

3.3.3 Section 2081 of the State Fish and Game Code

Under Section 2081 of the California Fish and Game Code (FGC), the California Department of Fish and Wildlife (CDFW) authorizes individuals or public agencies to import, export, take, or possess state endangered, threatened, or candidate species in California through permits or memoranda of understanding. These acts, which are otherwise prohibited, may be authorized through permits or "memoranda of understanding" if (1) the take is incidental to otherwise lawful activities, (2) impacts of the take are minimized and fully mitigated, (3) the permit is consistent with regulations adopted in accordance with any recovery plan for the species in question, and (4) the applicant ensures suitable funding to implement the measures required by the CDFW. The CDFW shall make this determination based on the best scientific information reasonably available and shall include consideration of the species' capability to survive and reproduce.

3.3.4 Sections 3503, 3505.5, & 3513 of the State Fish and Game Code

Section 3503 of the FGC makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3505.5 makes it unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds-of-prey, i.e.: owls, hawks, eagles, etc.) or to take, possess, or destroy the nest or eggs of any bird-of-prey. Section 3513 makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA.

3.4 Regional

3.4.1 Coachella Valley Multiple Species Habitat Conservation Plan

Finalized in October 2008, the CVMSHCP is a comprehensive, regional plan that addresses the conservation needs of 27 species of native flora and fauna and 24 natural vegetation communities occurring throughout the Coachella Valley region of western Riverside County, California. Permits for the CVMSHCP were issued by the CDFW on September 9, 2008 and the United States Fish and Wildlife Service (USFWS) on October 1, 2008 (TE104604-0). The CVMSHCP serves two primary purposes: Balancing environmental protection and economic development objectives in the CVMSHCP area and simplifying compliance with endangered species related laws. The CVMSHCP accomplishes this by conserving unfragmented habitat to permanently protect and secure viable populations of the covered species. The covered species include those plants and animals that are either currently listed as threatened or endangered, are proposed for listing, or are believed by an appointed Scientific Advisory Committee, USFWS and CDFW, to have a high probability of being proposed for listing in the future if not provided protection by the CVMSHCP. The goal of the CVMSHCP is to meet the requirements of the state and federal endangered species acts, while at the same time allowing for the economic growth (land development) within the plan area without significant delay or hidden costs. Under the CVMSHCP, land development/mitigation fees are

collected from all new development projects occurring in the plan area. The purpose of this fee is to support the assembly of a preserve system for the covered species and natural vegetation communities within areas identified as having high conservation value.

4.0 METHODS

4.1 Literature Review

In preparation for the field surveys, a literature search was conducted to identify special status biological resources known from the vicinity of the project site. In the context of this report, and for the purpose of this assessment, vicinity is defined as areas within a 5-mile radius of the project site.

The literature search included a review of the following documents:

- California Natural Diversity Data Base (CNDDB) RareFind 5 (CDFW 2024a)
- Special Animals List (CDFW 2024b)
- California Native Plant Society's (CNPS) Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2024a)
- Information for Planning and Consultation (IPaC) Resources List (USFWS 2024)
- CVMSHCP (Coachella Valley Conservation Commission "CVCC" 2024)
- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2024. Web Soil Survey
- USGS 7.5' *Indio, La Quinta, Myoma, Valerie* and *West Berdoo Canyon, Calif.* quadrangles (USGS 2015a, USGS 2015b, USGS 2015c, USGS 2015d, USGS 2021)

Scientific nomenclature for this document follows standard reference sources: For plant communities, CVMSHCP (CVCC 2024); for flora, Jepson eFlora (2024) and the USDA NRCS PLANTS Database (2024); for amphibians, reptiles, and mammals, CDFW (2016); and for birds, California Bird Records Committee (2024).

4.2 Field Assessment

The field assessment was conducted between the hours of 1040 and 1240 on 29 February 2024 by WSP senior biologist Michael D. Wilcox. Onsite suitable habitat was assessed based on the presence of constituent habitat elements (e.g., soils, vegetation and topography) characteristic of the potentially occurring special status biological resources determined by the literature review. The entire site and adjacent properties (where accessible) were assessed on foot to record pertinent field data and current site conditions. Where present, adjacent undeveloped areas within an approximate 150-meter (m) (~500-foot [ft]) buffer zone were also assessed visually, from the project site, for burrowing owl (*Athene cunicularia*). All onsite flora and fauna observed or otherwise detected (e.g., vocalizations, presence of scat, tracks, and/or bones) during the

assessment were recorded in field notes and are included in Appendices A and B. General weather and site conditions were also recorded at the beginning and end of the survey. Temperatures and wind speeds were recorded with a handheld Kestrel 3500 anemometer. Percent cloud cover was visually estimated.

5.0 RESULTS

The fenced, 38.8-acre project site currently consists of a combination of an abandoned, remnant date palm farm, intermittent disturbed/ruderal areas and a largely barren area that has been cleared of nearly all vegetation and graded/scraped. With the exception of a few areas, primarily along the western edge of the site, vegetation is relatively sparse. Soils are largely stabilized, compacted and disturbed. Existing site disturbances observed onsite included abandoned, fallow agricultural practices (rows of remnant date palms and associated irrigation and/or farming structures), vegetation clearance, grading/scraping, dumping, offroad vehicular activity (minor), minor dumping and accumulation of roadside trash (minor).

Existing residential (tract home) developments occur to the north and south. The lands to the west are fenced and currently being graded and under construction, likely for future residential development (tract homes), while the lands to the east are largely vacant, undeveloped and disturbed.

5.1 Coachella Valley Multiple Species Habitat Conservation Plan

The project site is located within Coachella, which is a signatory to the CVMSHCP. The site is not within any CVMSHCP-designated conservation areas. The closest is the East Indio Hills Conservation Area which is located approximately 5.5 kilometers (km) (3.4 mi) to the northeast and the Santa Rosa and San Jacinto Mountains Conservation Area, which is located approximately 7.4 km (4.6 mi) to the southwest of the site (Figure 3). The site does not contain CVMSHCP modeled habitats for any covered or special status species. The site is not within a fluvial sand transport area as illustrated on CVMSHCP Figure 4-5: Essential Ecological Processes Conserved Through General Plan Land Use Designations and Flood Control Standards (CVCC 2024). The site is not within any of the Coachella Valley Fringe-toed Lizard Preserves as illustrated on CVMSHCP Figure 6-2 (CVCC 2024). No CVMSHCP-designated wildlife corridors or biological linkages are mapped on the project site.

5.2 Weather Conditions

Weather conditions during the assessment included clear skies with no cloud cover. The temperatures ranged from 72 to 78 degrees Fahrenheit (°F). Winds were calm with speeds ranging 0 to 2 miles per hour (mph).

5.3 Topography, Soils and Waters

Existing topography is largely flat, sloping slightly to the south. Slight relief occurs only in the form of a manufactured linear embankment (edge of dirt perimeter road) along the northern site boundary and around a small, currently dry irrigation pond located in the northwestern corner of the site. Mapped soils (USDA NRCS 2024) include: Coachella fine sand, 0-2% slopes (CpA); Gilman fine sandy loam, 0-2% slopes (GbA) and Indio fine sandy loam (Ip) (Figure 4).

Coachella series soils are well-drained soils that are moderately rapidly permeable and occur in lacustrine basins at elevations from 230 feet below sea level to 800 feet above sea level. Although well drained, perched water tables are common in areas that are irrigated. Sediments originate largely from igneous rocks. Slopes are nearly level to gently sloping. The climate is arid with average annual rainfall ranging from 2 to 4 inches, occurring in light winter rains and/or high intensity summer monsoon thunderstorms (USDA NRCS 2024).

Gilman series soils are very deep, well drained soils with slow runoff and moderate permeability that were formed in stratified stream alluvium. This series generally occur at elevations from 75 to 2,500 feet above sea level. They are known to occur on flood plains and alluvial fans and have slopes of 0 to 3 percent. Gilman series soils generally range from non-saline to strongly saline. Mean annual rainfall is 2 to 10 inches (USDA NRCS 2024).

Indio series soils are very deep, well to moderately well drained soils that were formed in alluvium and are derived from mixed rock sources. Runoff is generally slow and permeability is moderate. This soil series generally occur at elevations from 230 feet below sea level to 1,400 feet above sea level on alluvial fans, lacustrine basins and flood plains. Slopes are usually gentle at 0 to 3 percent with the exception of where they occur on low stream or wash embankments. Mean annual precipitation ranges from 3 to 10 inches (USDA NRCS 2024).

Onsite soils are highly disturbed, a result of past date farming practices and grading in at least one area (the northeastern ¼ of the site). Prior to the planting of the date palms, the entire site was very likely scraped, cleared and graded. A former irrigation pond; evident by manufactured embankments, dried cracked substrates and remnant cement/concrete irrigation structures; is located in the northwest corner of the site. This irrigation pond was completely dry at the time of the assessment and exhibited no evidence of having recently held water or contained moisture (other than the dried, cracked substrate observed in the bottom). Irrigation furrows and underground piping is evident throughout the southern and western 2/3 of the site. No streams, washes, springs, active drifts, sand dunes, rock outcrops, rocky areas, or natural clay lenses were observed.

5.4 Vegetation

According to CVMSHCP Figure 3-1: Natural Communities and Development, onsite vegetation community is mapped as "ruderal" (CVCC 2023). Historic aerial imagery indicates that by 2002, the southern and western ¾ of the site was being used to grow dates. The northeastern ¼ of the site appears to have been cleared of vegetation and has remained vacant, undeveloped and not used to grow dates since 2002 at least. Although Sawyer et. al. (2009) does not provide a description for agricultural and/or disturbed areas, perhaps the best way to describe the current vegetation present onsite would likely be abandoned/fallow agricultural lands with sparse, remnant patches of *Atriplex lentiformis* shrubland alliance (quailbush scrub), ruderal/disturbed and largely barren areas (primarily in the northeastern ¼ of the site) occurring intermittently throughout (Figure 5). The dominant plant species onsite is the formerly cultivated date palm (*Phoenix dactylifera*) that intermittently remain in east/west linear rows throughout the western and southern ¾ of the site. Although relatively sparse and primarily located along the perimeter and in linear rows, in between and beneath the rows of date palms, native perennial plant species observed included quailbush (*Atriplex lentiformis*), arrow-weed (*Pluchea sericea*), common sunflower (*Helianthus annuus*) and blue palo verde (*Parkinsonia florida*). Other plant species observed primarily included a mixture of non-native, invasive and/or ruderal species. These included puncture vine (*Tribulus terrestris*), amaranth (*Amaranthus* sp.), cheeseweed (*Malva parviflora*), Sahara mustard (*Brassica tournefortii*), Mexican palo verde (*Parkinsonia aculeata*), saltcedar (*Tamarisk ramosissima*) and Bermuda grass (*Cynodon dactylon*). A complete list of the plant species observed onsite is included in Appendix A.

No natural wetland, riparian or otherwise special-status vegetation communities were observed on-site. A full list of the plant species observed during the surveys, including common and scientific names, is appended to this report (Appendix A).

5.5 Wildlife

Vertebrate wildlife directly observed and/or detected otherwise (e.g., scat, bones, tracks, feathers, burrows, etc.) during the surveys was not diverse or abundant, limited to 17 species common to the region. This included one reptile, 14 birds and two mammals (Appendix B).

The one reptile species observed onsite include the side-blotched lizard (*Uta stansburiana*). Representative bird species observed onsite included but were not limited to: Eurasian collared dove (*Streptopelia decaocto*), mourning dove (*Zenaida macroura*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), common raven (*Corvus corax*), verdin (*Auriparus flaviceps*), northern mockingbird (*Mimus polyglottos*), house finch (*Haemorhous mexicanus*) and white-crowned sparrow (*Zonotrichia leucophrys*). The two mammals observed and/or detected onsite included Botta's pocket gopher (*Thomomys bottae*) and

California ground squirrel (*Otospermophilus beecheyi*). A complete list of the vertebrate species observed or detected onsite is included as Appendix B.

It should be noted that relatively short-term biological studies of this nature are often limited by the seasonality of annual plants, the migratory habits of many birds, the fossorial and nocturnal habits of many mammals and reptiles, as well as the timing of field visit. A complete inventory of the wildlife on the site would require extensive year-round surveys for birds, amphibians, and reptiles, and additional surveys, such as placement of scent stations or tracking stations, for the detection of nocturnal mammals. Knowledge of habitat associations, natural history, seasonality, and distribution is essential in the assessment of the potential for occurrence of the various special status plants and animals known to occur throughout the Coachella Valley. For these reasons, other common and special status species that were not observed onsite may also have the potential to occur based on their geographic distribution, habitat preferences and the regional location of the site. The following section summarizes information on special status biological resources known to occur in the vicinity of the project site.

5.6 Special Status Biological Resources

Plant or animal taxa may be considered "sensitive" or as having “special status” due to declining populations, vulnerability to habitat change, or because they have restricted ranges. Some are listed as threatened or endangered by the USFWS or by the CDFW and are protected by the federal and state Endangered Species acts. Others have been identified as sensitive or as special-status species by the USFWS, the CDFW, or by private conservation organizations, including the CNPS. Unlisted sensitive species do not have formal state or federal status but may nevertheless be considered significant under the CEQA. The CVMSHCP provides conservation for twenty-seven (27) imperiled plant and animal species (5 plants, 2 insects, 1 amphibian, 3 reptiles, 11 birds, and 5 mammals). These include federal and state-listed species, federal and California Species of Concern, and species on the CNPS sensitive species lists. CVMSHCP covered species are designated on the tables below. The site is not within designated critical habitat for any special status plants or wildlife.

The review of the CNDDB, CNPS Online Inventory of Rare Plants and IPaC Resources List resulted in the identification of 68 special status biological resources known to occur in the vicinity (within an approximate 5-mile radius) of the project site. The 68 special status biological resources known from the vicinity included 33 plants, one vegetation communities, five invertebrates, one fish, four reptiles, 14 birds and 10 mammals. Tables 1 through 7 provide a complete list of the special status biological resources, their associated legal status, and their respective onsite occurrence potentials.

Tables 1 through 7 summarize information on all special status species that have been reported within the vicinity (5-mile radius) or that occur or are considered to have some potential to occur onsite based on geographic distribution, elevational parameters and/or presence of potentially suitable habitat. Occurrence probability is based on the best available information and the collective expertise of WSP biologists. These tables provide the names, legal or conservation status, general habitat associations, and the probability of occurrence for each of these species.

Table 1. Special Status Plants

Species	Status	Habitat	Probability
Abronia villosa var. *aurita* **chaparral sand-verbena**	F: None C: None CNPS: List 1B.1 State Rank: S2 CVMSHCP: No	Sandy areas in chaparral, coastal sage scrub & desert dune habitats. 80-1,600 m. (262-5,249 ft.); B: (Jan) Mar-Sept.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Astragalus lentiginosus var. borreganus **Borrego milk-vetch**	F: None C: None CNPS List: 4.3 State Rank: S4 CVMSHCP: No	Mojavean desert scrub, Sonoran Desert scrub; sandy. 30-895 m. (100-2,935 ft.); B: Feb-May.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Astragalus lentiginosus var. *coachellae* **Coachella Valley milk-vetch**	F: **END** C: None CNPS: 1B.2 State Rank: S1 CVMSHCP: **Yes**	Sonoran desert scrub; sandy flats, washes, outwash fans, sometimes on dunes. 40-665 m. (131-2,182 ft.); B: Jan–Sept.	**Absent** Suitable habitat lacking. Site below known elevational range of species. Site is not within designated critical habitat or CVMSHCP modeled habitat for this species.
Astragalus preussii var. *laxiflorus* **Lancaster milk-vetch**	F: None C: None CNPS: 1B.1 State Rank: S1 CVMSHCP: No	Chenopod scrub. 700 m. (2,295 ft.); B: Mar–May.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Astragalus subulonum **gravel milk-vetch**	F: None C: None CNPS: 2B.2 State Rank: S2 CVMSHCP: No	Mojavean desert scrub, Sonoran desert scrub; dunes; -60-930 m. (195-3,050 ft.); B: Feb–Jun.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Astragalus tricarinatus **triple-ribbed milk-vetch**	F: **END** C: None CNPS: 1B.2 State Rank: S2 CVMSHCP: **Yes**	Joshua tree woodland & Sonoran desert scrub on hot, rocky slopes in canyons & along edge of boulder-strewn desert washes with *Larrea* and *Encelia*. 455-1,525 m. (1,492-5,000 ft.); B: Feb–May.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Bursera microphylla **little-leaf elephant tree**	F: None C: None CNPS: 2B.3 State Rank: S3	Sonoran desert scrub, hillsides, canyon sides and washes; rocky. 195-700 m. (640-2,297 ft.); B: Jun-Jul.	**Absent** Suitable habitat lacking. Site below known elevational range of species.

Table 1. Special Status Plants

Species	Status	Habitat	Probability
	CVMSHCP: No		
Chorizanthe leptotheca **Peninsular spineflower**	F: None C: None CNPS: 4.2 State Rank: S3 CVMSHCP: No	Chaparral, coastal scrub, lower montane coniferous forest. 300-1,900 m. (985-6,230 ft.); B: May-Aug.	**Absent** Suitable habitat lacking. Site below known elevation range of species.
Ditaxis claryana **glandular ditaxis**	F: None C: None CNPS: 2B.2 State Rank: S2 CVMSHCP: No	Mojavean & Sonoran desert scrub. 0-465 m. (0-1,526 ft.); B: Oct–Mar.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Ditaxis serrata var. *californica* **California ditaxis**	F: None C: None CNPS: 3.2 State Rank: S2? CVMSHCP: No	Sonoran desert scrub. 30 to 1,000 m. (98-3,281 ft.); B: Mar-Dec.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Eremothera boothii var. *boothii* **Booth's evening primrose**	F: None C: None CNPS: 2B.3 State Rank: S3 CVMSHCP: No	Joshua tree woodland, pinyon & juniper woodland. 815-2,400 m. (2,674-7,874 ft.); B: Apr-Sep.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Eschscholtzia androuxii **Joshua Tree poppy**	F: None C: None CNPS: 4.3 State Rank: S3 CVMSHCP: No	Mojavean desert scrub, Joshua tree woodland. 585-1,685 m. (1,920-5,530 ft.); B: Feb-May (Jun).	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Euphorbia abramsiana **Abrams' spurge**	F: None C: None CNPS: 2B.2 State Rank: S2 CVMSHCP: No	Sandy sites in Mojave and Sonoran desert scrub. -5–1,450 m. (-16-4,757 ft.). B: (Aug) Sept- Nov.	**Very Low** Remnant marginally suitable habitat very limited, disturbed and largely stabilized. Only small, insignificant pockets of sandy soils present. Site just below/at edge of elevational range of species.
Euphorbia arizonica **Arizona spurge**	F: None C: None CNPS: 2B.3 State Rank: S3 CVMSHCP: No	Sandy soils in Sonoran desert scrub; 50-300 m. (200-1,000 ft); B: Mar-Apr.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Euphorbia platysperma **flat-seeded spurge**	F: None C: None CNPS: 1B.2 State Rank: S1 CVMSHCP: No	Sandy Sonoran desert scrub, shifting dunes. In CA, potentially a waif; more common in AZ and MX. 65-100 m. (215-330 ft.); B: Feb-Sep.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Horsfordia alata **pink velvet-mallow**	F: None C: None CNPS: 4.3 State Rank: S4	Sonoran desert scrub (rocky). 100-500 m. (330-1,640 ft); B: Feb-Dec.	**Absent**

Table 1. Special Status Plants

Species	Status	Habitat	Probability
	CVMSHCP: No		Suitable habitat lacking. Site below known elevational range of species.
Horsfordia newberryi **Newberry's velvet-mallow**	F: None C: None CNPS: 4.3 State Rank: S4 CVMSHCP: No	Sonoran desert scrub (rocky). 8-300 m. (26-984 ft); B: Feb-Dec.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Johnstonella costata **ribbed cryptantha**	F: None C: None CNPS: 4.3 State Rank: S4 CVMSHCP: No	Desert dunes, Mojavean desert scrub, Sonoran desert scrub; -60-500 m (-195-1,640 ft); B: Feb-May.	**Very Low** Remnant marginally suitable habitat very limited, disturbed and largely stabilized. Only small, insignificant pockets of sandy soils present.
Johnstonella holoptera **winged cryptantha**	F: None C: None CNPS: 4.3 State Rank: S4 CVMSHCP: No	Sonoran desert scrub, Mojavean desert scrub; sandy or rocky canyons. 100-1,690 m. (328-5,545 ft); B: Mar-Apr.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Juncus acutus ssp. leopoldii **southwestern spiny rush**	F: None C: None CNPS: 4.2 State Rank: S4 CVMSHCP: No	Coastal dunes (mesic), coastal scrub, meadows & seeps (alkaline), marshes & swamps (coastal salt) Mojavean desert scrub, Sonoran desert scrub; -3-900 m (-10-2,955 ft). B: Mar-Jun.	**Absent** Suitable habitat lacking. Former irrigation pond located in NW corner of site and irrigation rows for date palms currently dry. Site just below/at edge of elevational range of species.
Juncus cooperi **Cooper's rush**	F: None C: None CNPS: 4.3 State Rank: S3 CVMSHCP: No	Meadows & seeps (mesic, alkaline or saline). -260-1,700 m (-855-5,805 ft); B: Apr-Aug.	**Absent** Suitable habitat lacking. Former irrigation pond located in NW corner of site and irrigation rows for date palms currently dry.
Leptosiphon floribundus **Santa Rosa Mountains leptosiphon**	F: None C: None CNPS: 1B.3 State Rank: S1S2 CVMSHCP: No	Sonoran desert scrub, pinyon juniper woodland; 1,000-2,000 m (3,280–6,560 ft); B: May-Jul (Nov).	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Lycium torreyi **Torrey's box-thorn**	F: None C: None CNPS: 4.2 State Rank: S3 CVMSHCP: No	Mojavean desert scrub, Sonoran desert scrub; -50 - 1220 m (-165–4,005 ft); B: (Jan-Feb) Mar-Jun (Sep-Nov).	**Absent** Remnant marginally suitable habitat very limited and disturbed. Conspicuous perennial species would likely have been detected if present.
Marina orcuttii var. *orcuttii* **California marina**	F: None C: None CNPS: 1B.3	Chaparral, pinyon and juniper woodland, Sonoran desert scrub, rocky. 1,050-1,160 m (3,445–3,806 ft); B: May-Oct.	**Absent**

Table 1. Special Status Plants

Species	Status	Habitat	Probability
	State Rank: S2? CVMSHCP: No		Suitable habitat lacking. Site below known elevational range of species.
Matelea parvifolia **spear-leaf matelea**	F: None C: None CNPS: 2B.3 State Rank: S3 CVMSHCP: No	Mojavean desert scrub, Sonoran desert scrub, rocky. 440-1,095 m. (1,445–3,595 ft.); B: Mar-May (Jul).	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Nemacaulis denudata var. *gracilis* **slender cottonheads**	F: None C: None CNPS: 2B.2 State Rank: S2 CVMSHCP: No	Sandy places in coastal dunes, desert dunes & Sonoran desert scrub. 50-400 m. (164-1,315 ft.); B: Mar–May.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Petalonyx linearis **narrow-leaf sandpaper-plant**	F: None C: None CNPS: 2B.3 State Rank: S3? CVMSHCP: No	Sandy or rocky canyons in Mojavean desert scrub and Sonoran desert scrub; -25-1115 m. (-80-3,660 ft.); B: Mar-May (sometimes Jan-Dec).	**Absent** Suitable habitat lacking. Perennial sandpaper-plant (*Petalonyx* spp.) not observed.
Phaseolis filiformis **slender-stem bean**	F: None C: None CNPS: 2B.1 State Rank: S1 CVMSHCP: No	Sonoran desert scrub. 125 m (410 ft.); B: Apr.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Pseudorontium cyanthiferum **Deep Canyon snapdragon**	F: None C: None CNPS: 2B.3 State Rank: S1 CVMSHCP: No	Sonoran desert scrub in rocky washes and on rocky slopes in the immediate vicinity of Deep Canyon. 0-800 m. (0-2,625 ft.); B: Feb-Apr.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Selaginella eremophila **desert spike-moss**	F: None C: None CNPS: 2B.2 State Rank: S2S3 CVMSHCP: No	Chaparral, Sonoran Desert scrub; shaded sites, gravelly soils, crevices or among rocks. 200-900 m. (656-2,953 ft.); B: May–Jul.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Senna covesii **Cove's cassia**	F: None C: None CNPS: 2B.2 State Rank: S3 CVMSHCP: No	Sonoran Desert scrub, dry, sandy desert washes & slopes. 225-1,295 m. (740-4,250 ft.); B: Mar–Jun (Aug).	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Stemodia durantifolia **purple stemodia**	F: None C: None CNPS: List 2B.1 State Rank: S2.1? CVMSHCP: No	Mesic sites on sandy soils in Sonoran desert scrub. 180-300 m. (590–980 ft.); B: (Jan) Apr-Dec.	**Absent** Suitable habitat lacking. Site below known elevational range of species.
Xylorhiza cognata **Mecca-aster**	F: None C: None CNPS: List 1B.2 State Rank: S2 CVMSHCP: **Yes**	Grows on steep canyon slopes on sandstone and clay substrates, 20-305 m (65–1,000 ft); B: Jan-Jun.	**Absent** Suitable habitat lacking. Site below known elevational range of species.

Table 2. Special Status Vegetation Communities

Community	Status	Habitat	Probability
desert fan palm oasis woodland	F: None C: S3.2 State Rank: S3.2 CVMSHCP: **Yes**	Natural California fan palm (*Washingtonia filifera*) stands	**Absent** Only small, sapling fan palms and cultivated date palms (*Phoenix dactilifera*) observed onsite.

Table 3. Special Status Invertebrates

Community	Status	Habitat	Probability
Dinacoma caseyi **Casey's June beetle**	F: END C: None State Rank: S1 CVMSHCP: No	Appears to be entirely restricted to the mouth and alluvial floodplain of Palm Canyon Wash and Tahquitz Creek in Palm Springs, in association with deposits of fine silts, sands and gravels	**Absent** Suitable habitat lacking. Site outside of known range of species. Site is not within designated critical habitat or USFWS recommended survey area for this species.
Danaus plexippus **monarch butterfly**	F: FC C: None State Rank: S2S3 CVMSHCP: No	Western winter roost sites primarily occur along the coast from northern Mendocino to Baja California, Mexico, located in wind-protected tree groves (*Eucalyptus* species, Monterey pine (*Pinus radiata*), cypress), with nectar and water sources nearby. During breeding season, adults widespread but scarce in the desert. Larvae require milkweed	**Absent** Suitable habitat lacking. Larval host plants (milkweeds) not observed. Winter roost sites not present. Adults may, however, occasionally fly through site.
Macrobaenetes valgum **Coachella giant sand treader cricket**	F: None C: None State Rank: S1S2 CVMSHCP: **Yes**	Active sand dune hummocks and ridges, sites favorable to permanent habitation include spring-moistened sand.	**Absent** Suitable habitat lacking. Sand dunes and hummocks not present. Site is not within CVMSHCP modeled habitat for this species.
Oliarces clara **cheeseweed owlfly**	F: None C: None State Rank: S2 CVMSHCP: No	Known from lower Colorado River drainage, associated with creosote bush (*Larrea tridentata*) in desert scrub; creosote is suspected larval host. Found under rocks or in flight over streams.	**Absent** Suitable habitat lacking. No drainages or washes on the site.

Table 3. Special Status Invertebrates

Euparagia unidentate **Algodones Dunes Euparagia**	F: None C: None State Rank: S1S2 CVMSHCP: No	Desert dunes.	**Absent** Suitable habitat lacking. Dune habitats not present.

Table 4. Special Status Fish

Community	Status	Habitat	Probability
Cyprinodon macularius **desert pupfish**	F: **END** C: **END** State Rank: S1 CVMSHCP: **Yes**	Desert ponds, springs, marshes and streams.	**Absent** Suitable aquatic habitat lacking. Former irrigation pond in NW corner of site currently dry. Site is not within designated critical habitat or CVMSHCP modeled habitat for this species.

Table 5. Special Status Reptiles

Species	Status	Habitat	Probability
Crotalus ruber ruber **northern red diamond rattlesnake**	F: ND C: SSC State Rank: S2? CVMSHCP: No	Favors rocky areas and dense vegetation, shelters in rodent burrows, rock cracks, or surface cover. Known from the eastern slopes of the Peninsular Ranges, desert floor up to 5,000 feet	**Absent** Suitable habitat lacking.
Gopherus agassizi **desert tortoise**	F: **THR** C: **THR** State Rank: S2 CVMSHCP: **Yes**	Creosote bush scrub, Joshua tree woodland, saltbush scrub); washes, arroyos, bajadas, rocky hillsides, open flat desert.	**Absent** Suitable habitat lacking. Site formerly agricultural (date palm farm). Sign (burrows, scat, remains, etc.) not observed. Site is not within designated critical habitat or CVMSHCP modeled habitat for this species.
Phrynosoma mcallii **flat-tailed horned lizard**	F: None C: SSC State Rank: S2 CVMSHCP: **Yes**	Sandy and gravelly areas in desert washes, edges of dunes and desert flats; requires vegetative cover, ants & fine sand.	**Absent** Suitable habitat lacking. Site disturbed with only small, remnant patches of sandy soils and native plant species. Site not within CVMSHCP modeled habitat for this species.

Table 4. Special Status Fish

Community	Status	Habitat	Probability
Cyprinodon macularius **desert pupfish**	F: **END** C: **END** State Rank: S1 CVMSHCP: **Yes**	Desert ponds, springs, marshes and streams.	**Absent** Suitable aquatic habitat lacking. Former irrigation pond in NW corner of site currently dry. Site is not within designated critical habitat or CVMSHCP modeled habitat for this species.

Table 5. Special Status Reptiles

Species	Status	Habitat	Probability
Uma inornata **Coachella Valley fringe-toed lizard**	F: **THR** C: **END** State Rank: S1 CVMSHCP: **Yes**	Requires fine, loose, windblown sand (dunes) interspersed with hardpan & widely spaced desert shrubs. Known only from the Coachella Valley.	**Absent** Suitable habitat lacking. Site disturbed, primarily stabilized with only small, remnant patches of sandy soils and native plant species. Site is not within designated critical habitat or CVMSHCP modeled habitat for this species.

Table 6. Special Status Birds

Species	Status	Habitat	Probability
Accipiter cooperii **Cooper's hawk**	F: MBTA C: Watch List State Rank: S4 CVMSHCP: No	Woodland, chiefly of open, interrupted or marginal type, including residential areas. Nests in trees.	**Nesting: Absent** Suitable nesting habitat lacking. **Foraging: Occurs** Observed.
Aquila chrysaetos **golden eagle**	F: BGEPA, MBTA, BCC C: FP, WL State Rank: S3 CVMSHCP: No	Forages over rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons used for nesting, sometimes large trees in open areas.	**Nesting: Absent** Suitable habitat lacking. **Foraging: Low** Marginally suitable habitat present.

Table 6. Special Status Birds

Species	Status	Habitat	Probability
Athene cunicularia **burrowing owl**	F: MBTA, BCC C: SSC (burrows), FGC State Rank: S2 CVMSHCP: **Yes***	Open, dry annual or perennial grassland, deserts & scrublands characterized by low-growing vegetation. Burrow sites essential.	**Nesting: Low** Marginally suitable habitat intermittently present. Suitable California ground squirrel burrows detected. **Foraging: Low** If present onsite or on other suitable lands to the east of the site.
Buteo regalis **ferruginous hawk**	F: MBTA, BCC C: WL State Rank: S3S4 CVMSHCP: No	Great Basin grassland, Great Basin scrub, pinon & juniper woodland, valley & foothill grassland.	**Nesting**: **Absent** Suitable habitat lacking. **Foraging**: **Low** During winter and migration only.
Calypte costae **Costa's hummingbird**	F: MBTA, BCC C: None State Rank: S4 CVMSHCP: No	Desert and semi-desert, arid brushy foothills and chaparral, in migration and winter also in adjacent mountains and in open meadows and gardens	**Nesting**: **Moderate** Suitable nesting habitat (sparse palo verde) present. **Foraging**: **Occurs** Observed.
Empidonax traillii extimus **southwestern willow flycatcher**	F: **END**, MBTA C: **END** State Rank: S1 CVMSHCP: **Yes***	Breeds in dense riparian areas.	**Nesting: Absent** Suitable habitat lacking. **Foraging: Very Low** Occurs in many habitats during migration. Site is not within designated critical habitat for this species.
Falco mexicanus **prairie falcon**	F: MBTA, BCC C: SSC (nesting), FGC State Rank: S3 CVMSHCP: No	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs, but forages far afield.	**Nesting**: **Absent** Suitable habitat lacking. **Foraging: Moderate** May nest or winter nearby & forage over site.
Haliaeetus leucocephalus **bald eagle**	F: BGEPA, MBTA, BCC C: END, FP State: S3 CVMSHCP: No	Margins of lakes, rivers, and other bodies of water. In Southern California, nests at Big Bear Lake and Lake Silverwood in the San Bernardino Mountains and Lake Hemet in the San Jacinto Mountains.	**Nesting: Absent** Suitable habitat lacking. **Foraging: Absent** Suitable habitat lacking.

Table 6. Special Status Birds

Species	Status	Habitat	Probability
Lanius ludovicianus **loggerhead shrike**	F: MBTA, BCC C: SSC (nesting), FGC State Rank: S4 CVMSHCP: No	Open fields with scattered trees or shrubs, open country with short vegetation, pastures, old orchards, cemeteries, golf courses, riparian areas & open woodlands.	**Nesting: Very Low** Suitable nesting habitat very limited. **Foraging: Moderate** May nest or winter nearby & forage onsite.
Polioptila melanura **black-tailed gnatcatcher**	F: ND C: ND State rank: S3S4 CVMSHCP: No	Nests in wooded desert wash habitat containing mesquite, palo verde, ironwood, and acacia. May also occur in areas with salt cedar, especially when adjacent to native wooded desert wash habitat. Also occurs in desert scrub habitat in winter.	**Nesting: Very Low** Suitable nesting habitat (palo verde) limited. **Foraging: Low** May forage or move through site from nearby areas.
Pyrocephalus rubinus **vermilion flycatcher**	F: MBTA C: SSC (nesting) State Rank: S2S3 CVMSHCP: No	During nesting, inhabits desert riparian adjacent to irrigated fields, irrigation ditches, pastures, & other open, mesic areas with nests in cottonwood, willow, mesquite, or other large desert riparian trees. Also known to nest in landscaped areas such as commercial and residential developments, golf courses and parks.	**Nesting: Absent** Suitable nesting habitat lacking. **Foraging: Low** If nesting nearby.
Toxostoma crissale **crissal thrasher**	F: None C: SSC State Rank: S3 CVMSHCP: **Yes***	Resident of SE deserts in desert riparian and wash habitats, nests in dense mesquite, ironwood, catclaw, arrowweed.	**Nesting**: **Absent** Suitable nesting habitat lacking. **Foraging**: **Very low** If nesting nearby. Site is not within CVMSHCP modeled habitat for this species.

Table 6. Special Status Birds

Species	Status	Habitat	Probability
Toxostoma lecontei **Le Conte's thrasher**	F: **MBTA**, BCC C: SSC (nesting), FGC State Rank: S3 CVMSHCP: **Yes***	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Nest in dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground.	**Nesting**: **Absent** Suitable nesting habitat lacking. **Foraging**: **Very Low** If nesting nearby. Suitable habitat not observed on adjacent lands, however. Site is not within CVMSHCP modeled habitat for this species.
Vireo bellii pusillus **least Bell's vireo**	F: END C: END State rank: S2 CVMSHCP: **Yes**	Riparian woodland habitats along the riverine systems of Southern California, primarily in San Diego, Santa Barbara, and Riverside Counties. Needs dense shrub cover within 1 to 2 meters (3 to 6 feet) off the ground for nesting, and stratified canopy for foraging	**Nesting: Absent** Suitable habitat lacking. **Foraging: Low** Migration only Site is not within designated critical habitat for this species.

* Species conserved under the CVMSHCP, but is still protected by the MBTA and FGC

Table 7. Special Status Mammals

Species	Status	Habitat	Probability
Chaetodipus fallax pallidus **pallid San Diego pocket mouse**	F: None C: SSC State Rank: S3S4 CVMSHCP: No	Desert border areas in desert wash, desert scrub, desert succulent scrub, pinon-juniper, etc. Sandy herbaceous areas usually in association with rocks or coarse gravel.	**Absent** Suitable habitat lacking. Site largely disturbed former date palm farm.
Dipodomys merriami collinus **Earthquake Merriam's (Aguanga) kangaroo rat**	F: None C: SSC State Rank: S1S2 CVMSHCP: No	Known only from San Diego & Riverside Counties. Associated with Riversidean sage scrub, chaparral, & non-native grassland. Needs sandy loam substrates for digging of burrows.	**Absent** The CNDDB records near site out of range and habitat for this subspecies. Presumably these records are in error and refer to a different subspecies.

Table 7. Special Status Mammals

Species	Status	Habitat	Probability
Eumops perotis californicus **western mastiff bat**	F: ND C: CSC State Rank: S3S4 CVMSHCP: No WBWG: M (Region 8)	Many open, semi-arid to arid areas including conifer and deciduous forests, grasslands, chaparral, and coastal scrubs. Roosts in crevices in cliff faces, buildings, trees, and tunnels.	**Roosting: Absent** Roosting habitat lacking. **Foraging: Low** May forage over site if roosting nearby.
Lasiurus xanthinus **western yellow bat**	F: None C: SSC State Rank: S3 WBWG: H CVMSHCP: **Yes**	Found in a variety of habitats: Valley foothill riparian, desert riparian, desert wash, and palm oasis habitats	**Roosting: Absent** Roosting habitat lacking. **Foraging: Low** May forage over site if roosting nearby.
Neotoma lepida intermedia **San Diego desert woodrat**	F: None C: SSC State Rank: S3S4 CVMSHCP: No	Coastal scrub of southern California. Moderate to dense canopies preferred. Particularly abundant in rock outcrops & rocky cliffs & slopes.	**Absent** Habitat lacking. Middens not detected. Site heavily disturbed.
Nyctinomops femorosaccus **pocketed free-tailed bat**	F: None C: SSC State Rank: S2S3 WBWG: M CVMSHCP: No	Rocky areas with high cliffs in a variety of arid areas in southern California.	**Roosting: Absent** Suitable habitat lacking **Foraging: Low** May roost in vicinity and forage over site.
Peninsular bighorn sheep DPS *Ovis canadensis nelsoni* (Pop. 2)	F: END C: THR State Rank: S1 MSHCP: **Yes**	Eastern slopes of the Peninsular Ranges below 4,600 feet. Optimal habitat includes steep-walled canyons/ridges bisected by rocky or sandy washes w/ available water	**Absent** Suitable habitat lacking. Site is not within designated critical habitat or CVMSHCP modeled habitat for this species.
Perognathus longimembris bangsi **Palm Springs pocket mouse**	F: None C: SSC State Rank: S2 CVMSHCP: **Yes**	Inhabits flat or gently sloping areas with sparse vegetative cover and packed or sandy soils.	**Very Low** Only small, remnant patches of marginal potentially suitable habitat present. Site disturbance and past agricultural practices further reduce the likelihood of occurrence. Site not within CVMSHCP modeled habitat for this species.
Taxidea taxus **American badger**	F: ND C: CSC State Rank: S3 CVMSHCP: No	Widespread, occurring in a wide variety of usually open habitats.	**Very Low** Although disturbed, site potentially suitable. No burrows or sign observed.

Table 7. Special Status Mammals

Species	Status	Habitat	Probability
Xerospermophilus tereticaudus chlorus **Coachella Valley (Palm Springs) round-tailed ground squirrel**	F: None C: SSC State Rank: S1S2 CVMSHCP: **Yes**	Prefers open, flat, grassy areas in fine-textured, sandy soil in desert succulent scrub, desert wash, desert scrub, alkali scrub, & levees.	**Very Low** Preferred habitat lacking. Species has been known to occur in disturbed and converted habitats. Site not within CVMSHCP modeled habitat for this species.

Definitions of status designations and occurrence probabilities for Tables 1-7

Definitions for Species

Italics – Scientific name (*i.e., Genus species subspecies*)
Bold – Standard common name
[*Genus*] – Previous genus, relatively recent taxonomic revision
var. – variety (plants only)
DPS – Distinct Population Segment

Definitions of occurrence probability:

Occurs*:* Observed or detected onsite by WSP or recently reported by another reliable source.
High*:* Observed in similar habitat in region by qualified biologists, or habitat onsite is a type often utilized by the species and the site is within the known range of the species.
Moderate*:* Reported sightings in surrounding region, or site is within the known range of the species and habitat onsite is a type occasionally used by the species.
Low*:* Site is within the known range of the species but habitat onsite is rarely used by the species
Very Low: Habitat is of marginal suitability and/or site is at the edge of species known range or distribution.
Absent*:*A focused study failed to detect the species, suitable habitat not present, or site is outside the geographic distribution of the species.
Unknown*:* No focused surveys have been performed in the region, & the species' distribution & habitat are poorly known.

CVMSHCP designations

Yes: Conserved by the CVMSHCP
No: Not Specifically Conserved by the CVMSHCP

Federal designations: (F = federal Endangered Species Act or USFWS designations)
END: Federally listed, Endangered
THR: Federally listed, Threatened
CAN: Candidate for Federal listing
MBTA: Migratory Bird Treat
BEPA: Bald Eagle Protection Act (also protects Golden Eagles)
BCC: Birds of Conservation Concern
None: No designation

State designations: (C = California Endangered Species Act or CDFG designations)
END: State listed, Endangered
THR: State listed, Threatened
CAN: Candidate for State listing
RARE: State listed, Rare
FP: Fully Protected Species
SSC: Species of Special Concern
FGC: Fish and Game Code

WL: Watch List Species

CDFW state rankings are a reflection of the overall condition of an element throughout its California range. The number after the decimal point represents a threat designation attached to the rank:

S1 = Critically Imperiled. Less than (<) 6 Element Occurrences (EOs) OR < 1,000 individuals OR < 2,000 acres
- **S1.1** = very threatened
- **S1.2** = threatened
- **S1.3** = no current threats known

S2 = Imperiled. 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres
- **S2.1** = very threatened
- **S2.2** = threatened
- **S2.3** = no current threats known

S3 = Vulnerable. 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres
- **S3.1** = very threatened
- **S3.2** = threatened
- **S3.3** = no current threats known

S4 =

S5 = Secure. Common, widespread, and abundant in the state.

SH = All known California sites are historical, not extant

? = Qualifier: Inexact or Uncertain - A question mark represents a rank qualifier, denoting an inexact or uncertain numeric rank.

California Native Plant Society (CNPS) designations:

Primary Categories
LIST 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
LIST 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
LIST 2A: Plants Presumed Extirpated in California, But Common Elsewhere
LIST 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
LIST 3: Plants About Which More Information is Needed - A Review List
LIST 4: Plants of Limited Distribution - A Watch List
Subdivisions within Categories
0.1: Seriously threatened in California
0.2: Moderately threatened in California
0.3: Not very threatened in California

Western Bat Working Group (WBWG) designations:

The Western Bat Working Group is comprised of agencies, organizations and individuals interested in bat research, management and conservation from the 13 western states and provinces. Its goals are (1) to facilitate communication among interested parties and reduce risks of species decline or extinction; (2) to provide a mechanism by which current information on bat ecology, distribution and research techniques can be readily accessed; and (3) to develop a forum to discuss conservation strategies, provide technical assistance and encourage education programs.

- **H**: High: Species which are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats.
- **M**: Medium: Species which warrant a medium level of concern and need closer evaluation, more research, and conservation actions of both the species and possible threats. A lack of meaningful information is a major obstacle in adequately assessing these species' status and should be considered a threat.
- **L**: Low: Species for which most of the existing data support stable populations, and for which the potential for major changes in status in the near future is considered unlikely. There may be localized concerns, but the overall status of the species is believed to be secure. Conservation actions would still apply for these bats, but limited resources are best used on High and Medium status species.
- **P**: Periphery: This designation indicates a species on the edge of its range, for which no other designation has been determined.

6.0 DISCUSSION

The proposed development of the project site would result in the loss/conversion of 38.8 acres of fallow, vacant, abandoned agricultural lands (date palm farm) and the biological resources, sensitive and otherwise, that occur, or potentially occur, onsite. The likelihood of occurrence for the special status species reported from the vicinity has either been eliminated or significantly reduced by the former conversion of the site to agricultural uses and past farming practices, which included removal of nearly all native vegetation, grading and may have also included use of herbicides and/or pesticides. Small, unmapped, remnant or successional patches of what is best described as quailbush scrub are, however, present intermittently throughout portions of the site, primarily along the western and southern-most areas. Other existing site disturbance (i.e., compaction of soils, offroad vehicular activity, dumping and accumulation of roadside trash) also reduces the likelihood of occurrence of many special status species. Furthermore, the presence of existing adjacent residential development to the north and south of the site and the vegetation removal, active grading of the lands to the west have largely isolated the site from other undeveloped open space. The only undeveloped, vacant open space occurs to the east. The adjacent vacant lands appear to the east appear to have also been rough graded and cleared of most native vegetation in the past. As a result, connectivity of the site to other undeveloped open space has been eliminated, or at least significantly diminished, for many terrestrial species.

The CVMSHCP was designed to streamline the permitting process and to mitigate potential impacts resulting from covered projects and the lawful activities of permittees through payment of the requisite development fee and participation in plan's requirements. A few species, which are not covered by the CVMSHCP and/or are not yet adequately conserved by the CVMSHCP (e.g., burrowing owl, nesting birds) require additional consideration and/or actions, which are detailed below.

6.1 Discussion of the Special Status Biological Resources Tables

A review of the CNDDB, CNPS and IPaC Resources List resulted in a total of 68 special status biological resources that have been reported from the vicinity (Tables 1-7). These include: 33 plants, one vegetation communities, five invertebrates, one fish, four reptiles, 14 birds and 10 mammals. Of these, 59 are considered to be absent from the site due to a combination of factors including a lack of suitable habitat, the elevation of the site outside of elevational parameters and/or in the case of flying animals (birds and bats), they may only occur onsite to forage and will therefore not be directly impacted. The special status biological resources that are considered to be absent from the site include: chaparral sand-verbena (*Abronia villosa* var. *aurita*), Borrego milk-vetch (*Astragalus lentiginosus var. borreganus*), Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*), Lancaster milk-vetch (*Astragalus preussii* var. *laxiflorus*), gravel milk-vetch (*Astragalus subulonum*), triple-ribbed milk-vetch (*Astragalus tricarinatus*), little-leaf elephant

tree (*Bursera microphylla*), Peninsular spineflower (*Chorizanthe leptotheca*), glandular ditaxis (*Ditaxis claryana*), California ditaxis (*Ditaxis serrata* var. *californica*), Booth's evening primrose (*Eremothera boothii* var. *boothii*), Joshua Tree poppy (*Eschscholtzia androuxii*), Arizona spurge (*Euphorbia arizonica*), flat-seeded spurge (*Euphorbia platysperma*), pink velvet-mallow (*Horsfordia alata*), Newberry's velvet-mallow (*Horsfordia newberryi*), winged cryptantha (*Johnstonella holoptera*), southwestern spiny rush (*Juncus acutus ssp. leopoldii*), Cooper's rush (*Juncus cooperi*), Santa Rosa Mountains leptosiphon (*Leptosiphon floribundus*), Torrey's box-thorn (*Lycium torreyi*), California marina (*Marina orcuttii* var. *orcuttii*), spear-leaf matelea (*Matelea parvifolia*), slender cottonheads (*Nemacaulis denudate* var. *gracilis*), narrow-leaf sandpaper-plant (*Petalonyx linearis*), slender-stem bean (*Phaseolis filiformis*), Deep Canyon snapdragon (*Pseudorontium cyanthiferum*), desert spike-moss (*Selaginella eremophila*), Cove's cassia (*Senna covesii*), purple stemodia (*Stemodia durantifolia*), Mecca-aster (*Xylorhiza cognata*), desert fan palm oasis woodland, Casey's June beetle (*Dinacoma caseyi*), monarch butterfly (*Danaus plexippus*), Coachella giant sand treader cricket (*Macrobaenetes valgum*), cheeseweed owlfly (*Oliarces clara*), Algodunes Dunes Euparagia (*Euparagia unidentate*), desert pupfish (*Cyprinodon macularius*), northern red diamond rattlesnake (*Crotalus ruber ruber*), desert tortoise (*Gopherus agassizi*), flat-tailed horned lizard (*Phrynosoma mcallii*), Coachella Valley fringe-toed lizard (*Uma inornata*), nesting Cooper's hawk (*Accipiter cooperii*), nesting golden eagle (*Aquila chrysaetos*), nesting ferruginous hawk (*Buteo regalis*), nesting southwestern willow flycatcher (*Empidonax traillii extimus*), nesting prairie falcon (*Falco mexicanus*), nesting bald eagle (*Haliaeetus leucocephalus*), nesting vermilion flycatcher (*Pyrocephalus rubinus*), nesting crissal thrasher (*Toxostoma crissale*), nesting Le Conte's thrasher (*Toxostoma lecontei*), nesting least Bell's vireo (*Vireo bellii pusillus*), pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*), Earthquake Merriam's (Aguanga) kangaroo rat (*Dipodomys merriami collinus*), roosting western mastiff bat (*Eumops perotis californicus*), roosting western yellow bat (*Lasiurus xanthinus*), San Diego desert woodrat (*Neotoma lepida intermedia*), roosting pocketed free-tailed bat (*Nyctinomops femorosaccus*) and Peninsular bighorn sheep DPS (*Ovis canadensis nelsoni* [Pop. 2]). These special status biological resources will not be discussed further.

Three of the remaining nine species are fully (or partially) covered, conserved (or partially conserved) under the CVMSHCP. Participation in the CVMSHPS and payment of the requisite CVMSHCP development fee and participation in the plan is expected to fully mitigate project related impacts (if any) to these species. These include burrowing owl (*Athene cunicularia*), Palm Springs pocket mouse (*Perognathus longimembris bangsi*) and Coachella Valley (Palm Springs) round-tailed ground squirrel (*Xerospermophilus tereticaudus chlorus*). The site is not within CVMSHCP modeled habitat for Coachella Valley milk-vetch, Coachella giant sand-treader cricket, flat-tailed horned lizard, Coachella Valley fringe-toed lizard, Palm Springs pocket mouse and Coachella Valley (Palm Springs) round-tailed ground squirrel. It should be noted that due to the current, highly disturbed condition and/or past agricultural conversion of the site, the likelihood for the occurrence for these species is considered to be very low to low. Regardless of whether

these species occur on the project site or not, participation in the CVMSHCP and payment of the development fee is designed and intended to provide full coverage of potential project-related impacts. One of these species, burrowing owl, however, requires additional considerations and/or actions for full CVMSHCP compliance, which is discussed below. Although desert tortoise is considered to be absent from the site, due to an overall lack of suitable habitat, it will also be discussed below for further clarification.

6.1.1 Species Covered Under the CVMSHCP

The desert tortoise is federally and state listed as threatened by the CDFW and USFWS. Although desert tortoise is covered under the CVMSHCP, further actions are required (where suitable habitat is present) to ensure that take is entirely avoided and/or minimized to the greatest extent possible. No live desert tortoises or sign thereof (i.e., burrows, scat, tracks, carcass remains, courtship rings, drinking depressions) were observed onsite during the assessment. Furthermore, the site is the location of a former date palm farm/plantation and contains very little remnant and sparse native vegetation (i.e., quailbush scrub). The site is not located within designated critical habitat or CVMSHCP modeled habitat for desert tortoise. For these reasons, habitat suitable for desert tortoise is not present onsite. Additionally, surrounding lands (with the exception of lands to the east) have been developed or are currently in the process of being developed. The land to the east is vacant, undeveloped and disturbed but also does not appear to support habitat suitable for desert tortoise. For these reasons, although a very limited amount of remnant vegetation community (i.e., quailbush scrub) that might otherwise technically be suitable for the desert tortoise, existing site conditions (i.e., nearly 100% conversion to former agricultural practices, existing and past site disturbance, existing adjacent development, etc.) have resulted in an area that is currently unsuitable for this conspicuous and wide-ranging species. For these reasons, it is the opinion of WSP that desert tortoise is absent from the project site and that focused surveys are not warranted or recommended. Project implementation is anticipated to have no impact on the desert tortoise.

The burrowing owl is not listed as threatened or endangered by the USFWS or CDFW. It is, however, managed as a BCC by the USFWS and designated as a SSC by the CDFW. It is also protected from take by the MBTA and FGC. The burrowing owl is a covered species under the CVMSHCP, however the federal permit for the CVMSHCP does not allow take of this species under the MBTA. Any impacts to burrowing owl would be considered significant under the CEQA. Although no burrowing owls, or sign thereof, were observed or detected onsite during the assessment, potentially suitable habitat (i.e., sparsely vegetated vacant lands; disturbed, remnant and sparse saltbush scrub) is, however, present on the site (Appendix D). California ground squirrel burrows of sufficient size to be suitable for burrowing owl were also observed onsite (Appendix D). The CNDDB reported burrowing owl occurring in the vicinity of the site, including a 2004 record

from 0.5 mile north of the site (CDFW 2024a). For these reasons, WSP considers there to be at least a low potential for the occurrence of burrowing owl onsite. Because the site is not located within or adjacent to a CVMSHCP conservation area, it is the opinion of WSP that at a minimum, a preconstruction (take avoidance) survey for burrowing owl is warranted and is therefore recommended to be conducted immediately prior to initial site clearance to ensure that burrowing owl does not occur on the site and that no direct take of burrowing owl result from project implementation. If burrowing owl is found to be present onsite, scheduled project activities would need to be temporarily halted or delayed and the CVCC and other resource agencies contact for further guidance.

Although there is a very low potential for Palm Springs pocket mouse and/or Coachella Valley (Palm Springs) round-tailed ground squirrel to occur onsite, both are fully covered species under the CVMSHCP, therefore payment of the development fee and participation in the plan is expected to fully mitigate any potential impacts to these species. Neither of these species are listed by USFWS or CDFW but are designated as SSCs by the CDFW. The site is not within CVMSHCP modeled habitat for either of these species.

The remaining six species, which are not covered, or not fully covered, under the CVMSHCP are discussed separately below.

6.1.2 Plant Species Not Covered Under the CVMSHCP

Abram's spurge is considered to have a very low potential of occurrence as it is associated with sandy soils in Mojavean and Sonoran desert scrub within the elevational parameters of the site and is known from the vicinity. It should be noted that due to the sparse and disturbed nature of the remnant native vegetation remaining and soils onsite, the potential occurrence of this species is considered highly unlikely, however, not impossible. This species was not detected during the field assessment as the assessment was conducted outside of this species blooming period (September-November). Abram's spurge is not listed as threatened or endangered but is designated as S2 by the CDFW and List 2B.2 by the CNPS meaning that it is considered to be "imperiled" by the CDFW and "rare, threated or endangered in California but more common elsewhere" and "moderately threatened in California". Abram's spurge is not covered under the CVMSHCP; thus, development fees and participation offer no mitigation for impacts (if any). Impacts (if any) to Abrams spurge potentially resulting from the implementation of the proposed project would not likely be considered significant, as there is almost no potential for the occurrence of a significant population of this species onsite. If present, this species would very likely only be in the form of a very limited number of individual plants. The site offers little to no conservation value for this, or any other special status species. For these reasons, unmitigated impacts to Abram's spurge (if any) would not likely be considered significant under the CEQA. For

these reasons, a focused survey for Abram's spurge is not considered to be warranted and thus is not recommended for this site.

Ribbed cryptantha is considered to have a very low potential of occurrence onsite as it is associated with sandy soils in Sonoran desert scrub, has been reported from the Cathedral City quadrangle. This species was not detected during the field assessment as the assessment was conducted outside of this species blooming period (February-May), however the sparse, remnant and disturbed quailbush scrub and somewhat sandy soils that are intermittently remnant onsite may nevertheless provide potentially suitable (albeit low quality) habitat for the occurrence of this species. Ribbed cryptantha is not listed as threatened or endangered but is designated as S4 by the CDFW and List 4.3 by the CNPS meaning that it is considered to be "Apparently Secure; but some cause for long-term concern" by the CDFW and "Plant of limited distribution, a Watch List species" and "not very threatened in California". Ribbed cryptantha is not covered under the CVMSHCP, thus development fees and participation offer no mitigation for impacts to this species. Impacts (if any) to ribbed cryptantha potentially resulting from the implementation of the proposed project would not likely be considered significant, as there is almost no potential for the occurrence of a significant population onsite. If present, this species would very likely only be in the form of a very limited number of individual plants. The site offers little to no conservation value for this, or any other special status species. Potential impacts to a few individuals (again, in the unlikely event that this species was present) would not be expected to cause the population to drop to a less than self-sustaining level. For these reasons, unmitigated impacts to ribbed cryptantha (if any) would not likely be considered significant under the CEQA. For these reasons, a focused survey for ribbed cryptantha on this site is not considered to be warranted and thus is not recommended.

6.1.3 Wildlife Species Not Covered Under the CVMSHCP

A single Cooper's hawk was observed onsite during the assessment. This species is not federally or state listed by the USFWS or CDFW. It is, however, managed as a Bird of Conservation Concern (BCC) and protected by Fish and Game Code (FGC) and the MBTA while nesting. Although observed occurring onsite, nesting habitat (i.e., riparian and/or deciduous communities, live oaks, etc.) is not present onsite. For these reasons, despite the detection of Cooper's hawk onsite, impacts to nesting Cooper's hawk are not anticipated to occur as a result of project implementation. As a result, surveys for nesting Coopers hawk are not considered to be warranted and are therefore not recommended for this site.

Costa's hummingbird was observed onsite during the assessment. This species is not federally or state listed by the USFWS or CDFW, however is managed as a BCC and protected by FGC and the MBTA while nesting. Limited nesting habitat for Costa's hummingbird is present onsite in the blue palo verde trees, Mexican palo verde trees and saltcedar trees intermittently present throughout

the site. In order to avoid potentially impacting nesting Costa's hummingbird, avoidance of any project-related disturbance (i.e., grading, vegetation removal, landscaping, operation of heavy equipment, construction, etc.) during the nesting season (1 February through 31 August) is recommended. If initial project disturbance cannot be scheduled to occur outside of the nesting season, a clearance survey for nesting Costa's hummingbird conducted by a qualified ornithologist or biologist immediately prior to onsite disturbance is recommended. If nesting Costa's hummingbirds are found, 100% avoidance of impacts is required and no work buffer zones would need to be established and observed where no work would be permitted until young have fledged. While there is no established protocol for nest avoidance, when consulted the CDFW generally recommends avoidance buffers of about 100–300 feet for unlisted songbirds.

American badger was not observed or detected on-site during the assessment. This species is not listed as threatened or endangered by either the USFWS or CDFW, however, it is designated as a SSC by the CDFW. American badger is a wide-ranging species and occurs in many habitats from below sea level to alpine habitats in the western and midwestern US, southcentral Canada and much of Mexico. No potential badger burrows were observed on-site, however lands on and adjacent to (to the east of) the site are otherwise potentially suitable. The American badger is known from the vicinity (CDFW 2024a). For these reasons, WSP considers there to be at least a low potential for American badger to occur on-site. Project-related impacts (if any) to American badger would not likely be considered significant under the CEQA as implementation of the proposed project is not anticipated to result in: 1) a substantial reduction of habitat for these this species, 2) a drop in self-sustaining population levels, 3) an elimination of these this species population levels, or 4) substantially reduce these this species numbers or reduce their its geographic range. For these reasons, despite considered to have a low potential of occurrence, presence/absence survey(s) for American badger are not recommended for this site.

6.1.4 Additional Bird Species Protected by the Migratory Bird Treaty Act

Excluded from coverage under the CVMSHCP are a variety of common bird species that are protected by the MBTA and FGC. This includes virtually all native migratory and resident bird species, including birds observed onsite and/or known to occur in the vicinity. Avoidance of impacts to these nesting migratory and resident birds is a requirement of the federal permit issued for the CVMSHCP. In order to avoid potentially impacting nesting birds, avoidance of any project-related disturbance (i.e., grading, vegetation removal, landscaping, operation of heavy equipment, construction, etc.) during the nesting season (1 February through 31 August) is recommended. If initial project disturbance cannot be scheduled to occur outside of the nesting season, a nesting bird clearance survey conducted by a qualified ornithologist or biologist immediately prior to onsite disturbance is recommended. If nesting birds are found, no work buffer zones would need to be established and observed where no work would be permitted until young have fledged.

While there is no established protocol for nest avoidance, when consulted the CDFW generally recommends avoidance buffers of about 100–300 feet for unlisted songbirds and 500 feet for listed songbirds and raptors.

6.1.5 Jurisdictional Areas

No natural streams, creeks, rivers, lakes, ponds or pools are located on the project site. A man-made, abandoned and dry irrigation pond and old irrigation structures (i.e., presumed derelict pumps, machinery, cement or concrete pipes and linear earthen furrows) are present in the approximate western and southern 2/3 of the site. These irrigation features, including the dry irrigation pond, are not anticipated to fall under the jurisdiction of either the USACE or CDFW.

7.0 CONCLUSION

The City of Coachella is a signatory to the CVMSHCP (CVCC 2024). Therefore, payment of the required development fees for approved projects are anticipated to mitigate the impacts and/or potential impacts (if any) to covered species potentially resulting from the development of the site, whether those covered species occur there or not. Covered species that are considered to have at least some (very low to low) potential of onsite occurrence include: burrowing owl, Palm Springs pocket mouse and Coachella Valley (Palm Springs) round-tailed ground squirrel. Impacts to these species (if any) and their respective habitat, would be fully covered and mitigated under the CVMSHCP with the payment of the requisite development fee and participation in the requirements of the plan.

Because the site contains suitable habitat and burrows suitable for burrowing owl were observed onsite, WSP recommends a preconstruction (take avoidance) survey for burrowing owl to ensure that burrowing owls do not occur onsite immediately prior to initial site clearance and or construction activities. Conducting a preconstruction (take avoidance) survey immediately prior to the commencement of proposed construction would ensure that impacts to burrowing owl do not result from project implementation. If burrowing owls are detected onsite, the CDFW would need to be contacted for guidance. If burrowing owls are detected onsite, relocation may be required, in coordination with the CVCC and CDFW.

Impacts to other bird species protected by the MBTA and FGC, including but not limited to Costa's hummingbird, mourning dove (*Zenaida macroura*), killdeer (*Charadrius vociferus*) and lesser nighthawk (*Chordeiles acutipennis*), require avoidance. If project activities (i.e., site grading, vegetation removal/trimming, earthwork in undisturbed areas, etc.) are conducted during the nesting season (i.e., generally between 1 February and 31 August), a nesting bird clearance survey is recommended to ensure impacts to nesting birds are avoided. If project activities are conducted outside of the nesting season, a nesting bird clearance survey could likely be avoided. If active

bird nests are found, at any time, proposed project activities would need to be halted and postponed until young have fledged the nest and impacts to nesting birds are entirely avoided.

With participation in and compliance with the requirements of the CVMSHC and implementation of the recommendations above, impacts to special status biological resources are anticipated to be mitigated to a less than significant level.

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USGS. 2015d. *Valerie, Calif.* 7.5-Minute Topographic Quadrangle.

APPENDIX A

SPECIES LIST: VASCULAR PLANTS

APPENDIX A

Species List: Vascular Plants

This list reports only plants observed by WSP on the site during the field assessment. Other species may have been overlooked or undetectable due to their growing season. [† = *special status species,* * = non-native species, sp. = identified only to genus, *cf*= compares favorably with]

Amaranthaceae	**Amaranth family**
Amaranthis cf. *albus**	tumbleweed*
Asteraceae	**Sunflower family**
Dicoria canescens	desert dicoria
Helianthus annuus	common sunflower
*Lactuca serriola**	prickly lettuce*
cf. *Lepidospartum squamatum*	scalebroom
Palafoxia arida	Spanish needles
Pluchea sericea	arrow-weed
Brassicaceae	**Mustard family**
*Brassica tournefortii**	Saraha mustard*
*Sisymbrium irio**	London rocket*
Chenopodaceae	**Goosefoot family**
Atriplex canescens	four-wing saltbush
Atriplex lentiformis	quailbush
*Salsola tragus**	Russian thistle*
Fabaceae	**Pea family**
cf. Acacia sp.*	Unidentified non-native acacia*
*Parkinsonia aculeata**	Mexican palo verde*
Parkinsonia florida	Mexican palo verde*
Malvaceae	**Saltcedar family**
*Malva parviflora**	cheeseweed*
Solanaceae	**Nightshade family**
Datura wrightii	jimsonweed
Solanum cf. *xanti*	purple nightshade
Tamaricaceae	**Saltcedar family**
Tamarix cf. *ramosissima*	*cf.* saltcedar
Zygophyllaceace	**Caltrop family**
*Tribulus terrestris**	Puncture vine*
Arecaceae	**Palm family**
*Phoenix dactylifera** (remnant agriculture)	date palm (remnant agriculture)
Washingtonia sp. (sapling)	fan palm (sapling)
Poaceae	**Grass family**
*Cynodon dactylon**	Bermuda grass*
*Schismus cf. barbatus**	Mediterranean grass*

APPENDIX B

SPECIES LIST: VERTEBRATE ANIMALS

APPENDIX B

Species List: Vertebrate Animals

This list reports only the vertebrate animals observed or detected by WSP during the field assessment. Other species may have been overlooked or undetectable due to their activity patterns or weather conditions. [† = *special status species,* * = non-native species, sp. = identified only to genus, *cf* = compares favorably with]

VERTEBRATES	
REPTILIA	**REPTILES**
Phrynosomatidae	**Spiny Lizards & Allies**
Uta stansburiana	side-blotched lizard
AVES	**BIRDS**
Columbidae	**Pigeons & Doves**
*Columba livia**	rock pigeon*
*Streptopelia decaocto**	Eurasian collared dove*
Zenaida macroura	mourning dove
Trochilidae	**Hummingbirds**
Calypte costae†	Costa's hummingbird†
Accipitridae	**Hawks, Kites, Eagles & Allies**
Accipiter cooperii†	Cooper's hawk†
Buteo lineatus	red-shouldered hawk
Buteo jamaicensis	red-tailed hawk
Falconidae	**Caracaras & Falcons**
Falco sparverius	American kestrel
Remizidae	**Penduline Tits & Verdins**
Auriparus flaviceps	verdin
Mimidae	**Mockingbirds & Thrashers**
Mimus polyglottos	northern mockingbird
Corvidae	**Crows & Ravens**
Corvus corax	common raven
Fringillidae	**Fringilline & Cardueline Finches**
Haemorhous mexicanus	house finch
Passerellidae	**New World Sparrows**
Zonotrichia leucophrys	white-crowned sparrow
MAMMALIA	**MAMMALS**
Geomyidae	**Pocket Gophers**
Thomomys bottae (burrows & tailings)	Botta's pocket gopher
Scuiridae	**Squirrels**
Otospermophilus beecheyi	California ground squirrel

APPENDIX C

FIGURES



FIGURE 1

Regional Map
Biological Resources Assessment & CVMSHCP Consistency Analysis Report
Calhoun Street & Avenue 49 Residential Development Project
Coachella, CA

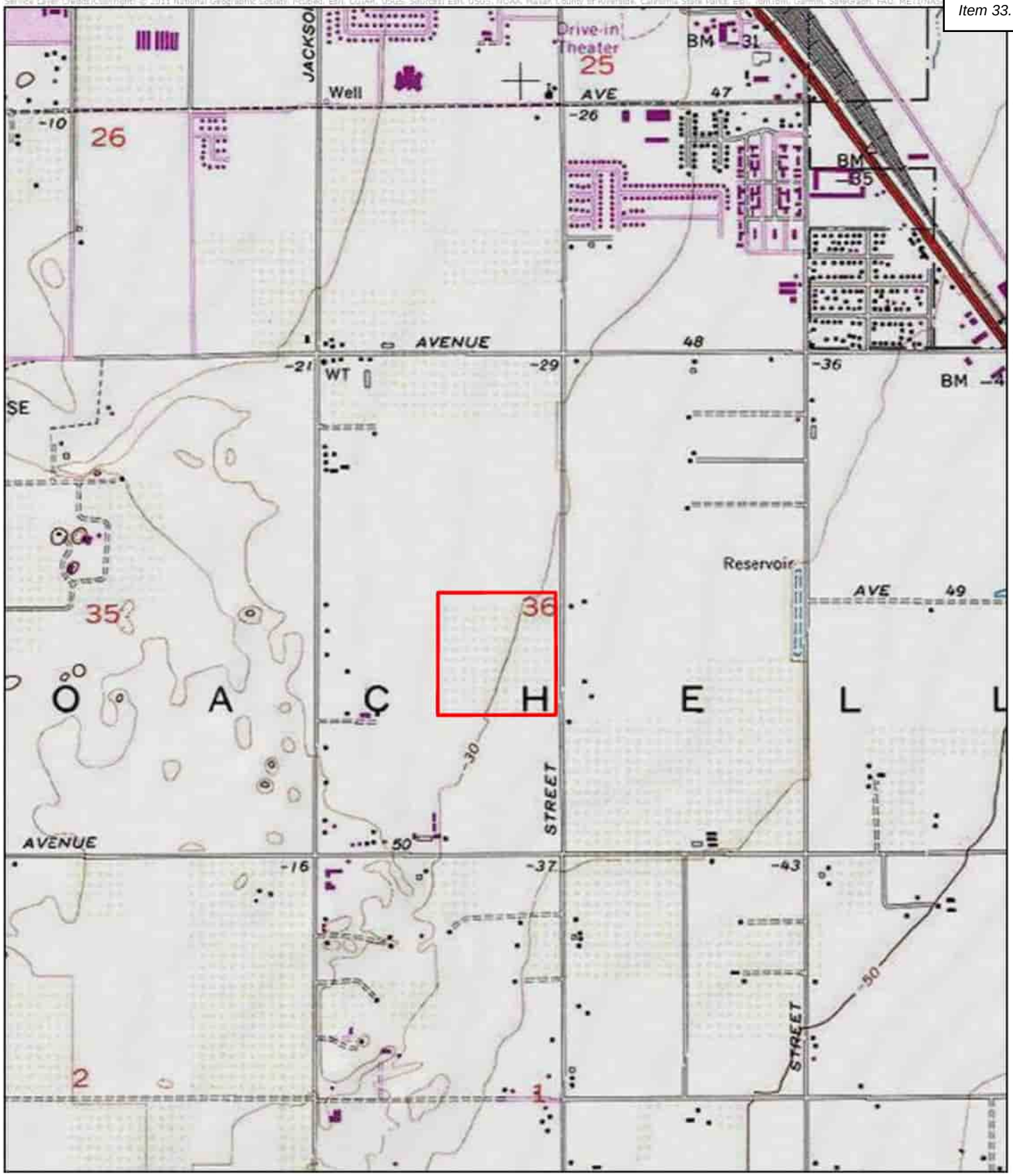


FIGURE 2

Location/Vicinity (USGS Topo)
Biological Resources Assessment & CVMSHCP Consistency Analysis Report
Calhoun Street & Avenue 49 Residential Development Project
Coachella, CA



FIGURE 3
CVMSHCP Plan Area
Biological Resources Assessment & CVMSHCP Consistency Analysis Report
Calhoun Street & Avenue 49 Residential Development Project
Coachella, CA



FIGURE 4
USDA Soils
Biological Resources Assessment & CVMSHCP Consistency Analysis Report
Calhoun Street & Avenue 49 Residential Development Project
Coachella, CA



FIGURE 5
Vegetation
Biological Resources Assessment & CVMSHCP Consistency Analysis Report
Calhoun Street & Avenue 49 Residential Development Project
Coachella, CA

APPENDIX D

PHOTOGRAPHIC EXHIBITS

CALHOUN STREET AND AVENUE 49 RESIDENTIAL DEVELOPMENT PROJECT

PHOTOGRAPHIC LOG



Photo 1: Representative condition of the largely barren, highly disturbed area of the site. Boundary of existing residential development visible to right (perimeter wall). View facing west-southwest from the northeastern corner of the site.



Photo 2: Representative condition of some of the remnant quailbush scrub onsite. Dry, abandoned irrigation pond visible to left. View facing south-southeast from northwestern corner of site.

CALHOUN STREET AND AVENUE 49 RESIDENTIAL DEVELOPMENT PROJECT

PHOTOGRAPHIC LOG



Photo 3: Representative condition of a remnant quailbush scrub portion of the site. Dry, abandoned irrigation pond visible in center. View facing east-southeast from northeast corner of site.



Photo 4: Representative condition of the remnant, fallow date palm farm portion of the site. View facing north from vicinity of the southwestern corner of site.

CALHOUN STREET AND AVENUE 49 RESIDENTIAL DEVELOPMENT PROJECT

PHOTOGRAPHIC LOG



Photo 5: Representative condition of the remnant, fallow date palm farm portion of the site. Existing adjacent residential development visible to right. View facing east from a south-central portion of site.



Photo 6: View of highly disturbed portion of site. Off-road vehicular activity and dumping evident. Calhoun Street and adjacent undeveloped open space visible to right. View facing north from southeastern corner of site.

CALHOUN STREET AND AVENUE 49 RESIDENTIAL DEVELOPMENT PROJECT

PHOTOGRAPHIC LOG



Photo 7: Representative example of burrows suitable for burrowing owl present onsite. View facing south from north-central portion of site.



Photo 8: Another representative example of an onsite burrow suitable for burrowing owl. View facing south from north-central potion of site.

CALHOUN STREET AND AVENUE 49 RESIDENTIAL DEVELOPMENT PROJECT

PHOTOGRAPHIC LOG



Photo 9: Another representative example of burrow suitable for burrowing owl present onsite. View facing south from south-central portion of site.

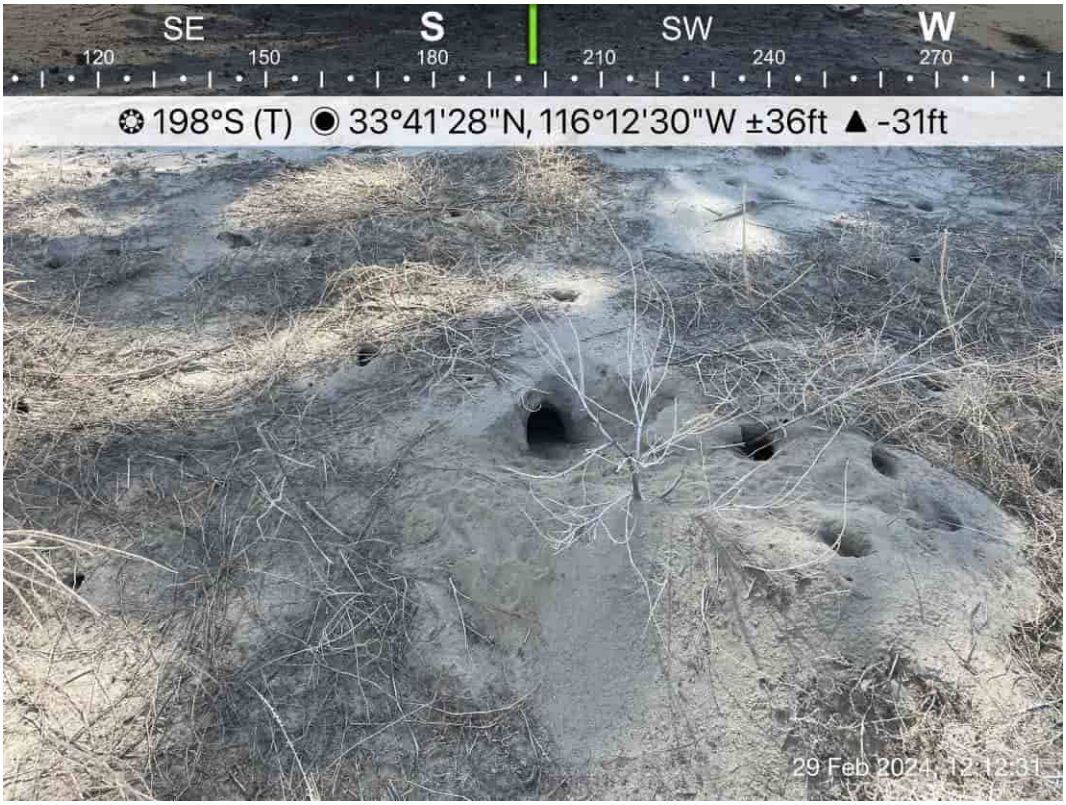


Photo 10: Another representative example of an onsite burrow suitable for burrowing owl. View facing south-southwest from a central location of site.

Appendix C
Calhoun Street Housing Development
Historical/Archaeological Resources Survey Report

CONFIDENTIAL
Available upon request to qualified professionals

Appendix D
Calhoun Street Housing Development Preliminary Hydrology Report

SW CORNER – CALHOUN ATREET AT 49TH AVENUE SUBDIVISION

COACHELLA, CA

PRELIMINARY HYDROLOGY REPORT

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Expiration Date: December 31, 2026



SW CORNER – CALHOUN ATREET AT 49TH AVENUE SUBDIVISION

PRELIMINARY HYDROLOGY REPORT

TABLE OF CONTENTS:

I PURPOSE AND SCOPE

II DESIGN METHODOLOGY

III RCFCD SYNTHETIC UNIT HYDROGRAPH CALCULATIONS

IV STREET FLOWRATE CAPACITY

V APPENDIX – REFERENCE MATERIAL

I. PURPOSE AND SCOPE

This report was prepared in support of the Calhoun Street at 49th Avenue Subdivision entitlement package submittal. The purpose of this preliminary report is to analyze the existing and proposed drainage patterns, discuss the on-site drainage design and size the proposed on-site drainage facilities to meet the City of Coachella drainage ordinance requirements.

The existing project site is an undeveloped lot at the southwesterly corner of the intersection of Calhoun Street and 49th Avenue in Coachella, CA. The proposed project improvements include the addition of residential lots with an interior access drive serving the lots on a 38.76 acre parcel. The site is bound to the north and east with fully improved public streets, to the east by a residential subdivision under development and to the south by an existing residential subdivision. The project proposes to obtain access to the site from Calhoun Street to the east, and from 49th Avenue to the north. The site will be drain via street surface flow to a series of on-site retention basins designed to capture and and store the storm run off generated during the 100 year design storm event. In general, the existing site is not subject to offsite storm flows.

II. DESIGN METHODOLOGY AND CALCULATIONS

The Calhoun Street project will provide five (5) on-site storm drain infiltration retention basin systems designed to capture and store the runoff generated from the "worst case" 100 year design storm based on City of Coachella requirements. The five retention basins have a combined volume capacity designed to store the runoff generated on-site during the 100 year design storm as well as runoff from the Calhoun Street half street project frontage and the 49 Avenue full width street frontage within the public right of way. The low point on the existing project site occurs on the project's easterly frontage. Runoff that exceeds the capacity of the on-site retention basin storage systems in an emergency overflow condition is designed to overflow onto interior surface streets and exit via surface flow onto Calhoun Street following the historical drainage pattern toward the south.

Riverside County Flood Control District Synthetic Unit Hydrograph methods are used to quantify the runoff volume generated and stored on-site during the 100 year "worst case" design storm return period. The program data and results prepared for this project are included in the Appendix of this report. The program model typically accounts for the volume of runoff lost due to infiltration in the basins and the allowable design retention basin infiltration rate of 10 gal./s.f./day (0.67 in/hr) established by City of Coachella will be applied over the surface area of the basin bottoms. The combined capacity of all five on-site basins will be compared to the total design runoff volume calculated for the Calhoun Street project to show that runoff generated during the 100 year design storm can be stored within the basins at a depth not to exceed 3ft and the runoff generated during the 10 year storm event can be stored within the on-site basins at a depth not to exceed 1.5 feet in accordance with City of Coachella retention basin criteria.

City of Coachella requires that runoff water stored on-site must be evacuated completely via infiltration within a period of 72 hours in order to comply with vector control concerns. In order to help facilitate this requirement, City of Coachella has limited the maximum depth of

stored runoff within any basin to 1.5' during the 10 year storm event and the maximum depth of any on-site retention basin must not exceed 3.5 feet.

On-site street curb and gutter systems will be designed to convey runoff to the on-site retention basin systems via surface flow. The project site will be designed to ensure that surface runoff generated during the 10 year storm is contained below the top of the proposed street curbs and runoff generated during the 100 year storm event is contained within street right of way. Street flowrates (Q) will be calculated by applying the Rational Method using CivilD software.

DESIGN CRITERIA

The following Riverside County Flood Control District (RCFCD) parameters were used in the preparation of the analyses:

- 2 year – 1 hour Precipitation 0.35" (NOAA)
- 10 year – 1 hour Precipitation 0.70" (NOAA)
- 10 year – 3 hour Precipitation 1.04" (NOAA)
- 10 year – 6 hour Precipitation 1.36" (NOAA)
- 10 year – 24 hour Precipitation 1.04" (NOAA)
- 100 year – 1 hour Precipitation 1.37" (NOAA)
- 100 year – 3 hour Precipitation 2.12" (NOAA)
- 100 year – 6 hour Precipitation 2.78" (NOAA)
- 100 year – 24 hour Precipitation 4.47" (NOAA)
- Hydrologic Soil Type "B" US Dept. of Agriculture, SCS
- Runoff Index Number 56 (RCFC&WCD Plate E-6.1)
- Assumed Design Percolation Rate 0.67 in/hr
- Slope Intensity Duration Curve 0.59 (RCFC&WCD Plate D-4.6)

III RCFCD SYNTHETIC UNIT HYDROGRAPH CALCULATED RETENTION VOLUMES

SUBAREA	100 YR. VOLUME REQUIRED (CU.FT.)	BASIN VOLUME PROVIDED (CU.FT.)	100 YR. BASIN STORAGE DEPTH	10 YR. BASIN STORAGE DEPTH
1	9,580	12,250	2.45	0.72
2	57,661	64,193	3.19’	0.99’
3	53,709	62,528	3.07’	0.94’
4	51,654	57,236	3.20	0.99
5	41,999	72,828	2.14’	0.54

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 10 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 1		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	1.18		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS			
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	0.83		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	1000		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	15		
30				
31	ELEVATION OF HEADWATER	471.5		
32	ELEVATION OF CONCENTRATION POINT	468.8		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	1.04		
40	6-HOUR	1.36		
41	24-HOUR	2.23		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		465	3025	
45		466	3700	
46		467	4430	
47		468	5215	
48		468.5	5630	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 1
[3] AREA - ACRES	2.010
[4] L-FEET	1000
[5] L-MILES	0.189
[6] La-FEET	15.00
[7] La-MILES	0.003
[8] ELEVATION OF HEADWATER	471.5
[9] ELEVATION OF CONCENTRATION POINT	468.8
[10] H-FEET	2.7
[11] S-FEET/MILE	14.3
[12] S^0.5	3.78
[13] L*LCA/S^0.5	0.000
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.02
[16] LAG TIME-MINUTES	1.0
[17] 100% OF LAG-MINUTES	1.0
[18] 200% OF LAG-MINUTES	2.0
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.05

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
1.04	2.010	1.00	1.04	1.36	2.010	1.00	1.36	2.23	2.010	1.00	2.23
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	2.01	SUM [7]	1.04	SUM [9]	2.01	SUM [11]	1.36	SUM [13]	2.01	SUM [15]	2.23
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			1.04				1.36				2.23

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	0.40	0.39	0.26
FLOOD VOLUME	(cu-ft)	2,906	2,880	1,903
	(acre-ft)	0.07	0.07	0.04
REQUIRED STORAGE	(cu-ft)	2,439	2,140	370
	(acre-ft)	0.06	0.05	0.01
PEAK FLOW	(cfs)	1.56	1.34	0.19
MAXIMUM WSEL	(ft)	465.72	465.64	465.10

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	1.18	0.587	0.0305
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	0.00	0.000	0.0000
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	0.83	0.413	0.2147
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		2.01	SUM	0.2453

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.122626866
C= 0.00227

Ft=C(24-(T/60))^1.55 = 0.00227 (24-(T/60))^1.55 + 0.12 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.01		
UNIT TIME-MINUTES	5		
LAG TIME - MINUTES	1.00		
UNIT TIME-PERCENT OF LAG	502.5		
TOTAL ADJUSTED STORM RAIN-INCHES	1.04		
CONSTANT LOSS RATE-in/hr	0.25		
LOW LOSS RATE - PERCENT	90%	TOTAL PERCOLATION RATE (cfs)	0.05 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.162	0.25	0.15	0.02	0.03	0.00
2	10	0.17	1.3	0.162	0.25	0.15	0.02	0.03	0.00
3	15	0.25	1.1	0.137	0.25	0.12	0.01	0.03	0.00
4	20	0.33	1.5	0.187	0.25	0.17	0.02	0.04	0.00
5	25	0.42	1.5	0.187	0.25	0.17	0.02	0.04	0.00
6	30	0.50	1.8	0.225	0.25	0.20	0.02	0.05	0.00
7	35	0.58	1.5	0.187	0.25	0.17	0.02	0.04	0.00
8	40	0.67	1.8	0.225	0.25	0.20	0.02	0.05	0.00
9	45	0.75	1.8	0.225	0.25	0.20	0.02	0.05	0.00
10	50	0.83	1.5	0.187	0.25	0.17	0.02	0.04	0.00
11	55	0.92	1.6	0.200	0.25	0.18	0.02	0.04	0.00
12	60	1.00	1.8	0.225	0.25	0.20	0.02	0.05	0.00
13	65	1.08	2.2	0.275	0.25	0.25	0.03	0.06	3.60
14	70	1.17	2.2	0.275	0.25	0.25	0.03	0.06	3.60
15	75	1.25	2.2	0.275	0.25	0.25	0.03	0.06	3.60
16	80	1.33	2.0	0.250	0.25	0.22	0.00	0.01	0.00
17	85	1.42	2.6	0.324	0.25	0.29	0.08	0.16	33.70
18	90	1.50	2.7	0.337	0.25	0.30	0.09	0.18	41.22
19	95	1.58	2.4	0.300	0.25	0.27	0.05	0.11	18.65
20	100	1.67	2.7	0.337	0.25	0.30	0.09	0.18	41.22
21	105	1.75	3.3	0.412	0.25	0.37	0.17	0.33	86.38
22	110	1.83	3.1	0.387	0.25	0.35	0.14	0.28	71.33
23	115	1.92	2.9	0.362	0.25	0.33	0.12	0.23	56.28
24	120	2.00	3.0	0.374	0.25	0.34	0.13	0.26	63.80
25	125	2.08	3.1	0.387	0.25	0.35	0.14	0.28	71.33
26	130	2.17	4.2	0.524	0.25	0.47	0.28	0.56	154.11
27	135	2.25	5.0	0.624	0.25	0.56	0.38	0.76	214.31
28	140	2.33	3.5	0.437	0.25	0.39	0.19	0.39	101.43
29	145	2.42	6.8	0.849	0.25	0.76	0.60	1.21	349.77
30	150	2.50	7.3	0.911	0.25	0.82	0.67	1.34	387.39
31	155	2.58	8.2	1.023	0.25	0.92	0.78	1.56	455.12
32	160	2.67	5.9	0.736	0.25	0.66	0.49	0.99	282.04
33	165	2.75	2.0	0.250	0.25	0.22	0.00	0.01	0.00
34	170	2.83	1.8	0.225	0.25	0.20	0.02	0.05	0.00
35	175	2.92	1.8	0.225	0.25	0.20	0.02	0.05	0.00
36	180	3.00	0.6	0.075	0.25	0.07	0.01	0.02	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.40
FLOOD VOLUME (acft)	0.07
FLOOD VOLUME (cuft)	2906.38
REQUIRED STORAGE (acft)	0.06
REQUIRED STORAGE (cuft)	2438.86
PEAK FLOW RATE (cfs)	1.56

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.01
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.00
UNIT TIME-PERCENT OF LAG	502.5
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.245
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.05 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.082	0.25	0.07	0.01	0.02	0.00
2	10	0.17	0.6	0.098	0.25	0.09	0.01	0.02	0.00
3	15	0.25	0.6	0.098	0.25	0.09	0.01	0.02	0.00
4	20	0.33	0.6	0.098	0.25	0.09	0.01	0.02	0.00
5	25	0.42	0.6	0.098	0.25	0.09	0.01	0.02	0.00
6	30	0.50	0.7	0.114	0.25	0.10	0.01	0.02	0.00
7	35	0.58	0.7	0.114	0.25	0.10	0.01	0.02	0.00
8	40	0.67	0.7	0.114	0.25	0.10	0.01	0.02	0.00
9	45	0.75	0.7	0.114	0.25	0.10	0.01	0.02	0.00
10	50	0.83	0.7	0.114	0.25	0.10	0.01	0.02	0.00
11	55	0.92	0.7	0.114	0.25	0.10	0.01	0.02	0.00
12	60	1.00	0.8	0.131	0.25	0.12	0.01	0.03	0.00
13	65	1.08	0.8	0.131	0.25	0.12	0.01	0.03	0.00
14	70	1.17	0.8	0.131	0.25	0.12	0.01	0.03	0.00
15	75	1.25	0.8	0.131	0.25	0.12	0.01	0.03	0.00
16	80	1.33	0.8	0.131	0.25	0.12	0.01	0.03	0.00
17	85	1.42	0.8	0.131	0.25	0.12	0.01	0.03	0.00
18	90	1.50	0.8	0.131	0.25	0.12	0.01	0.03	0.00
19	95	1.58	0.8	0.131	0.25	0.12	0.01	0.03	0.00
20	100	1.67	0.8	0.131	0.25	0.12	0.01	0.03	0.00
21	105	1.75	0.8	0.131	0.25	0.12	0.01	0.03	0.00
22	110	1.83	0.8	0.131	0.25	0.12	0.01	0.03	0.00
23	115	1.92	0.8	0.131	0.25	0.12	0.01	0.03	0.00
24	120	2.00	0.9	0.147	0.25	0.13	0.01	0.03	0.00
25	125	2.08	0.8	0.131	0.25	0.12	0.01	0.03	0.00
26	130	2.17	0.9	0.147	0.25	0.13	0.01	0.03	0.00
27	135	2.25	0.9	0.147	0.25	0.13	0.01	0.03	0.00
28	140	2.33	0.9	0.147	0.25	0.13	0.01	0.03	0.00
29	145	2.42	0.9	0.147	0.25	0.13	0.01	0.03	0.00
30	150	2.50	0.9	0.147	0.25	0.13	0.01	0.03	0.00
31	155	2.58	0.9	0.147	0.25	0.13	0.01	0.03	0.00
32	160	2.67	0.9	0.147	0.25	0.13	0.01	0.03	0.00
33	165	2.75	1.0	0.163	0.25	0.15	0.02	0.03	0.00
34	170	2.83	1.0	0.163	0.25	0.15	0.02	0.03	0.00
35	175	2.92	1.0	0.163	0.25	0.15	0.02	0.03	0.00
36	180	3.00	1.0	0.163	0.25	0.15	0.02	0.03	0.00
37	185	3.08	1.0	0.163	0.25	0.15	0.02	0.03	0.00
38	190	3.17	1.1	0.180	0.25	0.16	0.02	0.04	0.00
39	195	3.25	1.1	0.180	0.25	0.16	0.02	0.04	0.00
40	200	3.33	1.1	0.180	0.25	0.16	0.02	0.04	0.00
41	205	3.42	1.2	0.196	0.25	0.18	0.02	0.04	0.00
42	210	3.50	1.3	0.212	0.25	0.19	0.02	0.04	0.00
43	215	3.58	1.4	0.228	0.25	0.21	0.02	0.05	0.00
44	220	3.67	1.4	0.228	0.25	0.21	0.02	0.05	0.00
45	225	3.75	1.5	0.245	0.25	0.22	0.02	0.05	0.69
46	230	3.83	1.5	0.245	0.25	0.22	0.02	0.05	0.69
47	235	3.92	1.6	0.261	0.25	0.24	0.02	0.03	0.00
48	240	4.00	1.6	0.261	0.25	0.24	0.02	0.03	0.00
49	245	4.08	1.7	0.277	0.25	0.25	0.03	0.06	5.33
50	250	4.17	1.8	0.294	0.25	0.26	0.05	0.10	15.17
51	255	4.25	1.9	0.310	0.25	0.28	0.06	0.13	25.02
52	260	4.33	2.0	0.326	0.25	0.29	0.08	0.16	34.86
53	265	4.42	2.1	0.343	0.25	0.31	0.10	0.20	44.70
54	270	4.50	2.1	0.343	0.25	0.31	0.10	0.20	44.70
55	275	4.58	2.2	0.359	0.25	0.32	0.11	0.23	54.54
56	280	4.67	2.3	0.375	0.25	0.34	0.13	0.26	64.38

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.01
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.00
UNIT TIME-PERCENT OF LAG	502.5
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.245
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.05 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.392	0.25	0.35	0.15	0.29	74.22
58	290	4.83	2.4	0.392	0.25	0.35	0.15	0.29	74.22
59	295	4.92	2.5	0.408	0.25	0.37	0.16	0.33	84.06
60	300	5.00	2.6	0.424	0.25	0.38	0.18	0.36	93.90
61	305	5.08	3.1	0.506	0.25	0.46	0.26	0.52	143.11
62	310	5.17	3.6	0.588	0.25	0.53	0.34	0.69	192.31
63	315	5.25	3.9	0.636	0.25	0.57	0.39	0.79	221.83
64	320	5.33	4.2	0.685	0.25	0.62	0.44	0.88	251.36
65	325	5.42	4.7	0.767	0.25	0.69	0.52	1.05	300.56
66	330	5.50	5.6	0.914	0.25	0.82	0.67	1.34	389.13
67	335	5.58	1.9	0.310	0.25	0.28	0.06	0.13	25.02
68	340	5.67	0.9	0.147	0.25	0.13	0.01	0.03	0.00
69	345	5.75	0.6	0.098	0.25	0.09	0.01	0.02	0.00
70	350	5.83	0.5	0.082	0.25	0.07	0.01	0.02	0.00
71	355	5.92	0.3	0.049	0.25	0.04	0.00	0.01	0.00
72	360	6.00	0.2	0.033	0.25	0.03	0.00	0.01	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.39
FLOOD VOLUME (acft)	0.07
FLOOD VOLUME (cuft)	2879.82
REQUIRED STORAGE (acft)	0.05
REQUIRED STORAGE (cuft)	2139.79
PEAK FLOW RATE (cfs)	1.34

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.010	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2453
LAG TIME - MINUTES	1.00	MINIMUM LOSS RATE (for var. loss) - in/hr	0.123
UNIT TIME-PERCENT OF LAG	1507.5	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00227
		PERCOLATION RATE (cfs)	0.05

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.018	0.433	0.016	0.002	0.00	0.00
2	30	0.50	0.3	0.027	0.428	0.024	0.003	0.01	0.00
3	45	0.75	0.3	0.027	0.423	0.024	0.003	0.01	0.00
4	60	1.00	0.4	0.036	0.418	0.032	0.004	0.01	0.00
5	75	1.25	0.3	0.027	0.413	0.024	0.003	0.01	0.00
6	90	1.50	0.3	0.027	0.408	0.024	0.003	0.01	0.00
7	105	1.75	0.3	0.027	0.403	0.024	0.003	0.01	0.00
8	120	2.00	0.4	0.036	0.399	0.032	0.004	0.01	0.00
9	135	2.25	0.4	0.036	0.394	0.032	0.004	0.01	0.00
10	150	2.50	0.4	0.036	0.389	0.032	0.004	0.01	0.00
11	165	2.75	0.5	0.045	0.384	0.040	0.004	0.01	0.00
12	180	3.00	0.5	0.045	0.379	0.040	0.004	0.01	0.00
13	195	3.25	0.5	0.045	0.375	0.040	0.004	0.01	0.00
14	210	3.50	0.5	0.045	0.370	0.040	0.004	0.01	0.00
15	225	3.75	0.5	0.045	0.365	0.040	0.004	0.01	0.00
16	240	4.00	0.6	0.054	0.361	0.048	0.005	0.01	0.00
17	255	4.25	0.6	0.054	0.356	0.048	0.005	0.01	0.00
18	270	4.50	0.7	0.062	0.352	0.056	0.006	0.01	0.00
19	285	4.75	0.7	0.062	0.347	0.056	0.006	0.01	0.00
20	300	5.00	0.8	0.071	0.343	0.064	0.007	0.01	0.00
21	315	5.25	0.6	0.054	0.338	0.048	0.005	0.01	0.00
22	330	5.50	0.7	0.062	0.334	0.056	0.006	0.01	0.00
23	345	5.75	0.8	0.071	0.330	0.064	0.007	0.01	0.00
24	360	6.00	0.8	0.071	0.325	0.064	0.007	0.01	0.00
25	375	6.25	0.9	0.080	0.321	0.072	0.008	0.02	0.00
26	390	6.50	0.9	0.080	0.317	0.072	0.008	0.02	0.00
27	405	6.75	1.0	0.089	0.312	0.080	0.009	0.02	0.00
28	420	7.00	1.0	0.089	0.308	0.080	0.009	0.02	0.00
29	435	7.25	1.0	0.089	0.304	0.080	0.009	0.02	0.00
30	450	7.50	1.1	0.098	0.300	0.088	0.010	0.02	0.00
31	465	7.75	1.2	0.107	0.296	0.096	0.011	0.02	0.00
32	480	8.00	1.3	0.116	0.292	0.104	0.012	0.02	0.00
33	495	8.25	1.5	0.134	0.288	0.120	0.013	0.03	0.00
34	510	8.50	1.5	0.134	0.284	0.120	0.013	0.03	0.00
35	525	8.75	1.6	0.143	0.280	0.128	0.014	0.03	0.00
36	540	9.00	1.7	0.152	0.276	0.136	0.015	0.03	0.00
37	555	9.25	1.9	0.169	0.272	0.153	0.017	0.03	0.00
38	570	9.50	2.0	0.178	0.268	0.161	0.018	0.04	0.00
39	585	9.75	2.1	0.187	0.264	0.169	0.019	0.04	0.00
40	600	10.00	2.2	0.196	0.260	0.177	0.020	0.04	0.00
41	615	10.25	1.5	0.134	0.256	0.120	0.013	0.03	0.00
42	630	10.50	1.5	0.134	0.253	0.120	0.013	0.03	0.00
43	645	10.75	2.0	0.178	0.249	0.161	0.018	0.04	0.00
44	660	11.00	2.0	0.178	0.245	0.161	0.018	0.04	0.00
45	675	11.25	1.9	0.169	0.242	0.153	0.017	0.03	0.00
46	690	11.50	1.9	0.169	0.238	0.153	0.017	0.03	0.00
47	705	11.75	1.7	0.152	0.235	0.136	0.015	0.03	0.00
48	720	12.00	1.8	0.161	0.231	0.145	0.016	0.03	0.00
49	735	12.25	2.5	0.223	0.228	0.201	0.022	0.04	0.00
50	750	12.50	2.6	0.232	0.224	0.209	0.008	0.02	0.00
51	765	12.75	2.8	0.250	0.221	0.225	0.029	0.06	9.79
52	780	13.00	2.9	0.259	0.218	0.233	0.041	0.08	31.95
53	795	13.25	3.4	0.303	0.214	0.273	0.089	0.18	118.58
54	810	13.50	3.4	0.303	0.211	0.273	0.092	0.19	124.46
55	825	13.75	2.3	0.205	0.208	0.185	0.021	0.04	0.00
56	840	14.00	2.3	0.205	0.205	0.185	0.000	0.00	0.00
57	855	14.25	2.7	0.241	0.202	0.217	0.039	0.08	28.68
58	870	14.50	2.6	0.232	0.199	0.209	0.033	0.07	18.11
59	885	14.75	2.6	0.232	0.196	0.209	0.036	0.07	23.61
60	900	15.00	2.5	0.223	0.193	0.201	0.030	0.06	12.88
61	915	15.25	2.4	0.214	0.190	0.193	0.024	0.05	2.07

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.010	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2453
LAG TIME - MINUTES	1.00	MINIMUM LOSS RATE (for var. loss) - in/hr	0.123
UNIT TIME-PERCENT OF LAG	1507.5	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00227
		PERCOLATION RATE (cfs)	0.05

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
62	930	15.50	2.3	0.205	0.187	0.185	0.018	0.04	0.00
63	945	15.75	1.9	0.169	0.184	0.153	0.017	0.03	0.00
64	960	16.00	1.9	0.169	0.181	0.153	0.017	0.03	0.00
65	975	16.25	0.4	0.036	0.178	0.032	0.004	0.01	0.00
66	990	16.50	0.4	0.036	0.176	0.032	0.004	0.01	0.00
67	1005	16.75	0.3	0.027	0.173	0.024	0.003	0.01	0.00
68	1020	17.00	0.3	0.027	0.170	0.024	0.003	0.01	0.00
69	1035	17.25	0.5	0.045	0.168	0.040	0.004	0.01	0.00
70	1050	17.50	0.5	0.045	0.165	0.040	0.004	0.01	0.00
71	1065	17.75	0.5	0.045	0.163	0.040	0.004	0.01	0.00
72	1080	18.00	0.4	0.036	0.160	0.032	0.004	0.01	0.00
73	1095	18.25	0.4	0.036	0.158	0.032	0.004	0.01	0.00
74	1110	18.50	0.4	0.036	0.156	0.032	0.004	0.01	0.00
75	1125	18.75	0.3	0.027	0.153	0.024	0.003	0.01	0.00
76	1140	19.00	0.2	0.018	0.151	0.016	0.002	0.00	0.00
77	1155	19.25	0.3	0.027	0.149	0.024	0.003	0.01	0.00
78	1170	19.50	0.4	0.036	0.147	0.032	0.004	0.01	0.00
79	1185	19.75	0.3	0.027	0.145	0.024	0.003	0.01	0.00
80	1200	20.00	0.2	0.018	0.143	0.016	0.002	0.00	0.00
81	1215	20.25	0.3	0.027	0.141	0.024	0.003	0.01	0.00
82	1230	20.50	0.3	0.027	0.139	0.024	0.003	0.01	0.00
83	1245	20.75	0.3	0.027	0.138	0.024	0.003	0.01	0.00
84	1260	21.00	0.2	0.018	0.136	0.016	0.002	0.00	0.00
85	1275	21.25	0.3	0.027	0.134	0.024	0.003	0.01	0.00
86	1290	21.50	0.2	0.018	0.133	0.016	0.002	0.00	0.00
87	1305	21.75	0.3	0.027	0.131	0.024	0.003	0.01	0.00
88	1320	22.00	0.2	0.018	0.130	0.016	0.002	0.00	0.00
89	1335	22.25	0.3	0.027	0.129	0.024	0.003	0.01	0.00
90	1350	22.50	0.2	0.018	0.127	0.016	0.002	0.00	0.00
91	1365	22.75	0.2	0.018	0.126	0.016	0.002	0.00	0.00
92	1380	23.00	0.2	0.018	0.125	0.016	0.002	0.00	0.00
93	1395	23.25	0.2	0.018	0.124	0.016	0.002	0.00	0.00
94	1410	23.50	0.2	0.018	0.124	0.016	0.002	0.00	0.00
95	1425	23.75	0.2	0.018	0.123	0.016	0.002	0.00	0.00
96	1440	24.00	0.2	0.018	0.123	0.016	0.002	0.00	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.26
FLOOD VOLUME (acft)	0.04
FLOOD VOLUME (cuft)	1902.84
REQUIRED STORAGE (acft)	0.01
REQUIRED STORAGE (cuft)	370.13
PEAK FLOW (cfs)	0.19

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
465	0	0		3025	0	0	0.00
466	1	1	675	3700	3363	3363	0.08
467	1	2	730	4430	4065	7428	0.17
468	1	3	785	5215	4823	12250	0.28
468.5	0.5	3.5	415	5630	2711	14961	0.34

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.05 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.05 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.03	10	10	14	-	465.00	-	0.00
2	10	0.03	10	10	14	-	465.00	-	0.00
3	15	0.03	8	8	14	-	465.00	-	0.00
4	20	0.04	11	11	14	-	465.00	-	0.00
5	25	0.04	11	11	14	-	465.00	-	0.00
6	30	0.05	14	14	14	-	465.00	-	0.00
7	35	0.04	11	11	14	-	465.00	-	0.00
8	40	0.05	14	14	14	-	465.00	-	0.00
9	45	0.05	14	14	14	-	465.00	-	0.00
10	50	0.04	11	11	14	-	465.00	-	0.00
11	55	0.04	12	12	14	-	465.00	-	0.00
12	60	0.05	14	14	14	-	465.00	-	0.00
13	65	0.06	18	18	14	4	465.00	4	0.00
14	70	0.06	18	21	14	7	465.00	7	0.00
15	75	0.06	18	25	14	11	465.00	11	0.00
16	80	0.01	3	13	14	-	465.00	-	0.00
17	85	0.16	48	48	14	34	465.01	34	0.00
18	90	0.18	55	89	14	75	465.02	75	0.00
19	95	0.11	33	108	14	94	465.03	94	0.00
20	100	0.18	55	149	14	135	465.04	135	0.00
21	105	0.33	100	235	14	221	465.07	221	0.01
22	110	0.28	85	307	14	292	465.09	292	0.01
23	115	0.23	70	363	14	349	465.10	349	0.01
24	120	0.26	78	427	14	413	465.12	413	0.01
25	125	0.28	85	498	14	484	465.14	484	0.01
26	130	0.56	168	652	14	638	465.19	638	0.01
27	135	0.76	228	866	14	852	465.25	852	0.02
28	140	0.39	116	968	14	954	465.28	954	0.02
29	145	1.21	364	1,318	14	1,304	465.39	1,304	0.03
30	150	1.34	401	1,705	14	1,691	465.50	1,691	0.04
31	155	1.56	469	2,160	14	2,146	465.64	2,146	0.05
32	160	0.99	296	2,442	14	2,428	465.72	2,428	0.06
33	165	0.01	3	2,431	14	2,417	465.72	2,417	0.06
34	170	0.05	14	2,430	14	2,416	465.72	2,416	0.06
35	175	0.05	14	2,430	14	2,416	465.72	2,416	0.06
36	180	0.02	5	2,420	14	2,406	465.72	2,406	0.06

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.02	5	5	14	-	465.00	-	0.00
2	10	0.02	6	6	14	-	465.00	-	0.00
3	15	0.02	6	6	14	-	465.00	-	0.00
4	20	0.02	6	6	14	-	465.00	-	0.00
5	25	0.02	6	6	14	-	465.00	-	0.00
6	30	0.02	7	7	14	-	465.00	-	0.00
7	35	0.02	7	7	14	-	465.00	-	0.00
8	40	0.02	7	7	14	-	465.00	-	0.00
9	45	0.02	7	7	14	-	465.00	-	0.00
10	50	0.02	7	7	14	-	465.00	-	0.00
11	55	0.02	7	7	14	-	465.00	-	0.00
12	60	0.03	8	8	14	-	465.00	-	0.00
13	65	0.03	8	8	14	-	465.00	-	0.00
14	70	0.03	8	8	14	-	465.00	-	0.00
15	75	0.03	8	8	14	-	465.00	-	0.00
16	80	0.03	8	8	14	-	465.00	-	0.00
17	85	0.03	8	8	14	-	465.00	-	0.00
18	90	0.03	8	8	14	-	465.00	-	0.00
19	95	0.03	8	8	14	-	465.00	-	0.00
20	100	0.03	8	8	14	-	465.00	-	0.00
21	105	0.03	8	8	14	-	465.00	-	0.00
22	110	0.03	8	8	14	-	465.00	-	0.00
23	115	0.03	8	8	14	-	465.00	-	0.00
24	120	0.03	9	9	14	-	465.00	-	0.00
25	125	0.03	8	8	14	-	465.00	-	0.00
26	130	0.03	9	9	14	-	465.00	-	0.00
27	135	0.03	9	9	14	-	465.00	-	0.00
28	140	0.03	9	9	14	-	465.00	-	0.00
29	145	0.03	9	9	14	-	465.00	-	0.00
30	150	0.03	9	9	14	-	465.00	-	0.00
31	155	0.03	9	9	14	-	465.00	-	0.00
32	160	0.03	9	9	14	-	465.00	-	0.00
33	165	0.03	10	10	14	-	465.00	-	0.00
34	170	0.03	10	10	14	-	465.00	-	0.00
35	175	0.03	10	10	14	-	465.00	-	0.00
36	180	0.03	10	10	14	-	465.00	-	0.00
37	185	0.03	10	10	14	-	465.00	-	0.00
38	190	0.04	11	11	14	-	465.00	-	0.00
39	195	0.04	11	11	14	-	465.00	-	0.00
40	200	0.04	11	11	14	-	465.00	-	0.00
41	205	0.04	12	12	14	-	465.00	-	0.00
42	210	0.04	13	13	14	-	465.00	-	0.00
43	215	0.05	14	14	14	-	465.00	-	0.00
44	220	0.05	14	14	14	-	465.00	-	0.00
45	225	0.05	15	15	14	1	465.00	1	0.00
46	230	0.05	15	15	14	1	465.00	1	0.00
47	235	0.03	10	11	14	-	465.00	-	0.00
48	240	0.03	10	10	14	-	465.00	-	0.00
49	245	0.06	19	19	14	5	465.00	5	0.00
50	250	0.10	29	35	14	21	465.01	21	0.00
51	255	0.13	39	60	14	46	465.01	46	0.00
52	260	0.16	49	94	14	80	465.02	80	0.00
53	265	0.20	59	139	14	125	465.04	125	0.00
54	270	0.20	59	184	14	170	465.05	170	0.00
55	275	0.23	69	238	14	224	465.07	224	0.01

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	0.26	78	303	14	289	465.09	289	0.01
57	285	0.29	88	377	14	363	465.11	363	0.01
58	290	0.29	88	451	14	437	465.13	437	0.01
59	295	0.33	98	535	14	521	465.16	521	0.01
60	300	0.36	108	629	14	615	465.18	615	0.01
61	305	0.52	157	772	14	758	465.23	758	0.02
62	310	0.69	206	965	14	951	465.28	951	0.02
63	315	0.79	236	1,186	14	1,172	465.35	1,172	0.03
64	320	0.88	265	1,438	14	1,424	465.42	1,424	0.03
65	325	1.05	315	1,738	14	1,724	465.51	1,724	0.04
66	330	1.34	403	2,127	14	2,113	465.63	2,113	0.05
67	335	0.13	39	2,152	14	2,138	465.64	2,138	0.05
68	340	0.03	9	2,147	14	2,133	465.63	2,133	0.05
69	345	0.02	6	2,139	14	2,125	465.63	2,125	0.05
70	350	0.02	5	2,130	14	2,116	465.63	2,116	0.05
71	355	0.01	3	2,119	14	2,105	465.63	2,105	0.05
72	360	0.01	2	2,107	14	2,093	465.62	2,093	0.05

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.00	3	3	42	-	465.00	-	0.00
2	30	0.01	5	5	42	-	465.00	-	0.00
3	45	0.01	5	5	42	-	465.00	-	0.00
4	60	0.01	6	6	42	-	465.00	-	0.00
5	75	0.01	5	5	42	-	465.00	-	0.00
6	90	0.01	5	5	42	-	465.00	-	0.00
7	105	0.01	5	5	42	-	465.00	-	0.00
8	120	0.01	6	6	42	-	465.00	-	0.00
9	135	0.01	6	6	42	-	465.00	-	0.00
10	150	0.01	6	6	42	-	465.00	-	0.00
11	165	0.01	8	8	42	-	465.00	-	0.00
12	180	0.01	8	8	42	-	465.00	-	0.00
13	195	0.01	8	8	42	-	465.00	-	0.00
14	210	0.01	8	8	42	-	465.00	-	0.00
15	225	0.01	8	8	42	-	465.00	-	0.00
16	240	0.01	10	10	42	-	465.00	-	0.00
17	255	0.01	10	10	42	-	465.00	-	0.00
18	270	0.01	11	11	42	-	465.00	-	0.00
19	285	0.01	11	11	42	-	465.00	-	0.00
20	300	0.01	13	13	42	-	465.00	-	0.00
21	315	0.01	10	10	42	-	465.00	-	0.00
22	330	0.01	11	11	42	-	465.00	-	0.00
23	345	0.01	13	13	42	-	465.00	-	0.00
24	360	0.01	13	13	42	-	465.00	-	0.00
25	375	0.02	15	15	42	-	465.00	-	0.00
26	390	0.02	15	15	42	-	465.00	-	0.00
27	405	0.02	16	16	42	-	465.00	-	0.00
28	420	0.02	16	16	42	-	465.00	-	0.00
29	435	0.02	16	16	42	-	465.00	-	0.00
30	450	0.02	18	18	42	-	465.00	-	0.00
31	465	0.02	19	19	42	-	465.00	-	0.00
32	480	0.02	21	21	42	-	465.00	-	0.00
33	495	0.03	24	24	42	-	465.00	-	0.00
34	510	0.03	24	24	42	-	465.00	-	0.00
35	525	0.03	26	26	42	-	465.00	-	0.00
36	540	0.03	27	27	42	-	465.00	-	0.00
37	555	0.03	31	31	42	-	465.00	-	0.00
38	570	0.04	32	32	42	-	465.00	-	0.00
39	585	0.04	34	34	42	-	465.00	-	0.00
40	600	0.04	35	35	42	-	465.00	-	0.00
41	615	0.03	24	24	42	-	465.00	-	0.00
42	630	0.03	24	24	42	-	465.00	-	0.00
43	645	0.04	32	32	42	-	465.00	-	0.00
44	660	0.04	32	32	42	-	465.00	-	0.00
45	675	0.03	31	31	42	-	465.00	-	0.00
46	690	0.03	31	31	42	-	465.00	-	0.00
47	705	0.03	27	27	42	-	465.00	-	0.00
48	720	0.03	29	29	42	-	465.00	-	0.00
49	735	0.04	40	40	42	-	465.00	-	0.00
50	750	0.02	14	14	42	-	465.00	-	0.00
51	765	0.06	52	52	42	10	465.00	10	0.00
52	780	0.08	74	84	42	42	465.01	42	0.00
53	795	0.18	161	203	42	160	465.05	160	0.00
54	810	0.19	167	327	42	285	465.08	285	0.01
55	825	0.04	37	322	42	280	465.08	280	0.01
56	840	0.00	1	280	42	238	465.07	238	0.01
57	855	0.08	71	309	42	267	465.08	267	0.01
58	870	0.07	60	327	42	285	465.08	285	0.01

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	0.07	66	351	42	309	465.09	309	0.01
60	900	0.06	55	364	42	321	465.10	321	0.01
61	915	0.05	44	366	42	324	465.10	324	0.01
62	930	0.04	33	357	42	315	465.09	315	0.01
63	945	0.03	31	345	42	303	465.09	303	0.01
64	960	0.03	31	334	42	292	465.09	292	0.01
65	975	0.01	6	298	42	256	465.08	256	0.01
66	990	0.01	6	262	42	220	465.07	220	0.01
67	1005	0.01	5	225	42	183	465.05	183	0.00
68	1020	0.01	5	187	42	145	465.04	145	0.00
69	1035	0.01	8	153	42	111	465.03	111	0.00
70	1050	0.01	8	119	42	77	465.02	77	0.00
71	1065	0.01	8	85	42	43	465.01	43	0.00
72	1080	0.01	6	49	42	7	465.00	7	0.00
73	1095	0.01	6	13	42	-	465.00	-	0.00
74	1110	0.01	6	6	42	-	465.00	-	0.00
75	1125	0.01	5	5	42	-	465.00	-	0.00
76	1140	0.00	3	3	42	-	465.00	-	0.00
77	1155	0.01	5	5	42	-	465.00	-	0.00
78	1170	0.01	6	6	42	-	465.00	-	0.00
79	1185	0.01	5	5	42	-	465.00	-	0.00
80	1200	0.00	3	3	42	-	465.00	-	0.00
81	1215	0.01	5	5	42	-	465.00	-	0.00
82	1230	0.01	5	5	42	-	465.00	-	0.00
83	1245	0.01	5	5	42	-	465.00	-	0.00
84	1260	0.00	3	3	42	-	465.00	-	0.00
85	1275	0.01	5	5	42	-	465.00	-	0.00
86	1290	0.00	3	3	42	-	465.00	-	0.00
87	1305	0.01	5	5	42	-	465.00	-	0.00
88	1320	0.00	3	3	42	-	465.00	-	0.00
89	1335	0.01	5	5	42	-	465.00	-	0.00
90	1350	0.00	3	3	42	-	465.00	-	0.00
91	1365	0.00	3	3	42	-	465.00	-	0.00
92	1380	0.00	3	3	42	-	465.00	-	0.00
93	1395	0.00	3	3	42	-	465.00	-	0.00
94	1410	0.00	3	3	42	-	465.00	-	0.00
95	1425	0.00	3	3	42	-	465.00	-	0.00
96	1440	0.00	3	3	42	-	465.00	-	0.00

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 10 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 2		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	2.51		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	7.46		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	0.6		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	724		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	100		
30				
31	ELEVATION OF HEADWATER	472		
32	ELEVATION OF CONCENTRATION POINT	468.5		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	1.04		
40	6-HOUR	1.36		
41	24-HOUR	2.23		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		465	15600	
45		466	17120	
46		467	18710	
47		468	20350	
48		468.5	21200	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 2
[3] AREA - ACRES	10.570
[4] L-FEET	724
[5] L-MILES	0.137
[6] La-FEET	100.00
[7] La-MILES	0.019
[8] ELEVATION OF HEADWATER	472
[9] ELEVATION OF CONCENTRATION POINT	468.5
[10] H-FEET	3.5
[11] S-FEET/MILE	25.5
[12] S^0.5	5.05
[13] L*LCA/S^0.5	0.001
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.03
[16] LAG TIME-MINUTES	1.6
[17] 100% OF LAG-MINUTES	1.6
[18] 200% OF LAG-MINUTES	3.2
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.24

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
1.04	10.570	1.00	1.04	1.36	10.570	1.00	1.36	2.23	10.570	1.00	2.23
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	10.57	SUM [7]	1.04	SUM [9]	10.57	SUM [11]	1.36	SUM [13]	10.57	SUM [15]	2.23
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			1.04				1.36				2.23

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	0.49	0.49	0.40
FLOOD VOLUME	(cu-ft)	18,821	18,747	15,460
	(acre-ft)	0.43	0.43	0.35
REQUIRED STORAGE	(cu-ft)	16,281	14,878	6,850
	(acre-ft)	0.37	0.34	0.16
PEAK FLOW	(cfs)	8.76	7.61	1.44
MAXIMUM WSEL	(ft)	465.99	465.91	465.42

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	2.51	0.237	0.0123
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	7.46	0.706	0.1523
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	0.60	0.057	0.0295
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		10.57	SUM	0.1942

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.097085525
C= 0.00180

Ft=C(24-(T/60))^1.55 = 0.00180 (24-(T/60))^1.55 + 0.10 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.57
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.62
UNIT TIME-PERCENT OF LAG	308.6
TOTAL ADJUSTED STORM RAIN-INCHES	1.04
CONSTANT LOSS RATE-in/hr	0.19
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.24 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.162	0.19	0.15	0.02	0.17	0.00
2	10	0.17	1.3	0.162	0.19	0.15	0.02	0.17	0.00
3	15	0.25	1.1	0.137	0.19	0.12	0.01	0.15	0.00
4	20	0.33	1.5	0.187	0.19	0.17	0.02	0.20	0.00
5	25	0.42	1.5	0.187	0.19	0.17	0.02	0.20	0.00
6	30	0.50	1.8	0.225	0.19	0.20	0.03	0.32	24.03
7	35	0.58	1.5	0.187	0.19	0.17	0.02	0.20	0.00
8	40	0.67	1.8	0.225	0.19	0.20	0.03	0.32	24.03
9	45	0.75	1.8	0.225	0.19	0.20	0.03	0.32	24.03
10	50	0.83	1.5	0.187	0.19	0.17	0.02	0.20	0.00
11	55	0.92	1.6	0.200	0.19	0.18	0.01	0.06	0.00
12	60	1.00	1.8	0.225	0.19	0.20	0.03	0.32	24.03
13	65	1.08	2.2	0.275	0.19	0.25	0.08	0.85	182.33
14	70	1.17	2.2	0.275	0.19	0.25	0.08	0.85	182.33
15	75	1.25	2.2	0.275	0.19	0.25	0.08	0.85	182.33
16	80	1.33	2.0	0.250	0.19	0.22	0.06	0.59	103.18
17	85	1.42	2.6	0.324	0.19	0.29	0.13	1.38	340.63
18	90	1.50	2.7	0.337	0.19	0.30	0.14	1.51	380.20
19	95	1.58	2.4	0.300	0.19	0.27	0.11	1.11	261.48
20	100	1.67	2.7	0.337	0.19	0.30	0.14	1.51	380.20
21	105	1.75	3.3	0.412	0.19	0.37	0.22	2.30	617.64
22	110	1.83	3.1	0.387	0.19	0.35	0.19	2.04	538.50
23	115	1.92	2.9	0.362	0.19	0.33	0.17	1.77	459.35
24	120	2.00	3.0	0.374	0.19	0.34	0.18	1.91	498.92
25	125	2.08	3.1	0.387	0.19	0.35	0.19	2.04	538.50
26	130	2.17	4.2	0.524	0.19	0.47	0.33	3.49	973.81
27	135	2.25	5.0	0.624	0.19	0.56	0.43	4.54	1290.40
28	140	2.33	3.5	0.437	0.19	0.39	0.24	2.56	696.79
29	145	2.42	6.8	0.849	0.19	0.76	0.65	6.92	2002.74
30	150	2.50	7.3	0.911	0.19	0.82	0.72	7.58	2200.61
31	155	2.58	8.2	1.023	0.19	0.92	0.83	8.76	2556.77
32	160	2.67	5.9	0.736	0.19	0.66	0.54	5.73	1646.57
33	165	2.75	2.0	0.250	0.19	0.22	0.06	0.59	103.18
34	170	2.83	1.8	0.225	0.19	0.20	0.03	0.32	24.03
35	175	2.92	1.8	0.225	0.19	0.20	0.03	0.32	24.03
36	180	3.00	0.6	0.075	0.19	0.07	0.01	0.08	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.49
FLOOD VOLUME (acft)	0.43
FLOOD VOLUME (cuft)	18821.12
REQUIRED STORAGE (acft)	0.37
REQUIRED STORAGE (cuft)	16280.67
PEAK FLOW RATE (cfs)	8.76

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.57
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.62
UNIT TIME-PERCENT OF LAG	308.6
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.194
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.24 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.082	0.19	0.07	0.01	0.09	0.00
2	10	0.17	0.6	0.098	0.19	0.09	0.01	0.10	0.00
3	15	0.25	0.6	0.098	0.19	0.09	0.01	0.10	0.00
4	20	0.33	0.6	0.098	0.19	0.09	0.01	0.10	0.00
5	25	0.42	0.6	0.098	0.19	0.09	0.01	0.10	0.00
6	30	0.50	0.7	0.114	0.19	0.10	0.01	0.12	0.00
7	35	0.58	0.7	0.114	0.19	0.10	0.01	0.12	0.00
8	40	0.67	0.7	0.114	0.19	0.10	0.01	0.12	0.00
9	45	0.75	0.7	0.114	0.19	0.10	0.01	0.12	0.00
10	50	0.83	0.7	0.114	0.19	0.10	0.01	0.12	0.00
11	55	0.92	0.7	0.114	0.19	0.10	0.01	0.12	0.00
12	60	1.00	0.8	0.131	0.19	0.12	0.01	0.14	0.00
13	65	1.08	0.8	0.131	0.19	0.12	0.01	0.14	0.00
14	70	1.17	0.8	0.131	0.19	0.12	0.01	0.14	0.00
15	75	1.25	0.8	0.131	0.19	0.12	0.01	0.14	0.00
16	80	1.33	0.8	0.131	0.19	0.12	0.01	0.14	0.00
17	85	1.42	0.8	0.131	0.19	0.12	0.01	0.14	0.00
18	90	1.50	0.8	0.131	0.19	0.12	0.01	0.14	0.00
19	95	1.58	0.8	0.131	0.19	0.12	0.01	0.14	0.00
20	100	1.67	0.8	0.131	0.19	0.12	0.01	0.14	0.00
21	105	1.75	0.8	0.131	0.19	0.12	0.01	0.14	0.00
22	110	1.83	0.8	0.131	0.19	0.12	0.01	0.14	0.00
23	115	1.92	0.8	0.131	0.19	0.12	0.01	0.14	0.00
24	120	2.00	0.9	0.147	0.19	0.13	0.01	0.16	0.00
25	125	2.08	0.8	0.131	0.19	0.12	0.01	0.14	0.00
26	130	2.17	0.9	0.147	0.19	0.13	0.01	0.16	0.00
27	135	2.25	0.9	0.147	0.19	0.13	0.01	0.16	0.00
28	140	2.33	0.9	0.147	0.19	0.13	0.01	0.16	0.00
29	145	2.42	0.9	0.147	0.19	0.13	0.01	0.16	0.00
30	150	2.50	0.9	0.147	0.19	0.13	0.01	0.16	0.00
31	155	2.58	0.9	0.147	0.19	0.13	0.01	0.16	0.00
32	160	2.67	0.9	0.147	0.19	0.13	0.01	0.16	0.00
33	165	2.75	1.0	0.163	0.19	0.15	0.02	0.17	0.00
34	170	2.83	1.0	0.163	0.19	0.15	0.02	0.17	0.00
35	175	2.92	1.0	0.163	0.19	0.15	0.02	0.17	0.00
36	180	3.00	1.0	0.163	0.19	0.15	0.02	0.17	0.00
37	185	3.08	1.0	0.163	0.19	0.15	0.02	0.17	0.00
38	190	3.17	1.1	0.180	0.19	0.16	0.02	0.19	0.00
39	195	3.25	1.1	0.180	0.19	0.16	0.02	0.19	0.00
40	200	3.33	1.1	0.180	0.19	0.16	0.02	0.19	0.00
41	205	3.42	1.2	0.196	0.19	0.18	0.00	0.02	0.00
42	210	3.50	1.3	0.212	0.19	0.19	0.02	0.19	0.00
43	215	3.58	1.4	0.228	0.19	0.21	0.03	0.36	36.21
44	220	3.67	1.4	0.228	0.19	0.21	0.03	0.36	36.21
45	225	3.75	1.5	0.245	0.19	0.22	0.05	0.54	87.96
46	230	3.83	1.5	0.245	0.19	0.22	0.05	0.54	87.96
47	235	3.92	1.6	0.261	0.19	0.24	0.07	0.71	139.71
48	240	4.00	1.6	0.261	0.19	0.24	0.07	0.71	139.71
49	245	4.08	1.7	0.277	0.19	0.25	0.08	0.88	191.46
50	250	4.17	1.8	0.294	0.19	0.26	0.10	1.05	243.21
51	255	4.25	1.9	0.310	0.19	0.28	0.12	1.23	294.96
52	260	4.33	2.0	0.326	0.19	0.29	0.13	1.40	346.71
53	265	4.42	2.1	0.343	0.19	0.31	0.15	1.57	398.47
54	270	4.50	2.1	0.343	0.19	0.31	0.15	1.57	398.47
55	275	4.58	2.2	0.359	0.19	0.32	0.16	1.74	450.22
56	280	4.67	2.3	0.375	0.19	0.34	0.18	1.92	501.97

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.57		
UNIT TIME-MINUTES	5		
LAG TIME - MINUTES	1.62		
UNIT TIME-PERCENT OF LAG	308.6		
TOTAL ADJUSTED STORM RAIN-INCHES	1.36		
CONSTANT LOSS RATE-in/hr	0.194		
LOW LOSS RATE - PERCENT	90%	TOTAL PERCOLATION RATE (cfs)	0.24 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.392	0.19	0.35	0.20	2.09	553.72
58	290	4.83	2.4	0.392	0.19	0.35	0.20	2.09	553.72
59	295	4.92	2.5	0.408	0.19	0.37	0.21	2.26	605.47
60	300	5.00	2.6	0.424	0.19	0.38	0.23	2.43	657.22
61	305	5.08	3.1	0.506	0.19	0.46	0.31	3.30	915.97
62	310	5.17	3.6	0.588	0.19	0.53	0.39	4.16	1174.73
63	315	5.25	3.9	0.636	0.19	0.57	0.44	4.68	1329.98
64	320	5.33	4.2	0.685	0.19	0.62	0.49	5.19	1485.23
65	325	5.42	4.7	0.767	0.19	0.69	0.57	6.06	1743.98
66	330	5.50	5.6	0.914	0.19	0.82	0.72	7.61	2209.74
67	335	5.58	1.9	0.310	0.19	0.28	0.12	1.23	294.96
68	340	5.67	0.9	0.147	0.19	0.13	0.01	0.16	0.00
69	345	5.75	0.6	0.098	0.19	0.09	0.01	0.10	0.00
70	350	5.83	0.5	0.082	0.19	0.07	0.01	0.09	0.00
71	355	5.92	0.3	0.049	0.19	0.04	0.00	0.05	0.00
72	360	6.00	0.2	0.033	0.19	0.03	0.00	0.03	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.49
FLOOD VOLUME (acft)	0.43
FLOOD VOLUME (cuft)	18747.03
REQUIRED STORAGE (acft)	0.34
REQUIRED STORAGE (cuft)	14877.95
PEAK FLOW RATE (cfs)	7.61

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.570	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.1942
LAG TIME - MINUTES	1.62	MINIMUM LOSS RATE (for var. loss) - in/hr	0.097
UNIT TIME-PERCENT OF LAG	925.8	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00180
		PERCOLATION RATE (cfs)	0.24

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.018	0.343	0.016	0.002	0.02	0.00
2	30	0.50	0.3	0.027	0.339	0.024	0.003	0.03	0.00
3	45	0.75	0.3	0.027	0.335	0.024	0.003	0.03	0.00
4	60	1.00	0.4	0.036	0.331	0.032	0.004	0.04	0.00
5	75	1.25	0.3	0.027	0.327	0.024	0.003	0.03	0.00
6	90	1.50	0.3	0.027	0.323	0.024	0.003	0.03	0.00
7	105	1.75	0.3	0.027	0.319	0.024	0.003	0.03	0.00
8	120	2.00	0.4	0.036	0.316	0.032	0.004	0.04	0.00
9	135	2.25	0.4	0.036	0.312	0.032	0.004	0.04	0.00
10	150	2.50	0.4	0.036	0.308	0.032	0.004	0.04	0.00
11	165	2.75	0.5	0.045	0.304	0.040	0.004	0.05	0.00
12	180	3.00	0.5	0.045	0.300	0.040	0.004	0.05	0.00
13	195	3.25	0.5	0.045	0.297	0.040	0.004	0.05	0.00
14	210	3.50	0.5	0.045	0.293	0.040	0.004	0.05	0.00
15	225	3.75	0.5	0.045	0.289	0.040	0.004	0.05	0.00
16	240	4.00	0.6	0.054	0.286	0.048	0.005	0.06	0.00
17	255	4.25	0.6	0.054	0.282	0.048	0.005	0.06	0.00
18	270	4.50	0.7	0.062	0.278	0.056	0.006	0.07	0.00
19	285	4.75	0.7	0.062	0.275	0.056	0.006	0.07	0.00
20	300	5.00	0.8	0.071	0.271	0.064	0.007	0.08	0.00
21	315	5.25	0.6	0.054	0.268	0.048	0.005	0.06	0.00
22	330	5.50	0.7	0.062	0.264	0.056	0.006	0.07	0.00
23	345	5.75	0.8	0.071	0.261	0.064	0.007	0.08	0.00
24	360	6.00	0.8	0.071	0.257	0.064	0.007	0.08	0.00
25	375	6.25	0.9	0.080	0.254	0.072	0.008	0.08	0.00
26	390	6.50	0.9	0.080	0.251	0.072	0.008	0.08	0.00
27	405	6.75	1.0	0.089	0.247	0.080	0.009	0.09	0.00
28	420	7.00	1.0	0.089	0.244	0.080	0.009	0.09	0.00
29	435	7.25	1.0	0.089	0.241	0.080	0.009	0.09	0.00
30	450	7.50	1.1	0.098	0.237	0.088	0.010	0.10	0.00
31	465	7.75	1.2	0.107	0.234	0.096	0.011	0.11	0.00
32	480	8.00	1.3	0.116	0.231	0.104	0.012	0.12	0.00
33	495	8.25	1.5	0.134	0.228	0.120	0.013	0.14	0.00
34	510	8.50	1.5	0.134	0.224	0.120	0.013	0.14	0.00
35	525	8.75	1.6	0.143	0.221	0.128	0.014	0.15	0.00
36	540	9.00	1.7	0.152	0.218	0.136	0.015	0.16	0.00
37	555	9.25	1.9	0.169	0.215	0.153	0.017	0.18	0.00
38	570	9.50	2.0	0.178	0.212	0.161	0.018	0.19	0.00
39	585	9.75	2.1	0.187	0.209	0.169	0.019	0.20	0.00
40	600	10.00	2.2	0.196	0.206	0.177	0.020	0.21	0.00
41	615	10.25	1.5	0.134	0.203	0.120	0.013	0.14	0.00
42	630	10.50	1.5	0.134	0.200	0.120	0.013	0.14	0.00
43	645	10.75	2.0	0.178	0.197	0.161	0.018	0.19	0.00
44	660	11.00	2.0	0.178	0.194	0.161	0.018	0.19	0.00
45	675	11.25	1.9	0.169	0.191	0.153	0.017	0.18	0.00
46	690	11.50	1.9	0.169	0.189	0.153	0.017	0.18	0.00
47	705	11.75	1.7	0.152	0.186	0.136	0.015	0.16	0.00
48	720	12.00	1.8	0.161	0.183	0.145	0.016	0.17	0.00
49	735	12.25	2.5	0.223	0.180	0.201	0.043	0.45	188.01
50	750	12.50	2.6	0.232	0.178	0.209	0.054	0.57	298.56
51	765	12.75	2.8	0.250	0.175	0.225	0.075	0.79	493.67
52	780	13.00	2.9	0.259	0.172	0.233	0.086	0.91	603.61
53	795	13.25	3.4	0.303	0.170	0.273	0.134	1.41	1052.67
54	810	13.50	3.4	0.303	0.167	0.273	0.136	1.44	1077.14
55	825	13.75	2.3	0.205	0.165	0.185	0.041	0.43	167.88
56	840	14.00	2.3	0.205	0.162	0.185	0.043	0.45	191.72
57	855	14.25	2.7	0.241	0.160	0.217	0.081	0.86	554.66
58	870	14.50	2.6	0.232	0.157	0.209	0.075	0.79	492.99
59	885	14.75	2.6	0.232	0.155	0.209	0.077	0.82	515.85
60	900	15.00	2.5	0.223	0.152	0.201	0.071	0.75	453.52
61	915	15.25	2.4	0.214	0.150	0.193	0.064	0.68	390.86

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.570	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.1942
LAG TIME - MINUTES	1.62	MINIMUM LOSS RATE (for var. loss) - in/hr	0.097
UNIT TIME-PERCENT OF LAG	925.8	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00180
		PERCOLATION RATE (cfs)	0.24

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
62	930	15.50	2.3	0.205	0.148	0.185	0.057	0.61	327.85
63	945	15.75	1.9	0.169	0.146	0.153	0.024	0.25	9.93
64	960	16.00	1.9	0.169	0.143	0.153	0.026	0.28	31.09
65	975	16.25	0.4	0.036	0.141	0.032	0.004	0.04	0.00
66	990	16.50	0.4	0.036	0.139	0.032	0.004	0.04	0.00
67	1005	16.75	0.3	0.027	0.137	0.024	0.003	0.03	0.00
68	1020	17.00	0.3	0.027	0.135	0.024	0.003	0.03	0.00
69	1035	17.25	0.5	0.045	0.133	0.040	0.004	0.05	0.00
70	1050	17.50	0.5	0.045	0.131	0.040	0.004	0.05	0.00
71	1065	17.75	0.5	0.045	0.129	0.040	0.004	0.05	0.00
72	1080	18.00	0.4	0.036	0.127	0.032	0.004	0.04	0.00
73	1095	18.25	0.4	0.036	0.125	0.032	0.004	0.04	0.00
74	1110	18.50	0.4	0.036	0.123	0.032	0.004	0.04	0.00
75	1125	18.75	0.3	0.027	0.121	0.024	0.003	0.03	0.00
76	1140	19.00	0.2	0.018	0.120	0.016	0.002	0.02	0.00
77	1155	19.25	0.3	0.027	0.118	0.024	0.003	0.03	0.00
78	1170	19.50	0.4	0.036	0.116	0.032	0.004	0.04	0.00
79	1185	19.75	0.3	0.027	0.115	0.024	0.003	0.03	0.00
80	1200	20.00	0.2	0.018	0.113	0.016	0.002	0.02	0.00
81	1215	20.25	0.3	0.027	0.112	0.024	0.003	0.03	0.00
82	1230	20.50	0.3	0.027	0.110	0.024	0.003	0.03	0.00
83	1245	20.75	0.3	0.027	0.109	0.024	0.003	0.03	0.00
84	1260	21.00	0.2	0.018	0.108	0.016	0.002	0.02	0.00
85	1275	21.25	0.3	0.027	0.106	0.024	0.003	0.03	0.00
86	1290	21.50	0.2	0.018	0.105	0.016	0.002	0.02	0.00
87	1305	21.75	0.3	0.027	0.104	0.024	0.003	0.03	0.00
88	1320	22.00	0.2	0.018	0.103	0.016	0.002	0.02	0.00
89	1335	22.25	0.3	0.027	0.102	0.024	0.003	0.03	0.00
90	1350	22.50	0.2	0.018	0.101	0.016	0.002	0.02	0.00
91	1365	22.75	0.2	0.018	0.100	0.016	0.002	0.02	0.00
92	1380	23.00	0.2	0.018	0.099	0.016	0.002	0.02	0.00
93	1395	23.25	0.2	0.018	0.099	0.016	0.002	0.02	0.00
94	1410	23.50	0.2	0.018	0.098	0.016	0.002	0.02	0.00
95	1425	23.75	0.2	0.018	0.097	0.016	0.002	0.02	0.00
96	1440	24.00	0.2	0.018	0.097	0.016	0.002	0.02	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.40
FLOOD VOLUME (acft)	0.35
FLOOD VOLUME (cuft)	15459.88
REQUIRED STORAGE (acft)	0.16
REQUIRED STORAGE (cuft)	6850.04
PEAK FLOW (cfs)	1.44

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
465	0	0		15600	0	0	0.00
466	1	1	1520	17120	16360	16360	0.38
467	1	2	1590	18710	17915	34275	0.79
468	1	3	1640	20350	19530	53805	1.24
468.5	0.5	3.5	850	21200	10388	64193	1.47

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.24 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.24 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.17	51	51	73	-	465.00	-	0.00
2	10	0.17	51	51	73	-	465.00	-	0.00
3	15	0.15	44	44	73	-	465.00	-	0.00
4	20	0.20	59	59	73	-	465.00	-	0.00
5	25	0.20	59	59	73	-	465.00	-	0.00
6	30	0.32	97	97	73	24	465.00	24	0.00
7	35	0.20	59	83	73	11	465.00	11	0.00
8	40	0.32	97	107	73	35	465.00	35	0.00
9	45	0.32	97	131	73	59	465.00	59	0.00
10	50	0.20	59	118	73	46	465.00	46	0.00
11	55	0.06	17	63	73	-	465.00	-	0.00
12	60	0.32	97	97	73	24	465.00	24	0.00
13	65	0.85	255	279	73	206	465.01	206	0.00
14	70	0.85	255	461	73	389	465.02	389	0.01
15	75	0.85	255	644	73	571	465.03	571	0.01
16	80	0.59	176	747	73	674	465.04	674	0.02
17	85	1.38	413	1,087	73	1,015	465.06	1,015	0.02
18	90	1.51	453	1,468	73	1,395	465.09	1,395	0.03
19	95	1.11	334	1,729	73	1,657	465.10	1,657	0.04
20	100	1.51	453	2,109	73	2,037	465.12	2,037	0.05
21	105	2.30	690	2,727	73	2,654	465.16	2,654	0.06
22	110	2.04	611	3,265	73	3,193	465.20	3,193	0.07
23	115	1.77	532	3,725	73	3,652	465.22	3,652	0.08
24	120	1.91	572	4,224	73	4,151	465.25	4,151	0.10
25	125	2.04	611	4,762	73	4,690	465.29	4,690	0.11
26	130	3.49	1,046	5,736	73	5,663	465.35	5,663	0.13
27	135	4.54	1,363	7,026	73	6,954	465.43	6,954	0.16
28	140	2.56	769	7,723	73	7,651	465.47	7,651	0.18
29	145	6.92	2,075	9,726	73	9,653	465.59	9,653	0.22
30	150	7.58	2,273	11,927	73	11,854	465.72	11,854	0.27
31	155	8.76	2,629	14,483	73	14,411	465.88	14,411	0.33
32	160	5.73	1,719	16,130	73	16,057	465.98	16,057	0.37
33	165	0.59	176	16,233	73	16,161	465.99	16,161	0.37
34	170	0.32	97	16,257	73	16,185	465.99	16,185	0.37
35	175	0.32	97	16,281	73	16,209	465.99	16,209	0.37
36	180	0.08	24	16,232	73	16,160	465.99	16,160	0.37

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.09	26	26	73	-	465.00	-	0.00
2	10	0.10	31	31	73	-	465.00	-	0.00
3	15	0.10	31	31	73	-	465.00	-	0.00
4	20	0.10	31	31	73	-	465.00	-	0.00
5	25	0.10	31	31	73	-	465.00	-	0.00
6	30	0.12	36	36	73	-	465.00	-	0.00
7	35	0.12	36	36	73	-	465.00	-	0.00
8	40	0.12	36	36	73	-	465.00	-	0.00
9	45	0.12	36	36	73	-	465.00	-	0.00
10	50	0.12	36	36	73	-	465.00	-	0.00
11	55	0.12	36	36	73	-	465.00	-	0.00
12	60	0.14	41	41	73	-	465.00	-	0.00
13	65	0.14	41	41	73	-	465.00	-	0.00
14	70	0.14	41	41	73	-	465.00	-	0.00
15	75	0.14	41	41	73	-	465.00	-	0.00
16	80	0.14	41	41	73	-	465.00	-	0.00
17	85	0.14	41	41	73	-	465.00	-	0.00
18	90	0.14	41	41	73	-	465.00	-	0.00
19	95	0.14	41	41	73	-	465.00	-	0.00
20	100	0.14	41	41	73	-	465.00	-	0.00
21	105	0.14	41	41	73	-	465.00	-	0.00
22	110	0.14	41	41	73	-	465.00	-	0.00
23	115	0.14	41	41	73	-	465.00	-	0.00
24	120	0.16	47	47	73	-	465.00	-	0.00
25	125	0.14	41	41	73	-	465.00	-	0.00
26	130	0.16	47	47	73	-	465.00	-	0.00
27	135	0.16	47	47	73	-	465.00	-	0.00
28	140	0.16	47	47	73	-	465.00	-	0.00
29	145	0.16	47	47	73	-	465.00	-	0.00
30	150	0.16	47	47	73	-	465.00	-	0.00
31	155	0.16	47	47	73	-	465.00	-	0.00
32	160	0.16	47	47	73	-	465.00	-	0.00
33	165	0.17	52	52	73	-	465.00	-	0.00
34	170	0.17	52	52	73	-	465.00	-	0.00
35	175	0.17	52	52	73	-	465.00	-	0.00
36	180	0.17	52	52	73	-	465.00	-	0.00
37	185	0.17	52	52	73	-	465.00	-	0.00
38	190	0.19	57	57	73	-	465.00	-	0.00
39	195	0.19	57	57	73	-	465.00	-	0.00
40	200	0.19	57	57	73	-	465.00	-	0.00
41	205	0.02	5	5	73	-	465.00	-	0.00
42	210	0.19	57	57	73	-	465.00	-	0.00
43	215	0.36	109	109	73	36	465.00	36	0.00
44	220	0.36	109	145	73	72	465.00	72	0.00
45	225	0.54	161	233	73	160	465.01	160	0.00
46	230	0.54	161	321	73	248	465.02	248	0.01
47	235	0.71	212	461	73	388	465.02	388	0.01
48	240	0.71	212	600	73	528	465.03	528	0.01
49	245	0.88	264	792	73	719	465.04	719	0.02
50	250	1.05	316	1,035	73	962	465.06	962	0.02
51	255	1.23	368	1,330	73	1,257	465.08	1,257	0.03
52	260	1.40	419	1,677	73	1,604	465.10	1,604	0.04
53	265	1.57	471	2,075	73	2,003	465.12	2,003	0.05
54	270	1.57	471	2,474	73	2,401	465.15	2,401	0.06
55	275	1.74	523	2,924	73	2,851	465.17	2,851	0.07

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	1.92	575	3,426	73	3,353	465.20	3,353	0.08
57	285	2.09	626	3,980	73	3,907	465.24	3,907	0.09
58	290	2.09	626	4,533	73	4,461	465.27	4,461	0.10
59	295	2.26	678	5,139	73	5,066	465.31	5,066	0.12
60	300	2.43	730	5,796	73	5,723	465.35	5,723	0.13
61	305	3.30	989	6,712	73	6,639	465.41	6,639	0.15
62	310	4.16	1,247	7,887	73	7,814	465.48	7,814	0.18
63	315	4.68	1,403	9,217	73	9,144	465.56	9,144	0.21
64	320	5.19	1,558	10,702	73	10,629	465.65	10,629	0.24
65	325	6.06	1,817	12,446	73	12,373	465.76	12,373	0.28
66	330	7.61	2,282	14,656	73	14,583	465.89	14,583	0.33
67	335	1.23	368	14,951	73	14,878	465.91	14,878	0.34
68	340	0.16	47	14,925	73	14,852	465.91	14,852	0.34
69	345	0.10	31	14,883	73	14,810	465.91	14,810	0.34
70	350	0.09	26	14,836	73	14,764	465.90	14,764	0.34
71	355	0.05	16	14,779	73	14,707	465.90	14,707	0.34
72	360	0.03	10	14,717	73	14,644	465.90	14,644	0.34

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.02	17	17	218	-	465.00	-	0.00
2	30	0.03	25	25	218	-	465.00	-	0.00
3	45	0.03	25	25	218	-	465.00	-	0.00
4	60	0.04	34	34	218	-	465.00	-	0.00
5	75	0.03	25	25	218	-	465.00	-	0.00
6	90	0.03	25	25	218	-	465.00	-	0.00
7	105	0.03	25	25	218	-	465.00	-	0.00
8	120	0.04	34	34	218	-	465.00	-	0.00
9	135	0.04	34	34	218	-	465.00	-	0.00
10	150	0.04	34	34	218	-	465.00	-	0.00
11	165	0.05	42	42	218	-	465.00	-	0.00
12	180	0.05	42	42	218	-	465.00	-	0.00
13	195	0.05	42	42	218	-	465.00	-	0.00
14	210	0.05	42	42	218	-	465.00	-	0.00
15	225	0.05	42	42	218	-	465.00	-	0.00
16	240	0.06	51	51	218	-	465.00	-	0.00
17	255	0.06	51	51	218	-	465.00	-	0.00
18	270	0.07	59	59	218	-	465.00	-	0.00
19	285	0.07	59	59	218	-	465.00	-	0.00
20	300	0.08	68	68	218	-	465.00	-	0.00
21	315	0.06	51	51	218	-	465.00	-	0.00
22	330	0.07	59	59	218	-	465.00	-	0.00
23	345	0.08	68	68	218	-	465.00	-	0.00
24	360	0.08	68	68	218	-	465.00	-	0.00
25	375	0.08	76	76	218	-	465.00	-	0.00
26	390	0.08	76	76	218	-	465.00	-	0.00
27	405	0.09	85	85	218	-	465.00	-	0.00
28	420	0.09	85	85	218	-	465.00	-	0.00
29	435	0.09	85	85	218	-	465.00	-	0.00
30	450	0.10	93	93	218	-	465.00	-	0.00
31	465	0.11	102	102	218	-	465.00	-	0.00
32	480	0.12	110	110	218	-	465.00	-	0.00
33	495	0.14	127	127	218	-	465.00	-	0.00
34	510	0.14	127	127	218	-	465.00	-	0.00
35	525	0.15	136	136	218	-	465.00	-	0.00
36	540	0.16	144	144	218	-	465.00	-	0.00
37	555	0.18	161	161	218	-	465.00	-	0.00
38	570	0.19	170	170	218	-	465.00	-	0.00
39	585	0.20	178	178	218	-	465.00	-	0.00
40	600	0.21	187	187	218	-	465.00	-	0.00
41	615	0.14	127	127	218	-	465.00	-	0.00
42	630	0.14	127	127	218	-	465.00	-	0.00
43	645	0.19	170	170	218	-	465.00	-	0.00
44	660	0.19	170	170	218	-	465.00	-	0.00
45	675	0.18	161	161	218	-	465.00	-	0.00
46	690	0.18	161	161	218	-	465.00	-	0.00
47	705	0.16	144	144	218	-	465.00	-	0.00
48	720	0.17	153	153	218	-	465.00	-	0.00
49	735	0.45	406	406	218	188	465.01	188	0.00
50	750	0.57	516	704	218	487	465.03	487	0.01
51	765	0.79	711	1,198	218	980	465.06	980	0.02
52	780	0.91	821	1,802	218	1,584	465.10	1,584	0.04
53	795	1.41	1,270	2,854	218	2,637	465.16	2,637	0.06
54	810	1.44	1,295	3,931	218	3,714	465.23	3,714	0.09
55	825	0.43	386	4,099	218	3,882	465.24	3,882	0.09
56	840	0.45	409	4,291	218	4,073	465.25	4,073	0.09
57	855	0.86	772	4,846	218	4,628	465.28	4,628	0.11
58	870	0.79	711	5,339	218	5,121	465.31	5,121	0.12

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	0.82	734	5,855	218	5,637	465.34	5,637	0.13
60	900	0.75	671	6,308	218	6,090	465.37	6,090	0.14
61	915	0.68	609	6,699	218	6,481	465.40	6,481	0.15
62	930	0.61	546	7,027	218	6,809	465.42	6,809	0.16
63	945	0.25	228	7,037	218	6,819	465.42	6,819	0.16
64	960	0.28	249	7,068	218	6,850	465.42	6,850	0.16
65	975	0.04	34	6,884	218	6,666	465.41	6,666	0.15
66	990	0.04	34	6,700	218	6,482	465.40	6,482	0.15
67	1005	0.03	25	6,508	218	6,290	465.38	6,290	0.14
68	1020	0.03	25	6,316	218	6,098	465.37	6,098	0.14
69	1035	0.05	42	6,140	218	5,923	465.36	5,923	0.14
70	1050	0.05	42	5,965	218	5,747	465.35	5,747	0.13
71	1065	0.05	42	5,790	218	5,572	465.34	5,572	0.13
72	1080	0.04	34	5,606	218	5,388	465.33	5,388	0.12
73	1095	0.04	34	5,422	218	5,204	465.32	5,204	0.12
74	1110	0.04	34	5,238	218	5,020	465.31	5,020	0.12
75	1125	0.03	25	5,046	218	4,828	465.30	4,828	0.11
76	1140	0.02	17	4,845	218	4,627	465.28	4,627	0.11
77	1155	0.03	25	4,653	218	4,435	465.27	4,435	0.10
78	1170	0.04	34	4,469	218	4,251	465.26	4,251	0.10
79	1185	0.03	25	4,277	218	4,059	465.25	4,059	0.09
80	1200	0.02	17	4,076	218	3,858	465.24	3,858	0.09
81	1215	0.03	25	3,884	218	3,666	465.22	3,666	0.08
82	1230	0.03	25	3,691	218	3,474	465.21	3,474	0.08
83	1245	0.03	25	3,499	218	3,281	465.20	3,281	0.08
84	1260	0.02	17	3,298	218	3,081	465.19	3,081	0.07
85	1275	0.03	25	3,106	218	2,888	465.18	2,888	0.07
86	1290	0.02	17	2,905	218	2,687	465.16	2,687	0.06
87	1305	0.03	25	2,713	218	2,495	465.15	2,495	0.06
88	1320	0.02	17	2,512	218	2,294	465.14	2,294	0.05
89	1335	0.03	25	2,320	218	2,102	465.13	2,102	0.05
90	1350	0.02	17	2,119	218	1,901	465.12	1,901	0.04
91	1365	0.02	17	1,918	218	1,701	465.10	1,701	0.04
92	1380	0.02	17	1,718	218	1,500	465.09	1,500	0.03
93	1395	0.02	17	1,517	218	1,299	465.08	1,299	0.03
94	1410	0.02	17	1,316	218	1,098	465.07	1,098	0.03
95	1425	0.02	17	1,115	218	897	465.05	897	0.02
96	1440	0.02	17	914	218	697	465.04	697	0.02

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 10 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 3		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	2.56		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	6.65		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	1.04		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	750		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	170		
30				
31	ELEVATION OF HEADWATER	471.8		
32	ELEVATION OF CONCENTRATION POINT	468.5		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	1.04		
40	6-HOUR	1.36		
41	24-HOUR	2.23		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		465	15000	
45		466	16600	
46		467	18250	
47		468	19960	
48		468.5	20831	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 3
[3] AREA - ACRES	10.250
[4] L-FEET	750
[5] L-MILES	0.142
[6] La-FEET	170.00
[7] La-MILES	0.032
[8] ELEVATION OF HEADWATER	471.8
[9] ELEVATION OF CONCENTRATION POINT	468.5
[10] H-FEET	3.3
[11] S-FEET/MILE	23.2
[12] S^0.5	4.82
[13] L*LCA/S^0.5	0.001
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.03
[16] LAG TIME-MINUTES	2.0
[17] 100% OF LAG-MINUTES	2.0
[18] 200% OF LAG-MINUTES	4.1
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.23

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
1.04	10.250	1.00	1.04	1.36	10.250	1.00	1.36	2.23	10.250	1.00	2.23
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	10.25	SUM [7]	1.04	SUM [9]	10.25	SUM [11]	1.36	SUM [13]	10.25	SUM [15]	2.23
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			1.04				1.36				2.23

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	0.47	0.46	0.36
FLOOD VOLUME	(cu-ft)	17,326	17,301	13,560
	(acre-ft)	0.40	0.40	0.31
REQUIRED STORAGE	(cu-ft)	14,912	13,552	5,367
	(acre-ft)	0.34	0.31	0.12
PEAK FLOW	(cfs)	8.38	7.26	1.29
MAXIMUM WSEL	(ft)	465.94	465.86	465.34

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	2.56	0.250	0.0130
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	6.65	0.649	0.1400
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	1.04	0.101	0.0528
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		10.25	SUM	0.2058

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.102877561
C= 0.00191

Ft=C(24-(T/60))^1.55 = 0.00191 (24-(T/60))^1.55 + 0.10 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period,
T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.25
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.05
UNIT TIME-PERCENT OF LAG	244.5
TOTAL ADJUSTED STORM RAIN-INCHES	1.04
CONSTANT LOSS RATE-in/hr	0.21
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.23 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.162	0.21	0.15	0.02	0.17	0.00
2	10	0.17	1.3	0.162	0.21	0.15	0.02	0.17	0.00
3	15	0.25	1.1	0.137	0.21	0.12	0.01	0.14	0.00
4	20	0.33	1.5	0.187	0.21	0.17	0.02	0.19	0.00
5	25	0.42	1.5	0.187	0.21	0.17	0.02	0.19	0.00
6	30	0.50	1.8	0.225	0.21	0.20	0.02	0.19	0.00
7	35	0.58	1.5	0.187	0.21	0.17	0.02	0.19	0.00
8	40	0.67	1.8	0.225	0.21	0.20	0.02	0.19	0.00
9	45	0.75	1.8	0.225	0.21	0.20	0.02	0.19	0.00
10	50	0.83	1.5	0.187	0.21	0.17	0.02	0.19	0.00
11	55	0.92	1.6	0.200	0.21	0.18	0.02	0.20	0.00
12	60	1.00	1.8	0.225	0.21	0.20	0.02	0.19	0.00
13	65	1.08	2.2	0.275	0.21	0.25	0.07	0.71	141.78
14	70	1.17	2.2	0.275	0.21	0.25	0.07	0.71	141.78
15	75	1.25	2.2	0.275	0.21	0.25	0.07	0.71	141.78
16	80	1.33	2.0	0.250	0.21	0.22	0.04	0.45	65.03
17	85	1.42	2.6	0.324	0.21	0.29	0.12	1.22	295.29
18	90	1.50	2.7	0.337	0.21	0.30	0.13	1.34	333.66
19	95	1.58	2.4	0.300	0.21	0.27	0.09	0.96	218.54
20	100	1.67	2.7	0.337	0.21	0.30	0.13	1.34	333.66
21	105	1.75	3.3	0.412	0.21	0.37	0.21	2.11	563.92
22	110	1.83	3.1	0.387	0.21	0.35	0.18	1.86	487.17
23	115	1.92	2.9	0.362	0.21	0.33	0.16	1.60	410.42
24	120	2.00	3.0	0.374	0.21	0.34	0.17	1.73	448.79
25	125	2.08	3.1	0.387	0.21	0.35	0.18	1.86	487.17
26	130	2.17	4.2	0.524	0.21	0.47	0.32	3.26	909.30
27	135	2.25	5.0	0.624	0.21	0.56	0.42	4.29	1216.31
28	140	2.33	3.5	0.437	0.21	0.39	0.23	2.37	640.67
29	145	2.42	6.8	0.849	0.21	0.76	0.64	6.59	1907.08
30	150	2.50	7.3	0.911	0.21	0.82	0.71	7.23	2098.96
31	155	2.58	8.2	1.023	0.21	0.92	0.82	8.38	2444.34
32	160	2.67	5.9	0.736	0.21	0.66	0.53	5.44	1561.70
33	165	2.75	2.0	0.250	0.21	0.22	0.04	0.45	65.03
34	170	2.83	1.8	0.225	0.21	0.20	0.02	0.19	0.00
35	175	2.92	1.8	0.225	0.21	0.20	0.02	0.19	0.00
36	180	3.00	0.6	0.075	0.21	0.07	0.01	0.08	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.47
FLOOD VOLUME (acft)	0.40
FLOOD VOLUME (cuft)	17326.37
REQUIRED STORAGE (acft)	0.34
REQUIRED STORAGE (cuft)	14912.39
PEAK FLOW RATE (cfs)	8.38

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.25
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.05
UNIT TIME-PERCENT OF LAG	244.5
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.206
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.23 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.082	0.21	0.07	0.01	0.08	0.00
2	10	0.17	0.6	0.098	0.21	0.09	0.01	0.10	0.00
3	15	0.25	0.6	0.098	0.21	0.09	0.01	0.10	0.00
4	20	0.33	0.6	0.098	0.21	0.09	0.01	0.10	0.00
5	25	0.42	0.6	0.098	0.21	0.09	0.01	0.10	0.00
6	30	0.50	0.7	0.114	0.21	0.10	0.01	0.12	0.00
7	35	0.58	0.7	0.114	0.21	0.10	0.01	0.12	0.00
8	40	0.67	0.7	0.114	0.21	0.10	0.01	0.12	0.00
9	45	0.75	0.7	0.114	0.21	0.10	0.01	0.12	0.00
10	50	0.83	0.7	0.114	0.21	0.10	0.01	0.12	0.00
11	55	0.92	0.7	0.114	0.21	0.10	0.01	0.12	0.00
12	60	1.00	0.8	0.131	0.21	0.12	0.01	0.13	0.00
13	65	1.08	0.8	0.131	0.21	0.12	0.01	0.13	0.00
14	70	1.17	0.8	0.131	0.21	0.12	0.01	0.13	0.00
15	75	1.25	0.8	0.131	0.21	0.12	0.01	0.13	0.00
16	80	1.33	0.8	0.131	0.21	0.12	0.01	0.13	0.00
17	85	1.42	0.8	0.131	0.21	0.12	0.01	0.13	0.00
18	90	1.50	0.8	0.131	0.21	0.12	0.01	0.13	0.00
19	95	1.58	0.8	0.131	0.21	0.12	0.01	0.13	0.00
20	100	1.67	0.8	0.131	0.21	0.12	0.01	0.13	0.00
21	105	1.75	0.8	0.131	0.21	0.12	0.01	0.13	0.00
22	110	1.83	0.8	0.131	0.21	0.12	0.01	0.13	0.00
23	115	1.92	0.8	0.131	0.21	0.12	0.01	0.13	0.00
24	120	2.00	0.9	0.147	0.21	0.13	0.01	0.15	0.00
25	125	2.08	0.8	0.131	0.21	0.12	0.01	0.13	0.00
26	130	2.17	0.9	0.147	0.21	0.13	0.01	0.15	0.00
27	135	2.25	0.9	0.147	0.21	0.13	0.01	0.15	0.00
28	140	2.33	0.9	0.147	0.21	0.13	0.01	0.15	0.00
29	145	2.42	0.9	0.147	0.21	0.13	0.01	0.15	0.00
30	150	2.50	0.9	0.147	0.21	0.13	0.01	0.15	0.00
31	155	2.58	0.9	0.147	0.21	0.13	0.01	0.15	0.00
32	160	2.67	0.9	0.147	0.21	0.13	0.01	0.15	0.00
33	165	2.75	1.0	0.163	0.21	0.15	0.02	0.17	0.00
34	170	2.83	1.0	0.163	0.21	0.15	0.02	0.17	0.00
35	175	2.92	1.0	0.163	0.21	0.15	0.02	0.17	0.00
36	180	3.00	1.0	0.163	0.21	0.15	0.02	0.17	0.00
37	185	3.08	1.0	0.163	0.21	0.15	0.02	0.17	0.00
38	190	3.17	1.1	0.180	0.21	0.16	0.02	0.18	0.00
39	195	3.25	1.1	0.180	0.21	0.16	0.02	0.18	0.00
40	200	3.33	1.1	0.180	0.21	0.16	0.02	0.18	0.00
41	205	3.42	1.2	0.196	0.21	0.18	0.02	0.20	0.00
42	210	3.50	1.3	0.212	0.21	0.19	0.01	0.07	0.00
43	215	3.58	1.4	0.228	0.21	0.21	0.02	0.23	0.09
44	220	3.67	1.4	0.228	0.21	0.21	0.02	0.23	0.09
45	225	3.75	1.5	0.245	0.21	0.22	0.04	0.40	50.27
46	230	3.83	1.5	0.245	0.21	0.22	0.04	0.40	50.27
47	235	3.92	1.6	0.261	0.21	0.24	0.06	0.57	100.46
48	240	4.00	1.6	0.261	0.21	0.24	0.06	0.57	100.46
49	245	4.08	1.7	0.277	0.21	0.25	0.07	0.73	150.64
50	250	4.17	1.8	0.294	0.21	0.26	0.09	0.90	200.82
51	255	4.25	1.9	0.310	0.21	0.28	0.10	1.07	251.01
52	260	4.33	2.0	0.326	0.21	0.29	0.12	1.24	301.19
53	265	4.42	2.1	0.343	0.21	0.31	0.14	1.40	351.38
54	270	4.50	2.1	0.343	0.21	0.31	0.14	1.40	351.38
55	275	4.58	2.2	0.359	0.21	0.32	0.15	1.57	401.56
56	280	4.67	2.3	0.375	0.21	0.34	0.17	1.74	451.74

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD 100 YEAR - 6 HOUR STORM EVENT	PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT CONCENTRATION POINT: 1 BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.25		
UNIT TIME-MINUTES	5		
LAG TIME - MINUTES	2.05		
UNIT TIME-PERCENT OF LAG	244.5		
TOTAL ADJUSTED STORM RAIN-INCHES	1.36		
CONSTANT LOSS RATE-in/hr	0.206		
LOW LOSS RATE - PERCENT	90%	TOTAL PERCOLATION RATE (cfs)	0.23 cfs

Unit Time Period	Time		Pattern	Storm	Loss Rate in/hr		Effective	Flood Hydrograph	Required
	Minutes	Hours	Percent (Plate E-5.9)	Rain in/hr	Max	Low	Rain in/hr	Flow cfs	Storage cf
57	285	4.75	2.4	0.392	0.21	0.35	0.19	1.91	501.93
58	290	4.83	2.4	0.392	0.21	0.35	0.19	1.91	501.93
59	295	4.92	2.5	0.408	0.21	0.37	0.20	2.07	552.11
60	300	5.00	2.6	0.424	0.21	0.38	0.22	2.24	602.30
61	305	5.08	3.1	0.506	0.21	0.46	0.30	3.08	853.22
62	310	5.17	3.6	0.588	0.21	0.53	0.38	3.91	1104.14
63	315	5.25	3.9	0.636	0.21	0.57	0.43	4.41	1254.69
64	320	5.33	4.2	0.685	0.21	0.62	0.48	4.92	1405.24
65	325	5.42	4.7	0.767	0.21	0.69	0.56	5.75	1656.16
66	330	5.50	5.6	0.914	0.21	0.82	0.71	7.26	2107.82
67	335	5.58	1.9	0.310	0.21	0.28	0.10	1.07	251.01
68	340	5.67	0.9	0.147	0.21	0.13	0.01	0.15	0.00
69	345	5.75	0.6	0.098	0.21	0.09	0.01	0.10	0.00
70	350	5.83	0.5	0.082	0.21	0.07	0.01	0.08	0.00
71	355	5.92	0.3	0.049	0.21	0.04	0.00	0.05	0.00
72	360	6.00	0.2	0.033	0.21	0.03	0.00	0.03	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.46
FLOOD VOLUME (acft)	0.40
FLOOD VOLUME (cuft)	17301.15
REQUIRED STORAGE (acft)	0.31
REQUIRED STORAGE (cuft)	13551.86
PEAK FLOW RATE (cfs)	7.26

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.250	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2058
LAG TIME - MINUTES	2.05	MINIMUM LOSS RATE (for var. loss) - in/hr	0.103
UNIT TIME-PERCENT OF LAG	733.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00191
		PERCOLATION RATE (cfs)	0.23

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.018	0.363	0.016	0.002	0.02	0.00
2	30	0.50	0.3	0.027	0.359	0.024	0.003	0.03	0.00
3	45	0.75	0.3	0.027	0.355	0.024	0.003	0.03	0.00
4	60	1.00	0.4	0.036	0.351	0.032	0.004	0.04	0.00
5	75	1.25	0.3	0.027	0.347	0.024	0.003	0.03	0.00
6	90	1.50	0.3	0.027	0.343	0.024	0.003	0.03	0.00
7	105	1.75	0.3	0.027	0.338	0.024	0.003	0.03	0.00
8	120	2.00	0.4	0.036	0.334	0.032	0.004	0.04	0.00
9	135	2.25	0.4	0.036	0.330	0.032	0.004	0.04	0.00
10	150	2.50	0.4	0.036	0.326	0.032	0.004	0.04	0.00
11	165	2.75	0.5	0.045	0.322	0.040	0.004	0.05	0.00
12	180	3.00	0.5	0.045	0.318	0.040	0.004	0.05	0.00
13	195	3.25	0.5	0.045	0.314	0.040	0.004	0.05	0.00
14	210	3.50	0.5	0.045	0.310	0.040	0.004	0.05	0.00
15	225	3.75	0.5	0.045	0.307	0.040	0.004	0.05	0.00
16	240	4.00	0.6	0.054	0.303	0.048	0.005	0.05	0.00
17	255	4.25	0.6	0.054	0.299	0.048	0.005	0.05	0.00
18	270	4.50	0.7	0.062	0.295	0.056	0.006	0.06	0.00
19	285	4.75	0.7	0.062	0.291	0.056	0.006	0.06	0.00
20	300	5.00	0.8	0.071	0.288	0.064	0.007	0.07	0.00
21	315	5.25	0.6	0.054	0.284	0.048	0.005	0.05	0.00
22	330	5.50	0.7	0.062	0.280	0.056	0.006	0.06	0.00
23	345	5.75	0.8	0.071	0.276	0.064	0.007	0.07	0.00
24	360	6.00	0.8	0.071	0.273	0.064	0.007	0.07	0.00
25	375	6.25	0.9	0.080	0.269	0.072	0.008	0.08	0.00
26	390	6.50	0.9	0.080	0.266	0.072	0.008	0.08	0.00
27	405	6.75	1.0	0.089	0.262	0.080	0.009	0.09	0.00
28	420	7.00	1.0	0.089	0.258	0.080	0.009	0.09	0.00
29	435	7.25	1.0	0.089	0.255	0.080	0.009	0.09	0.00
30	450	7.50	1.1	0.098	0.252	0.088	0.010	0.10	0.00
31	465	7.75	1.2	0.107	0.248	0.096	0.011	0.11	0.00
32	480	8.00	1.3	0.116	0.245	0.104	0.012	0.12	0.00
33	495	8.25	1.5	0.134	0.241	0.120	0.013	0.14	0.00
34	510	8.50	1.5	0.134	0.238	0.120	0.013	0.14	0.00
35	525	8.75	1.6	0.143	0.235	0.128	0.014	0.15	0.00
36	540	9.00	1.7	0.152	0.231	0.136	0.015	0.16	0.00
37	555	9.25	1.9	0.169	0.228	0.153	0.017	0.17	0.00
38	570	9.50	2.0	0.178	0.225	0.161	0.018	0.18	0.00
39	585	9.75	2.1	0.187	0.222	0.169	0.019	0.19	0.00
40	600	10.00	2.2	0.196	0.218	0.177	0.020	0.20	0.00
41	615	10.25	1.5	0.134	0.215	0.120	0.013	0.14	0.00
42	630	10.50	1.5	0.134	0.212	0.120	0.013	0.14	0.00
43	645	10.75	2.0	0.178	0.209	0.161	0.018	0.18	0.00
44	660	11.00	2.0	0.178	0.206	0.161	0.018	0.18	0.00
45	675	11.25	1.9	0.169	0.203	0.153	0.017	0.17	0.00
46	690	11.50	1.9	0.169	0.200	0.153	0.017	0.17	0.00
47	705	11.75	1.7	0.152	0.197	0.136	0.015	0.16	0.00
48	720	12.00	1.8	0.161	0.194	0.145	0.016	0.16	0.00
49	735	12.25	2.5	0.223	0.191	0.201	0.032	0.33	84.85
50	750	12.50	2.6	0.232	0.188	0.209	0.044	0.45	193.54
51	765	12.75	2.8	0.250	0.185	0.225	0.064	0.66	384.21
52	780	13.00	2.9	0.259	0.183	0.233	0.076	0.78	492.27
53	795	13.25	3.4	0.303	0.180	0.273	0.123	1.27	929.17
54	810	13.50	3.4	0.303	0.177	0.273	0.126	1.29	954.32
55	825	13.75	2.3	0.205	0.174	0.185	0.031	0.31	73.98
56	840	14.00	2.3	0.205	0.172	0.185	0.033	0.34	98.48
57	855	14.25	2.7	0.241	0.169	0.217	0.072	0.73	451.79
58	870	14.50	2.6	0.232	0.167	0.209	0.065	0.67	393.33
59	885	14.75	2.6	0.232	0.164	0.209	0.068	0.70	416.82
60	900	15.00	2.5	0.223	0.162	0.201	0.061	0.63	357.68
61	915	15.25	2.4	0.214	0.159	0.193	0.055	0.56	298.20

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.250	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2058
LAG TIME - MINUTES	2.05	MINIMUM LOSS RATE (for var. loss) - in/hr	0.103
UNIT TIME-PERCENT OF LAG	733.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00191
		PERCOLATION RATE (cfs)	0.23

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
62	930	15.50	2.3	0.205	0.157	0.185	0.049	0.50	238.37
63	945	15.75	1.9	0.169	0.154	0.153	0.015	0.16	0.00
64	960	16.00	1.9	0.169	0.152	0.153	0.018	0.18	0.00
65	975	16.25	0.4	0.036	0.150	0.032	0.004	0.04	0.00
66	990	16.50	0.4	0.036	0.147	0.032	0.004	0.04	0.00
67	1005	16.75	0.3	0.027	0.145	0.024	0.003	0.03	0.00
68	1020	17.00	0.3	0.027	0.143	0.024	0.003	0.03	0.00
69	1035	17.25	0.5	0.045	0.141	0.040	0.004	0.05	0.00
70	1050	17.50	0.5	0.045	0.139	0.040	0.004	0.05	0.00
71	1065	17.75	0.5	0.045	0.137	0.040	0.004	0.05	0.00
72	1080	18.00	0.4	0.036	0.134	0.032	0.004	0.04	0.00
73	1095	18.25	0.4	0.036	0.133	0.032	0.004	0.04	0.00
74	1110	18.50	0.4	0.036	0.131	0.032	0.004	0.04	0.00
75	1125	18.75	0.3	0.027	0.129	0.024	0.003	0.03	0.00
76	1140	19.00	0.2	0.018	0.127	0.016	0.002	0.02	0.00
77	1155	19.25	0.3	0.027	0.125	0.024	0.003	0.03	0.00
78	1170	19.50	0.4	0.036	0.123	0.032	0.004	0.04	0.00
79	1185	19.75	0.3	0.027	0.122	0.024	0.003	0.03	0.00
80	1200	20.00	0.2	0.018	0.120	0.016	0.002	0.02	0.00
81	1215	20.25	0.3	0.027	0.118	0.024	0.003	0.03	0.00
82	1230	20.50	0.3	0.027	0.117	0.024	0.003	0.03	0.00
83	1245	20.75	0.3	0.027	0.115	0.024	0.003	0.03	0.00
84	1260	21.00	0.2	0.018	0.114	0.016	0.002	0.02	0.00
85	1275	21.25	0.3	0.027	0.113	0.024	0.003	0.03	0.00
86	1290	21.50	0.2	0.018	0.111	0.016	0.002	0.02	0.00
87	1305	21.75	0.3	0.027	0.110	0.024	0.003	0.03	0.00
88	1320	22.00	0.2	0.018	0.109	0.016	0.002	0.02	0.00
89	1335	22.25	0.3	0.027	0.108	0.024	0.003	0.03	0.00
90	1350	22.50	0.2	0.018	0.107	0.016	0.002	0.02	0.00
91	1365	22.75	0.2	0.018	0.106	0.016	0.002	0.02	0.00
92	1380	23.00	0.2	0.018	0.105	0.016	0.002	0.02	0.00
93	1395	23.25	0.2	0.018	0.104	0.016	0.002	0.02	0.00
94	1410	23.50	0.2	0.018	0.104	0.016	0.002	0.02	0.00
95	1425	23.75	0.2	0.018	0.103	0.016	0.002	0.02	0.00
96	1440	24.00	0.2	0.018	0.103	0.016	0.002	0.02	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.36
FLOOD VOLUME (acft)	0.31
FLOOD VOLUME (cuft)	13560.19
REQUIRED STORAGE (acft)	0.12
REQUIRED STORAGE (cuft)	5367.00
PEAK FLOW (cfs)	1.29

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
465	0	0		15000	0	0	0.00
466	1	1	1600	16600	15800	15800	0.36
467	1	2	1650	18250	17425	33225	0.76
468	1	3	1710	19960	19105	52330	1.20
468.5	0.5	3.5	871	20831	10198	62528	1.44

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.23 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.23 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.17	50	50	70	-	465.00	-	0.00
2	10	0.17	50	50	70	-	465.00	-	0.00
3	15	0.14	42	42	70	-	465.00	-	0.00
4	20	0.19	58	58	70	-	465.00	-	0.00
5	25	0.19	58	58	70	-	465.00	-	0.00
6	30	0.19	58	58	70	-	465.00	-	0.00
7	35	0.19	58	58	70	-	465.00	-	0.00
8	40	0.19	58	58	70	-	465.00	-	0.00
9	45	0.19	58	58	70	-	465.00	-	0.00
10	50	0.19	58	58	70	-	465.00	-	0.00
11	55	0.20	61	61	70	-	465.00	-	0.00
12	60	0.19	58	58	70	-	465.00	-	0.00
13	65	0.71	212	212	70	142	465.01	142	0.00
14	70	0.71	212	353	70	284	465.02	284	0.01
15	75	0.71	212	495	70	425	465.03	425	0.01
16	80	0.45	135	560	70	490	465.03	490	0.01
17	85	1.22	365	855	70	786	465.05	786	0.02
18	90	1.34	403	1,189	70	1,119	465.07	1,119	0.03
19	95	0.96	288	1,408	70	1,338	465.08	1,338	0.03
20	100	1.34	403	1,741	70	1,672	465.11	1,672	0.04
21	105	2.11	634	2,305	70	2,235	465.14	2,235	0.05
22	110	1.86	557	2,792	70	2,723	465.17	2,723	0.06
23	115	1.60	480	3,203	70	3,133	465.20	3,133	0.07
24	120	1.73	519	3,652	70	3,582	465.23	3,582	0.08
25	125	1.86	557	4,139	70	4,069	465.26	4,069	0.09
26	130	3.26	979	5,048	70	4,978	465.32	4,978	0.11
27	135	4.29	1,286	6,264	70	6,195	465.39	6,195	0.14
28	140	2.37	710	6,905	70	6,835	465.43	6,835	0.16
29	145	6.59	1,977	8,812	70	8,742	465.55	8,742	0.20
30	150	7.23	2,169	10,911	70	10,841	465.69	10,841	0.25
31	155	8.38	2,514	13,355	70	13,286	465.84	13,286	0.30
32	160	5.44	1,631	14,917	70	14,847	465.94	14,847	0.34
33	165	0.45	135	14,982	70	14,912	465.94	14,912	0.34
34	170	0.19	58	14,970	70	14,901	465.94	14,901	0.34
35	175	0.19	58	14,959	70	14,889	465.94	14,889	0.34
36	180	0.08	23	14,912	70	14,842	465.94	14,842	0.34

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.08	25	25	70	-	465.00	-	0.00
2	10	0.10	30	30	70	-	465.00	-	0.00
3	15	0.10	30	30	70	-	465.00	-	0.00
4	20	0.10	30	30	70	-	465.00	-	0.00
5	25	0.10	30	30	70	-	465.00	-	0.00
6	30	0.12	35	35	70	-	465.00	-	0.00
7	35	0.12	35	35	70	-	465.00	-	0.00
8	40	0.12	35	35	70	-	465.00	-	0.00
9	45	0.12	35	35	70	-	465.00	-	0.00
10	50	0.12	35	35	70	-	465.00	-	0.00
11	55	0.12	35	35	70	-	465.00	-	0.00
12	60	0.13	40	40	70	-	465.00	-	0.00
13	65	0.13	40	40	70	-	465.00	-	0.00
14	70	0.13	40	40	70	-	465.00	-	0.00
15	75	0.13	40	40	70	-	465.00	-	0.00
16	80	0.13	40	40	70	-	465.00	-	0.00
17	85	0.13	40	40	70	-	465.00	-	0.00
18	90	0.13	40	40	70	-	465.00	-	0.00
19	95	0.13	40	40	70	-	465.00	-	0.00
20	100	0.13	40	40	70	-	465.00	-	0.00
21	105	0.13	40	40	70	-	465.00	-	0.00
22	110	0.13	40	40	70	-	465.00	-	0.00
23	115	0.13	40	40	70	-	465.00	-	0.00
24	120	0.15	45	45	70	-	465.00	-	0.00
25	125	0.13	40	40	70	-	465.00	-	0.00
26	130	0.15	45	45	70	-	465.00	-	0.00
27	135	0.15	45	45	70	-	465.00	-	0.00
28	140	0.15	45	45	70	-	465.00	-	0.00
29	145	0.15	45	45	70	-	465.00	-	0.00
30	150	0.15	45	45	70	-	465.00	-	0.00
31	155	0.15	45	45	70	-	465.00	-	0.00
32	160	0.15	45	45	70	-	465.00	-	0.00
33	165	0.17	50	50	70	-	465.00	-	0.00
34	170	0.17	50	50	70	-	465.00	-	0.00
35	175	0.17	50	50	70	-	465.00	-	0.00
36	180	0.17	50	50	70	-	465.00	-	0.00
37	185	0.17	50	50	70	-	465.00	-	0.00
38	190	0.18	55	55	70	-	465.00	-	0.00
39	195	0.18	55	55	70	-	465.00	-	0.00
40	200	0.18	55	55	70	-	465.00	-	0.00
41	205	0.20	60	60	70	-	465.00	-	0.00
42	210	0.07	20	20	70	-	465.00	-	0.00
43	215	0.23	70	70	70	0	465.00	0	0.00
44	220	0.23	70	70	70	0	465.00	0	0.00
45	225	0.40	120	120	70	50	465.00	50	0.00
46	230	0.40	120	171	70	101	465.01	101	0.00
47	235	0.57	170	271	70	201	465.01	201	0.00
48	240	0.57	170	371	70	302	465.02	302	0.01
49	245	0.73	220	522	70	452	465.03	452	0.01
50	250	0.90	271	723	70	653	465.04	653	0.01
51	255	1.07	321	974	70	904	465.06	904	0.02
52	260	1.24	371	1,275	70	1,205	465.08	1,205	0.03
53	265	1.40	421	1,626	70	1,557	465.10	1,557	0.04
54	270	1.40	421	1,978	70	1,908	465.12	1,908	0.04
55	275	1.57	471	2,379	70	2,310	465.15	2,310	0.05

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	1.74	522	2,831	70	2,761	465.17	2,761	0.06
57	285	1.91	572	3,333	70	3,263	465.21	3,263	0.07
58	290	1.91	572	3,835	70	3,765	465.24	3,765	0.09
59	295	2.07	622	4,387	70	4,317	465.27	4,317	0.10
60	300	2.24	672	4,989	70	4,920	465.31	4,920	0.11
61	305	3.08	923	5,843	70	5,773	465.37	5,773	0.13
62	310	3.91	1,174	6,947	70	6,877	465.44	6,877	0.16
63	315	4.41	1,324	8,201	70	8,132	465.51	8,132	0.19
64	320	4.92	1,475	9,607	70	9,537	465.60	9,537	0.22
65	325	5.75	1,726	11,263	70	11,193	465.71	11,193	0.26
66	330	7.26	2,178	13,371	70	13,301	465.84	13,301	0.31
67	335	1.07	321	13,622	70	13,552	465.86	13,552	0.31
68	340	0.15	45	13,597	70	13,527	465.86	13,527	0.31
69	345	0.10	30	13,557	70	13,488	465.85	13,488	0.31
70	350	0.08	25	13,513	70	13,443	465.85	13,443	0.31
71	355	0.05	15	13,458	70	13,388	465.85	13,388	0.31
72	360	0.03	10	13,398	70	13,328	465.84	13,328	0.31

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.02	16	16	209	-	465.00	-	0.00
2	30	0.03	25	25	209	-	465.00	-	0.00
3	45	0.03	25	25	209	-	465.00	-	0.00
4	60	0.04	33	33	209	-	465.00	-	0.00
5	75	0.03	25	25	209	-	465.00	-	0.00
6	90	0.03	25	25	209	-	465.00	-	0.00
7	105	0.03	25	25	209	-	465.00	-	0.00
8	120	0.04	33	33	209	-	465.00	-	0.00
9	135	0.04	33	33	209	-	465.00	-	0.00
10	150	0.04	33	33	209	-	465.00	-	0.00
11	165	0.05	41	41	209	-	465.00	-	0.00
12	180	0.05	41	41	209	-	465.00	-	0.00
13	195	0.05	41	41	209	-	465.00	-	0.00
14	210	0.05	41	41	209	-	465.00	-	0.00
15	225	0.05	41	41	209	-	465.00	-	0.00
16	240	0.05	49	49	209	-	465.00	-	0.00
17	255	0.05	49	49	209	-	465.00	-	0.00
18	270	0.06	58	58	209	-	465.00	-	0.00
19	285	0.06	58	58	209	-	465.00	-	0.00
20	300	0.07	66	66	209	-	465.00	-	0.00
21	315	0.05	49	49	209	-	465.00	-	0.00
22	330	0.06	58	58	209	-	465.00	-	0.00
23	345	0.07	66	66	209	-	465.00	-	0.00
24	360	0.07	66	66	209	-	465.00	-	0.00
25	375	0.08	74	74	209	-	465.00	-	0.00
26	390	0.08	74	74	209	-	465.00	-	0.00
27	405	0.09	82	82	209	-	465.00	-	0.00
28	420	0.09	82	82	209	-	465.00	-	0.00
29	435	0.09	82	82	209	-	465.00	-	0.00
30	450	0.10	91	91	209	-	465.00	-	0.00
31	465	0.11	99	99	209	-	465.00	-	0.00
32	480	0.12	107	107	209	-	465.00	-	0.00
33	495	0.14	123	123	209	-	465.00	-	0.00
34	510	0.14	123	123	209	-	465.00	-	0.00
35	525	0.15	132	132	209	-	465.00	-	0.00
36	540	0.16	140	140	209	-	465.00	-	0.00
37	555	0.17	156	156	209	-	465.00	-	0.00
38	570	0.18	165	165	209	-	465.00	-	0.00
39	585	0.19	173	173	209	-	465.00	-	0.00
40	600	0.20	181	181	209	-	465.00	-	0.00
41	615	0.14	123	123	209	-	465.00	-	0.00
42	630	0.14	123	123	209	-	465.00	-	0.00
43	645	0.18	165	165	209	-	465.00	-	0.00
44	660	0.18	165	165	209	-	465.00	-	0.00
45	675	0.17	156	156	209	-	465.00	-	0.00
46	690	0.17	156	156	209	-	465.00	-	0.00
47	705	0.16	140	140	209	-	465.00	-	0.00
48	720	0.16	148	148	209	-	465.00	-	0.00
49	735	0.33	294	294	209	85	465.01	85	0.00
50	750	0.45	403	488	209	278	465.02	278	0.01
51	765	0.66	594	872	209	663	465.04	663	0.02
52	780	0.78	702	1,364	209	1,155	465.07	1,155	0.03
53	795	1.27	1,139	2,293	209	2,084	465.13	2,084	0.05
54	810	1.29	1,164	3,248	209	3,038	465.19	3,038	0.07
55	825	0.31	283	3,322	209	3,112	465.20	3,112	0.07
56	840	0.34	308	3,420	209	3,211	465.20	3,211	0.07
57	855	0.73	661	3,872	209	3,663	465.23	3,663	0.08
58	870	0.67	603	4,265	209	4,056	465.26	4,056	0.09

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	0.70	626	4,682	209	4,473	465.28	4,473	0.10
60	900	0.63	567	5,040	209	4,830	465.31	4,830	0.11
61	915	0.56	508	5,338	209	5,129	465.32	5,129	0.12
62	930	0.50	448	5,576	209	5,367	465.34	5,367	0.12
63	945	0.16	141	5,508	209	5,298	465.34	5,298	0.12
64	960	0.18	162	5,461	209	5,251	465.33	5,251	0.12
65	975	0.04	33	5,284	209	5,075	465.32	5,075	0.12
66	990	0.04	33	5,108	209	4,898	465.31	4,898	0.11
67	1005	0.03	25	4,923	209	4,714	465.30	4,714	0.11
68	1020	0.03	25	4,738	209	4,529	465.29	4,529	0.10
69	1035	0.05	41	4,570	209	4,361	465.28	4,361	0.10
70	1050	0.05	41	4,402	209	4,193	465.27	4,193	0.10
71	1065	0.05	41	4,234	209	4,024	465.25	4,024	0.09
72	1080	0.04	33	4,057	209	3,848	465.24	3,848	0.09
73	1095	0.04	33	3,881	209	3,671	465.23	3,671	0.08
74	1110	0.04	33	3,704	209	3,495	465.22	3,495	0.08
75	1125	0.03	25	3,520	209	3,310	465.21	3,310	0.08
76	1140	0.02	16	3,327	209	3,117	465.20	3,117	0.07
77	1155	0.03	25	3,142	209	2,933	465.19	2,933	0.07
78	1170	0.04	33	2,966	209	2,756	465.17	2,756	0.06
79	1185	0.03	25	2,781	209	2,572	465.16	2,572	0.06
80	1200	0.02	16	2,588	209	2,379	465.15	2,379	0.05
81	1215	0.03	25	2,403	209	2,194	465.14	2,194	0.05
82	1230	0.03	25	2,219	209	2,009	465.13	2,009	0.05
83	1245	0.03	25	2,034	209	1,825	465.12	1,825	0.04
84	1260	0.02	16	1,841	209	1,632	465.10	1,632	0.04
85	1275	0.03	25	1,656	209	1,447	465.09	1,447	0.03
86	1290	0.02	16	1,463	209	1,254	465.08	1,254	0.03
87	1305	0.03	25	1,279	209	1,069	465.07	1,069	0.02
88	1320	0.02	16	1,086	209	876	465.06	876	0.02
89	1335	0.03	25	901	209	692	465.04	692	0.02
90	1350	0.02	16	708	209	499	465.03	499	0.01
91	1365	0.02	16	515	209	306	465.02	306	0.01
92	1380	0.02	16	322	209	113	465.01	113	0.00
93	1395	0.02	16	129	209	-	465.00	-	0.00
94	1410	0.02	16	16	209	-	465.00	-	0.00
95	1425	0.02	16	16	209	-	465.00	-	0.00
96	1440	0.02	16	16	209	-	465.00	-	0.00

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 10 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 4		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	2.33		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	6.56		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	0.9		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	620		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	70		
30				
31	ELEVATION OF HEADWATER	470.5		
32	ELEVATION OF CONCENTRATION POINT	468		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	1.04		
40	6-HOUR	1.36		
41	24-HOUR	2.23		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		464.5	13730	
45		465.5	15200	
46		466.5	16700	
47		467.5	18270	
48		468	19075	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 4
[3] AREA - ACRES	9.790
[4] L-FEET	620
[5] L-MILES	0.117
[6] La-FEET	70.00
[7] La-MILES	0.013
[8] ELEVATION OF HEADWATER	470.5
[9] ELEVATION OF CONCENTRATION POINT	468
[10] H-FEET	2.5
[11] S-FEET/MILE	21.3
[12] S^0.5	4.61
[13] L*LCA/S^0.5	0.000
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.02
[16] LAG TIME-MINUTES	1.4
[17] 100% OF LAG-MINUTES	1.4
[18] 200% OF LAG-MINUTES	2.8
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.21

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
1.04	9.790	1.00	1.04	1.36	9.790	1.00	1.36	2.23	9.790	1.00	2.23
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	9.79	SUM [7]	1.04	SUM [9]	9.79	SUM [11]	1.36	SUM [13]	9.79	SUM [15]	2.23
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			1.04				1.36				2.23

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	0.47	0.47	0.37
FLOOD VOLUME	(cu-ft)	16,627	16,600	13,067
	(acre-ft)	0.38	0.38	0.30
REQUIRED STORAGE	(cu-ft)	14,362	13,085	5,344
	(acre-ft)	0.33	0.30	0.12
PEAK FLOW	(cfs)	8.01	6.94	1.24
MAXIMUM WSEL	(ft)	465.49	465.40	464.87

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	2.33	0.238	0.0124
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	6.56	0.670	0.1446
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	0.90	0.092	0.0478
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		9.79	SUM	0.2048

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.102390603
C= 0.00190

Ft=C(24-(T/60))^1.55 = 0.00190 (24-(T/60))^1.55 + 0.10 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.79
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.38
UNIT TIME-PERCENT OF LAG	362.1
TOTAL ADJUSTED STORM RAIN-INCHES	1.04
CONSTANT LOSS RATE-in/hr	0.20
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.21 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.162	0.20	0.15	0.02	0.16	0.00
2	10	0.17	1.3	0.162	0.20	0.15	0.02	0.16	0.00
3	15	0.25	1.1	0.137	0.20	0.12	0.01	0.13	0.00
4	20	0.33	1.5	0.187	0.20	0.17	0.02	0.18	0.00
5	25	0.42	1.5	0.187	0.20	0.17	0.02	0.18	0.00
6	30	0.50	1.8	0.225	0.20	0.20	0.02	0.19	0.00
7	35	0.58	1.5	0.187	0.20	0.17	0.02	0.18	0.00
8	40	0.67	1.8	0.225	0.20	0.20	0.02	0.19	0.00
9	45	0.75	1.8	0.225	0.20	0.20	0.02	0.19	0.00
10	50	0.83	1.5	0.187	0.20	0.17	0.02	0.18	0.00
11	55	0.92	1.6	0.200	0.20	0.18	0.02	0.20	0.00
12	60	1.00	1.8	0.225	0.20	0.20	0.02	0.19	0.00
13	65	1.08	2.2	0.275	0.20	0.25	0.07	0.68	141.06
14	70	1.17	2.2	0.275	0.20	0.25	0.07	0.68	141.06
15	75	1.25	2.2	0.275	0.20	0.25	0.07	0.68	141.06
16	80	1.33	2.0	0.250	0.20	0.22	0.04	0.44	67.75
17	85	1.42	2.6	0.324	0.20	0.29	0.12	1.17	287.67
18	90	1.50	2.7	0.337	0.20	0.30	0.13	1.29	324.33
19	95	1.58	2.4	0.300	0.20	0.27	0.09	0.93	214.37
20	100	1.67	2.7	0.337	0.20	0.30	0.13	1.29	324.33
21	105	1.75	3.3	0.412	0.20	0.37	0.21	2.03	544.25
22	110	1.83	3.1	0.387	0.20	0.35	0.18	1.78	470.94
23	115	1.92	2.9	0.362	0.20	0.33	0.16	1.54	397.63
24	120	2.00	3.0	0.374	0.20	0.34	0.17	1.66	434.29
25	125	2.08	3.1	0.387	0.20	0.35	0.18	1.78	470.94
26	130	2.17	4.2	0.524	0.20	0.47	0.32	3.13	874.13
27	135	2.25	5.0	0.624	0.20	0.56	0.42	4.10	1167.36
28	140	2.33	3.5	0.437	0.20	0.39	0.23	2.27	617.56
29	145	2.42	6.8	0.849	0.20	0.76	0.64	6.30	1827.13
30	150	2.50	7.3	0.911	0.20	0.82	0.71	6.91	2010.40
31	155	2.58	8.2	1.023	0.20	0.92	0.82	8.01	2340.28
32	160	2.67	5.9	0.736	0.20	0.66	0.53	5.20	1497.25
33	165	2.75	2.0	0.250	0.20	0.22	0.04	0.44	67.75
34	170	2.83	1.8	0.225	0.20	0.20	0.02	0.19	0.00
35	175	2.92	1.8	0.225	0.20	0.20	0.02	0.19	0.00
36	180	3.00	0.6	0.075	0.20	0.07	0.01	0.07	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.47
FLOOD VOLUME (acft)	0.38
FLOOD VOLUME (cuft)	16626.67
REQUIRED STORAGE (acft)	0.33
REQUIRED STORAGE (cuft)	14361.53
PEAK FLOW RATE (cfs)	8.01

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.79
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.38
UNIT TIME-PERCENT OF LAG	362.1
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.205
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.21 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.082	0.20	0.07	0.01	0.08	0.00
2	10	0.17	0.6	0.098	0.20	0.09	0.01	0.10	0.00
3	15	0.25	0.6	0.098	0.20	0.09	0.01	0.10	0.00
4	20	0.33	0.6	0.098	0.20	0.09	0.01	0.10	0.00
5	25	0.42	0.6	0.098	0.20	0.09	0.01	0.10	0.00
6	30	0.50	0.7	0.114	0.20	0.10	0.01	0.11	0.00
7	35	0.58	0.7	0.114	0.20	0.10	0.01	0.11	0.00
8	40	0.67	0.7	0.114	0.20	0.10	0.01	0.11	0.00
9	45	0.75	0.7	0.114	0.20	0.10	0.01	0.11	0.00
10	50	0.83	0.7	0.114	0.20	0.10	0.01	0.11	0.00
11	55	0.92	0.7	0.114	0.20	0.10	0.01	0.11	0.00
12	60	1.00	0.8	0.131	0.20	0.12	0.01	0.13	0.00
13	65	1.08	0.8	0.131	0.20	0.12	0.01	0.13	0.00
14	70	1.17	0.8	0.131	0.20	0.12	0.01	0.13	0.00
15	75	1.25	0.8	0.131	0.20	0.12	0.01	0.13	0.00
16	80	1.33	0.8	0.131	0.20	0.12	0.01	0.13	0.00
17	85	1.42	0.8	0.131	0.20	0.12	0.01	0.13	0.00
18	90	1.50	0.8	0.131	0.20	0.12	0.01	0.13	0.00
19	95	1.58	0.8	0.131	0.20	0.12	0.01	0.13	0.00
20	100	1.67	0.8	0.131	0.20	0.12	0.01	0.13	0.00
21	105	1.75	0.8	0.131	0.20	0.12	0.01	0.13	0.00
22	110	1.83	0.8	0.131	0.20	0.12	0.01	0.13	0.00
23	115	1.92	0.8	0.131	0.20	0.12	0.01	0.13	0.00
24	120	2.00	0.9	0.147	0.20	0.13	0.01	0.14	0.00
25	125	2.08	0.8	0.131	0.20	0.12	0.01	0.13	0.00
26	130	2.17	0.9	0.147	0.20	0.13	0.01	0.14	0.00
27	135	2.25	0.9	0.147	0.20	0.13	0.01	0.14	0.00
28	140	2.33	0.9	0.147	0.20	0.13	0.01	0.14	0.00
29	145	2.42	0.9	0.147	0.20	0.13	0.01	0.14	0.00
30	150	2.50	0.9	0.147	0.20	0.13	0.01	0.14	0.00
31	155	2.58	0.9	0.147	0.20	0.13	0.01	0.14	0.00
32	160	2.67	0.9	0.147	0.20	0.13	0.01	0.14	0.00
33	165	2.75	1.0	0.163	0.20	0.15	0.02	0.16	0.00
34	170	2.83	1.0	0.163	0.20	0.15	0.02	0.16	0.00
35	175	2.92	1.0	0.163	0.20	0.15	0.02	0.16	0.00
36	180	3.00	1.0	0.163	0.20	0.15	0.02	0.16	0.00
37	185	3.08	1.0	0.163	0.20	0.15	0.02	0.16	0.00
38	190	3.17	1.1	0.180	0.20	0.16	0.02	0.18	0.00
39	195	3.25	1.1	0.180	0.20	0.16	0.02	0.18	0.00
40	200	3.33	1.1	0.180	0.20	0.16	0.02	0.18	0.00
41	205	3.42	1.2	0.196	0.20	0.18	0.02	0.19	0.00
42	210	3.50	1.3	0.212	0.20	0.19	0.01	0.07	0.00
43	215	3.58	1.4	0.228	0.20	0.21	0.02	0.23	5.72
44	220	3.67	1.4	0.228	0.20	0.21	0.02	0.23	5.72
45	225	3.75	1.5	0.245	0.20	0.22	0.04	0.39	53.65
46	230	3.83	1.5	0.245	0.20	0.22	0.04	0.39	53.65
47	235	3.92	1.6	0.261	0.20	0.24	0.06	0.55	101.58
48	240	4.00	1.6	0.261	0.20	0.24	0.06	0.55	101.58
49	245	4.08	1.7	0.277	0.20	0.25	0.07	0.71	149.52
50	250	4.17	1.8	0.294	0.20	0.26	0.09	0.87	197.45
51	255	4.25	1.9	0.310	0.20	0.28	0.11	1.03	245.38
52	260	4.33	2.0	0.326	0.20	0.29	0.12	1.19	293.31
53	265	4.42	2.1	0.343	0.20	0.31	0.14	1.35	341.24
54	270	4.50	2.1	0.343	0.20	0.31	0.14	1.35	341.24
55	275	4.58	2.2	0.359	0.20	0.32	0.15	1.51	389.18
56	280	4.67	2.3	0.375	0.20	0.34	0.17	1.67	437.11

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD 100 YEAR - 6 HOUR STORM EVENT	PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT CONCENTRATION POINT: 1 BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.79		
UNIT TIME-MINUTES	5		
LAG TIME - MINUTES	1.38		
UNIT TIME-PERCENT OF LAG	362.1		
TOTAL ADJUSTED STORM RAIN-INCHES	1.36		
CONSTANT LOSS RATE-in/hr	0.205		
LOW LOSS RATE - PERCENT	90%	TOTAL PERCOLATION RATE (cfs)	0.21 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.392	0.20	0.35	0.19	1.83	485.04
58	290	4.83	2.4	0.392	0.20	0.35	0.19	1.83	485.04
59	295	4.92	2.5	0.408	0.20	0.37	0.20	1.99	532.97
60	300	5.00	2.6	0.424	0.20	0.38	0.22	2.15	580.90
61	305	5.08	3.1	0.506	0.20	0.46	0.30	2.95	820.56
62	310	5.17	3.6	0.588	0.20	0.53	0.38	3.75	1060.22
63	315	5.25	3.9	0.636	0.20	0.57	0.43	4.23	1204.02
64	320	5.33	4.2	0.685	0.20	0.62	0.48	4.71	1347.81
65	325	5.42	4.7	0.767	0.20	0.69	0.56	5.50	1587.47
66	330	5.50	5.6	0.914	0.20	0.82	0.71	6.94	2018.86
67	335	5.58	1.9	0.310	0.20	0.28	0.11	1.03	245.38
68	340	5.67	0.9	0.147	0.20	0.13	0.01	0.14	0.00
69	345	5.75	0.6	0.098	0.20	0.09	0.01	0.10	0.00
70	350	5.83	0.5	0.082	0.20	0.07	0.01	0.08	0.00
71	355	5.92	0.3	0.049	0.20	0.04	0.00	0.05	0.00
72	360	6.00	0.2	0.033	0.20	0.03	0.00	0.03	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.47
FLOOD VOLUME (acft)	0.38
FLOOD VOLUME (cuft)	16599.70
REQUIRED STORAGE (acft)	0.30
REQUIRED STORAGE (cuft)	13084.61
PEAK FLOW RATE (cfs)	6.94

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.790	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2048
LAG TIME - MINUTES	1.38	MINIMUM LOSS RATE (for var. loss) - in/hr	0.102
UNIT TIME-PERCENT OF LAG	1086.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00190
		PERCOLATION RATE (cfs)	0.21

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.018	0.362	0.016	0.002	0.02	0.00
2	30	0.50	0.3	0.027	0.357	0.024	0.003	0.03	0.00
3	45	0.75	0.3	0.027	0.353	0.024	0.003	0.03	0.00
4	60	1.00	0.4	0.036	0.349	0.032	0.004	0.03	0.00
5	75	1.25	0.3	0.027	0.345	0.024	0.003	0.03	0.00
6	90	1.50	0.3	0.027	0.341	0.024	0.003	0.03	0.00
7	105	1.75	0.3	0.027	0.337	0.024	0.003	0.03	0.00
8	120	2.00	0.4	0.036	0.333	0.032	0.004	0.03	0.00
9	135	2.25	0.4	0.036	0.329	0.032	0.004	0.03	0.00
10	150	2.50	0.4	0.036	0.325	0.032	0.004	0.03	0.00
11	165	2.75	0.5	0.045	0.321	0.040	0.004	0.04	0.00
12	180	3.00	0.5	0.045	0.317	0.040	0.004	0.04	0.00
13	195	3.25	0.5	0.045	0.313	0.040	0.004	0.04	0.00
14	210	3.50	0.5	0.045	0.309	0.040	0.004	0.04	0.00
15	225	3.75	0.5	0.045	0.305	0.040	0.004	0.04	0.00
16	240	4.00	0.6	0.054	0.301	0.048	0.005	0.05	0.00
17	255	4.25	0.6	0.054	0.297	0.048	0.005	0.05	0.00
18	270	4.50	0.7	0.062	0.294	0.056	0.006	0.06	0.00
19	285	4.75	0.7	0.062	0.290	0.056	0.006	0.06	0.00
20	300	5.00	0.8	0.071	0.286	0.064	0.007	0.07	0.00
21	315	5.25	0.6	0.054	0.282	0.048	0.005	0.05	0.00
22	330	5.50	0.7	0.062	0.279	0.056	0.006	0.06	0.00
23	345	5.75	0.8	0.071	0.275	0.064	0.007	0.07	0.00
24	360	6.00	0.8	0.071	0.272	0.064	0.007	0.07	0.00
25	375	6.25	0.9	0.080	0.268	0.072	0.008	0.08	0.00
26	390	6.50	0.9	0.080	0.264	0.072	0.008	0.08	0.00
27	405	6.75	1.0	0.089	0.261	0.080	0.009	0.09	0.00
28	420	7.00	1.0	0.089	0.257	0.080	0.009	0.09	0.00
29	435	7.25	1.0	0.089	0.254	0.080	0.009	0.09	0.00
30	450	7.50	1.1	0.098	0.250	0.088	0.010	0.10	0.00
31	465	7.75	1.2	0.107	0.247	0.096	0.011	0.10	0.00
32	480	8.00	1.3	0.116	0.243	0.104	0.012	0.11	0.00
33	495	8.25	1.5	0.134	0.240	0.120	0.013	0.13	0.00
34	510	8.50	1.5	0.134	0.237	0.120	0.013	0.13	0.00
35	525	8.75	1.6	0.143	0.233	0.128	0.014	0.14	0.00
36	540	9.00	1.7	0.152	0.230	0.136	0.015	0.15	0.00
37	555	9.25	1.9	0.169	0.227	0.153	0.017	0.17	0.00
38	570	9.50	2.0	0.178	0.224	0.161	0.018	0.17	0.00
39	585	9.75	2.1	0.187	0.220	0.169	0.019	0.18	0.00
40	600	10.00	2.2	0.196	0.217	0.177	0.020	0.19	0.00
41	615	10.25	1.5	0.134	0.214	0.120	0.013	0.13	0.00
42	630	10.50	1.5	0.134	0.211	0.120	0.013	0.13	0.00
43	645	10.75	2.0	0.178	0.208	0.161	0.018	0.17	0.00
44	660	11.00	2.0	0.178	0.205	0.161	0.018	0.17	0.00
45	675	11.25	1.9	0.169	0.202	0.153	0.017	0.17	0.00
46	690	11.50	1.9	0.169	0.199	0.153	0.017	0.17	0.00
47	705	11.75	1.7	0.152	0.196	0.136	0.015	0.15	0.00
48	720	12.00	1.8	0.161	0.193	0.145	0.016	0.16	0.00
49	735	12.25	2.5	0.223	0.190	0.201	0.033	0.32	97.34
50	750	12.50	2.6	0.232	0.187	0.209	0.045	0.44	201.03
51	765	12.75	2.8	0.250	0.185	0.225	0.065	0.64	383.03
52	780	13.00	2.9	0.259	0.182	0.233	0.077	0.75	486.13
53	795	13.25	3.4	0.303	0.179	0.273	0.124	1.22	903.31
54	810	13.50	3.4	0.303	0.176	0.273	0.127	1.24	927.21
55	825	13.75	2.3	0.205	0.174	0.185	0.032	0.31	86.27
56	840	14.00	2.3	0.205	0.171	0.185	0.034	0.33	109.55
57	855	14.25	2.7	0.241	0.168	0.217	0.072	0.71	446.90
58	870	14.50	2.6	0.232	0.166	0.209	0.066	0.65	390.96
59	885	14.75	2.6	0.232	0.163	0.209	0.069	0.67	413.29
60	900	15.00	2.5	0.223	0.161	0.201	0.062	0.61	356.70
61	915	15.25	2.4	0.214	0.158	0.193	0.056	0.55	299.78

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.790	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2048
LAG TIME - MINUTES	1.38	MINIMUM LOSS RATE (for var. loss) - in/hr	0.102
UNIT TIME-PERCENT OF LAG	1086.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00190
		PERCOLATION RATE (cfs)	0.21

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
62	930	15.50	2.3	0.205	0.156	0.185	0.049	0.48	242.53
63	945	15.75	1.9	0.169	0.153	0.153	0.016	0.16	0.00
64	960	16.00	1.9	0.169	0.151	0.153	0.018	0.18	0.00
65	975	16.25	0.4	0.036	0.149	0.032	0.004	0.03	0.00
66	990	16.50	0.4	0.036	0.147	0.032	0.004	0.03	0.00
67	1005	16.75	0.3	0.027	0.144	0.024	0.003	0.03	0.00
68	1020	17.00	0.3	0.027	0.142	0.024	0.003	0.03	0.00
69	1035	17.25	0.5	0.045	0.140	0.040	0.004	0.04	0.00
70	1050	17.50	0.5	0.045	0.138	0.040	0.004	0.04	0.00
71	1065	17.75	0.5	0.045	0.136	0.040	0.004	0.04	0.00
72	1080	18.00	0.4	0.036	0.134	0.032	0.004	0.03	0.00
73	1095	18.25	0.4	0.036	0.132	0.032	0.004	0.03	0.00
74	1110	18.50	0.4	0.036	0.130	0.032	0.004	0.03	0.00
75	1125	18.75	0.3	0.027	0.128	0.024	0.003	0.03	0.00
76	1140	19.00	0.2	0.018	0.126	0.016	0.002	0.02	0.00
77	1155	19.25	0.3	0.027	0.124	0.024	0.003	0.03	0.00
78	1170	19.50	0.4	0.036	0.123	0.032	0.004	0.03	0.00
79	1185	19.75	0.3	0.027	0.121	0.024	0.003	0.03	0.00
80	1200	20.00	0.2	0.018	0.119	0.016	0.002	0.02	0.00
81	1215	20.25	0.3	0.027	0.118	0.024	0.003	0.03	0.00
82	1230	20.50	0.3	0.027	0.116	0.024	0.003	0.03	0.00
83	1245	20.75	0.3	0.027	0.115	0.024	0.003	0.03	0.00
84	1260	21.00	0.2	0.018	0.113	0.016	0.002	0.02	0.00
85	1275	21.25	0.3	0.027	0.112	0.024	0.003	0.03	0.00
86	1290	21.50	0.2	0.018	0.111	0.016	0.002	0.02	0.00
87	1305	21.75	0.3	0.027	0.110	0.024	0.003	0.03	0.00
88	1320	22.00	0.2	0.018	0.108	0.016	0.002	0.02	0.00
89	1335	22.25	0.3	0.027	0.107	0.024	0.003	0.03	0.00
90	1350	22.50	0.2	0.018	0.106	0.016	0.002	0.02	0.00
91	1365	22.75	0.2	0.018	0.105	0.016	0.002	0.02	0.00
92	1380	23.00	0.2	0.018	0.105	0.016	0.002	0.02	0.00
93	1395	23.25	0.2	0.018	0.104	0.016	0.002	0.02	0.00
94	1410	23.50	0.2	0.018	0.103	0.016	0.002	0.02	0.00
95	1425	23.75	0.2	0.018	0.103	0.016	0.002	0.02	0.00
96	1440	24.00	0.2	0.018	0.102	0.016	0.002	0.02	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.37
FLOOD VOLUME (acft)	0.30
FLOOD VOLUME (cuft)	13066.60
REQUIRED STORAGE (acft)	0.12
REQUIRED STORAGE (cuft)	5344.02
PEAK FLOW (cfs)	1.24

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
464.5	0	0		13730	0	0	0.00
465.5	1	1	1470	15200	14465	14465	0.33
466.5	1	2	1500	16700	15950	30415	0.70
467.5	1	3	1570	18270	17485	47900	1.10
468	0.5	3.5	805	19075	9336	57236	1.31

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.21 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.21 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.16	48	48	64	-	464.50	-	0.00
2	10	0.16	48	48	64	-	464.50	-	0.00
3	15	0.13	40	40	64	-	464.50	-	0.00
4	20	0.18	55	55	64	-	464.50	-	0.00
5	25	0.18	55	55	64	-	464.50	-	0.00
6	30	0.19	58	58	64	-	464.50	-	0.00
7	35	0.18	55	55	64	-	464.50	-	0.00
8	40	0.19	58	58	64	-	464.50	-	0.00
9	45	0.19	58	58	64	-	464.50	-	0.00
10	50	0.18	55	55	64	-	464.50	-	0.00
11	55	0.20	59	59	64	-	464.50	-	0.00
12	60	0.19	58	58	64	-	464.50	-	0.00
13	65	0.68	205	205	64	141	464.51	141	0.00
14	70	0.68	205	346	64	282	464.52	282	0.01
15	75	0.68	205	487	64	423	464.53	423	0.01
16	80	0.44	132	555	64	491	464.53	491	0.01
17	85	1.17	352	842	64	779	464.55	779	0.02
18	90	1.29	388	1,167	64	1,103	464.58	1,103	0.03
19	95	0.93	278	1,381	64	1,317	464.59	1,317	0.03
20	100	1.29	388	1,705	64	1,642	464.61	1,642	0.04
21	105	2.03	608	2,250	64	2,186	464.65	2,186	0.05
22	110	1.78	535	2,721	64	2,657	464.68	2,657	0.06
23	115	1.54	462	3,118	64	3,054	464.71	3,054	0.07
24	120	1.66	498	3,553	64	3,489	464.74	3,489	0.08
25	125	1.78	535	4,024	64	3,960	464.77	3,960	0.09
26	130	3.13	938	4,898	64	4,834	464.83	4,834	0.11
27	135	4.10	1,231	6,065	64	6,001	464.91	6,001	0.14
28	140	2.27	681	6,683	64	6,619	464.96	6,619	0.15
29	145	6.30	1,891	8,510	64	8,446	465.08	8,446	0.19
30	150	6.91	2,074	10,520	64	10,456	465.22	10,456	0.24
31	155	8.01	2,404	12,860	64	12,797	465.38	12,797	0.29
32	160	5.20	1,561	14,358	64	14,294	465.49	14,294	0.33
33	165	0.44	132	14,425	64	14,362	465.49	14,362	0.33
34	170	0.19	58	14,420	64	14,356	465.49	14,356	0.33
35	175	0.19	58	14,414	64	14,350	465.49	14,350	0.33
36	180	0.07	22	14,372	64	14,309	465.49	14,309	0.33

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.08	24	24	64	-	464.50	-	0.00
2	10	0.10	29	29	64	-	464.50	-	0.00
3	15	0.10	29	29	64	-	464.50	-	0.00
4	20	0.10	29	29	64	-	464.50	-	0.00
5	25	0.10	29	29	64	-	464.50	-	0.00
6	30	0.11	34	34	64	-	464.50	-	0.00
7	35	0.11	34	34	64	-	464.50	-	0.00
8	40	0.11	34	34	64	-	464.50	-	0.00
9	45	0.11	34	34	64	-	464.50	-	0.00
10	50	0.11	34	34	64	-	464.50	-	0.00
11	55	0.11	34	34	64	-	464.50	-	0.00
12	60	0.13	38	38	64	-	464.50	-	0.00
13	65	0.13	38	38	64	-	464.50	-	0.00
14	70	0.13	38	38	64	-	464.50	-	0.00
15	75	0.13	38	38	64	-	464.50	-	0.00
16	80	0.13	38	38	64	-	464.50	-	0.00
17	85	0.13	38	38	64	-	464.50	-	0.00
18	90	0.13	38	38	64	-	464.50	-	0.00
19	95	0.13	38	38	64	-	464.50	-	0.00
20	100	0.13	38	38	64	-	464.50	-	0.00
21	105	0.13	38	38	64	-	464.50	-	0.00
22	110	0.13	38	38	64	-	464.50	-	0.00
23	115	0.13	38	38	64	-	464.50	-	0.00
24	120	0.14	43	43	64	-	464.50	-	0.00
25	125	0.13	38	38	64	-	464.50	-	0.00
26	130	0.14	43	43	64	-	464.50	-	0.00
27	135	0.14	43	43	64	-	464.50	-	0.00
28	140	0.14	43	43	64	-	464.50	-	0.00
29	145	0.14	43	43	64	-	464.50	-	0.00
30	150	0.14	43	43	64	-	464.50	-	0.00
31	155	0.14	43	43	64	-	464.50	-	0.00
32	160	0.14	43	43	64	-	464.50	-	0.00
33	165	0.16	48	48	64	-	464.50	-	0.00
34	170	0.16	48	48	64	-	464.50	-	0.00
35	175	0.16	48	48	64	-	464.50	-	0.00
36	180	0.16	48	48	64	-	464.50	-	0.00
37	185	0.16	48	48	64	-	464.50	-	0.00
38	190	0.18	53	53	64	-	464.50	-	0.00
39	195	0.18	53	53	64	-	464.50	-	0.00
40	200	0.18	53	53	64	-	464.50	-	0.00
41	205	0.19	58	58	64	-	464.50	-	0.00
42	210	0.07	22	22	64	-	464.50	-	0.00
43	215	0.23	70	70	64	6	464.50	6	0.00
44	220	0.23	70	75	64	11	464.50	11	0.00
45	225	0.39	118	129	64	65	464.50	65	0.00
46	230	0.39	118	183	64	119	464.51	119	0.00
47	235	0.55	165	284	64	220	464.52	220	0.01
48	240	0.55	165	386	64	322	464.52	322	0.01
49	245	0.71	213	535	64	471	464.53	471	0.01
50	250	0.87	261	733	64	669	464.55	669	0.02
51	255	1.03	309	978	64	914	464.56	914	0.02
52	260	1.19	357	1,271	64	1,208	464.58	1,208	0.03
53	265	1.35	405	1,613	64	1,549	464.61	1,549	0.04
54	270	1.35	405	1,954	64	1,890	464.63	1,890	0.04
55	275	1.51	453	2,343	64	2,279	464.66	2,279	0.05

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	1.67	501	2,780	64	2,716	464.69	2,716	0.06
57	285	1.83	549	3,265	64	3,201	464.72	3,201	0.07
58	290	1.83	549	3,750	64	3,686	464.75	3,686	0.08
59	295	1.99	597	4,283	64	4,219	464.79	4,219	0.10
60	300	2.15	645	4,864	64	4,800	464.83	4,800	0.11
61	305	2.95	884	5,685	64	5,621	464.89	5,621	0.13
62	310	3.75	1,124	6,745	64	6,681	464.96	6,681	0.15
63	315	4.23	1,268	7,949	64	7,885	465.05	7,885	0.18
64	320	4.71	1,412	9,297	64	9,233	465.14	9,233	0.21
65	325	5.50	1,651	10,884	64	10,820	465.25	10,820	0.25
66	330	6.94	2,083	12,903	64	12,839	465.39	12,839	0.29
67	335	1.03	309	13,148	64	13,085	465.40	13,085	0.30
68	340	0.14	43	13,128	64	13,064	465.40	13,064	0.30
69	345	0.10	29	13,093	64	13,029	465.40	13,029	0.30
70	350	0.08	24	13,053	64	12,989	465.40	12,989	0.30
71	355	0.05	14	13,003	64	12,939	465.39	12,939	0.30
72	360	0.03	10	12,949	64	12,885	465.39	12,885	0.30

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.02	16	16	192	-	464.50	-	0.00
2	30	0.03	24	24	192	-	464.50	-	0.00
3	45	0.03	24	24	192	-	464.50	-	0.00
4	60	0.03	31	31	192	-	464.50	-	0.00
5	75	0.03	24	24	192	-	464.50	-	0.00
6	90	0.03	24	24	192	-	464.50	-	0.00
7	105	0.03	24	24	192	-	464.50	-	0.00
8	120	0.03	31	31	192	-	464.50	-	0.00
9	135	0.03	31	31	192	-	464.50	-	0.00
10	150	0.03	31	31	192	-	464.50	-	0.00
11	165	0.04	39	39	192	-	464.50	-	0.00
12	180	0.04	39	39	192	-	464.50	-	0.00
13	195	0.04	39	39	192	-	464.50	-	0.00
14	210	0.04	39	39	192	-	464.50	-	0.00
15	225	0.04	39	39	192	-	464.50	-	0.00
16	240	0.05	47	47	192	-	464.50	-	0.00
17	255	0.05	47	47	192	-	464.50	-	0.00
18	270	0.06	55	55	192	-	464.50	-	0.00
19	285	0.06	55	55	192	-	464.50	-	0.00
20	300	0.07	63	63	192	-	464.50	-	0.00
21	315	0.05	47	47	192	-	464.50	-	0.00
22	330	0.06	55	55	192	-	464.50	-	0.00
23	345	0.07	63	63	192	-	464.50	-	0.00
24	360	0.07	63	63	192	-	464.50	-	0.00
25	375	0.08	71	71	192	-	464.50	-	0.00
26	390	0.08	71	71	192	-	464.50	-	0.00
27	405	0.09	79	79	192	-	464.50	-	0.00
28	420	0.09	79	79	192	-	464.50	-	0.00
29	435	0.09	79	79	192	-	464.50	-	0.00
30	450	0.10	86	86	192	-	464.50	-	0.00
31	465	0.10	94	94	192	-	464.50	-	0.00
32	480	0.11	102	102	192	-	464.50	-	0.00
33	495	0.13	118	118	192	-	464.50	-	0.00
34	510	0.13	118	118	192	-	464.50	-	0.00
35	525	0.14	126	126	192	-	464.50	-	0.00
36	540	0.15	134	134	192	-	464.50	-	0.00
37	555	0.17	149	149	192	-	464.50	-	0.00
38	570	0.17	157	157	192	-	464.50	-	0.00
39	585	0.18	165	165	192	-	464.50	-	0.00
40	600	0.19	173	173	192	-	464.50	-	0.00
41	615	0.13	118	118	192	-	464.50	-	0.00
42	630	0.13	118	118	192	-	464.50	-	0.00
43	645	0.17	157	157	192	-	464.50	-	0.00
44	660	0.17	157	157	192	-	464.50	-	0.00
45	675	0.17	149	149	192	-	464.50	-	0.00
46	690	0.17	149	149	192	-	464.50	-	0.00
47	705	0.15	134	134	192	-	464.50	-	0.00
48	720	0.16	141	141	192	-	464.50	-	0.00
49	735	0.32	289	289	192	97	464.51	97	0.00
50	750	0.44	393	490	192	298	464.52	298	0.01
51	765	0.64	575	873	192	681	464.55	681	0.02
52	780	0.75	678	1,359	192	1,168	464.58	1,168	0.03
53	795	1.22	1,095	2,262	192	2,071	464.64	2,071	0.05
54	810	1.24	1,119	3,190	192	2,998	464.71	2,998	0.07
55	825	0.31	278	3,276	192	3,084	464.71	3,084	0.07
56	840	0.33	301	3,386	192	3,194	464.72	3,194	0.07
57	855	0.71	639	3,832	192	3,641	464.75	3,641	0.08
58	870	0.65	583	4,223	192	4,032	464.78	4,032	0.09

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	0.67	605	4,637	192	4,445	464.81	4,445	0.10
60	900	0.61	548	4,993	192	4,802	464.83	4,802	0.11
61	915	0.55	491	5,293	192	5,101	464.85	5,101	0.12
62	930	0.48	434	5,536	192	5,344	464.87	5,344	0.12
63	945	0.16	141	5,485	192	5,293	464.87	5,293	0.12
64	960	0.18	161	5,455	192	5,263	464.86	5,263	0.12
65	975	0.03	31	5,294	192	5,103	464.85	5,103	0.12
66	990	0.03	31	5,134	192	4,943	464.84	4,943	0.11
67	1005	0.03	24	4,966	192	4,775	464.83	4,775	0.11
68	1020	0.03	24	4,798	192	4,606	464.82	4,606	0.11
69	1035	0.04	39	4,646	192	4,454	464.81	4,454	0.10
70	1050	0.04	39	4,493	192	4,302	464.80	4,302	0.10
71	1065	0.04	39	4,341	192	4,149	464.79	4,149	0.10
72	1080	0.03	31	4,181	192	3,989	464.78	3,989	0.09
73	1095	0.03	31	4,021	192	3,829	464.76	3,829	0.09
74	1110	0.03	31	3,860	192	3,669	464.75	3,669	0.08
75	1125	0.03	24	3,692	192	3,501	464.74	3,501	0.08
76	1140	0.02	16	3,516	192	3,325	464.73	3,325	0.08
77	1155	0.03	24	3,348	192	3,157	464.72	3,157	0.07
78	1170	0.03	31	3,188	192	2,996	464.71	2,996	0.07
79	1185	0.03	24	3,020	192	2,828	464.70	2,828	0.06
80	1200	0.02	16	2,844	192	2,652	464.68	2,652	0.06
81	1215	0.03	24	2,676	192	2,484	464.67	2,484	0.06
82	1230	0.03	24	2,508	192	2,316	464.66	2,316	0.05
83	1245	0.03	24	2,340	192	2,148	464.65	2,148	0.05
84	1260	0.02	16	2,164	192	1,972	464.64	1,972	0.05
85	1275	0.03	24	1,996	192	1,804	464.62	1,804	0.04
86	1290	0.02	16	1,820	192	1,628	464.61	1,628	0.04
87	1305	0.03	24	1,652	192	1,460	464.60	1,460	0.03
88	1320	0.02	16	1,476	192	1,284	464.59	1,284	0.03
89	1335	0.03	24	1,308	192	1,116	464.58	1,116	0.03
90	1350	0.02	16	1,132	192	940	464.57	940	0.02
91	1365	0.02	16	956	192	764	464.55	764	0.02
92	1380	0.02	16	780	192	588	464.54	588	0.01
93	1395	0.02	16	604	192	413	464.53	413	0.01
94	1410	0.02	16	428	192	237	464.52	237	0.01
95	1425	0.02	16	252	192	61	464.50	61	0.00
96	1440	0.02	16	76	192	-	464.50	-	0.00

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 10 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 5		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	1.95		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	4.71		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	2.83		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	950		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	310		
30				
31	ELEVATION OF HEADWATER	471		
32	ELEVATION OF CONCENTRATION POINT	467		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	1.04		
40	6-HOUR	1.36		
41	24-HOUR	2.23		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		463.5	17610	
45		464.5	19400	
46		465.5	21240	
47		466.5	23140	
48		467	24110	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 5
[3] AREA - ACRES	9.490
[4] L-FEET	950
[5] L-MILES	0.180
[6] La-FEET	310.00
[7] La-MILES	0.059
[8] ELEVATION OF HEADWATER	471
[9] ELEVATION OF CONCENTRATION POINT	467
[10] H-FEET	4
[11] S-FEET/MILE	22.2
[12] S^0.5	4.72
[13] L*LCA/S^0.5	0.002
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.05
[16] LAG TIME-MINUTES	2.8
[17] 100% OF LAG-MINUTES	2.8
[18] 200% OF LAG-MINUTES	5.7
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.27

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
1.04	9.490	1.00	1.04	1.36	9.490	1.00	1.36	2.23	9.490	1.00	2.23
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	9.49	SUM [7]	1.04	SUM [9]	9.49	SUM [11]	1.36	SUM [13]	9.49	SUM [15]	2.23
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			1.04				1.36				2.23

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	0.36	0.35	0.22
FLOOD VOLUME	(cu-ft)	12,335	12,150	7,524
	(acre-ft)	0.28	0.28	0.17
REQUIRED STORAGE	(cu-ft)	9,965	8,400	646
	(acre-ft)	0.23	0.19	0.01
PEAK FLOW	(cfs)	7.12	6.08	0.65
MAXIMUM WSEL	(ft)	464.04	463.95	463.53

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	1.95	0.205	0.0107
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	4.71	0.496	0.1071
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	2.83	0.298	0.1551
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		9.49	SUM	0.2729

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.136428767
C= 0.00253

Ft=C(24-(T/60))^1.55 = 0.00253 (24-(T/60))^1.55 + 0.14 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.49
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.83
UNIT TIME-PERCENT OF LAG	176.4
TOTAL ADJUSTED STORM RAIN-INCHES	1.04
CONSTANT LOSS RATE-in/hr	0.27
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.27 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.162	0.27	0.15	0.02	0.15	0.00
2	10	0.17	1.3	0.162	0.27	0.15	0.02	0.15	0.00
3	15	0.25	1.1	0.137	0.27	0.12	0.01	0.13	0.00
4	20	0.33	1.5	0.187	0.27	0.17	0.02	0.18	0.00
5	25	0.42	1.5	0.187	0.27	0.17	0.02	0.18	0.00
6	30	0.50	1.8	0.225	0.27	0.20	0.02	0.21	0.00
7	35	0.58	1.5	0.187	0.27	0.17	0.02	0.18	0.00
8	40	0.67	1.8	0.225	0.27	0.20	0.02	0.21	0.00
9	45	0.75	1.8	0.225	0.27	0.20	0.02	0.21	0.00
10	50	0.83	1.5	0.187	0.27	0.17	0.02	0.18	0.00
11	55	0.92	1.6	0.200	0.27	0.18	0.02	0.19	0.00
12	60	1.00	1.8	0.225	0.27	0.20	0.02	0.21	0.00
13	65	1.08	2.2	0.275	0.27	0.25	0.00	0.02	0.00
14	70	1.17	2.2	0.275	0.27	0.25	0.00	0.02	0.00
15	75	1.25	2.2	0.275	0.27	0.25	0.00	0.02	0.00
16	80	1.33	2.0	0.250	0.27	0.22	0.02	0.24	0.00
17	85	1.42	2.6	0.324	0.27	0.29	0.05	0.49	65.03
18	90	1.50	2.7	0.337	0.27	0.30	0.06	0.61	100.56
19	95	1.58	2.4	0.300	0.27	0.27	0.03	0.25	0.00
20	100	1.67	2.7	0.337	0.27	0.30	0.06	0.61	100.56
21	105	1.75	3.3	0.412	0.27	0.37	0.14	1.32	313.75
22	110	1.83	3.1	0.387	0.27	0.35	0.11	1.08	242.69
23	115	1.92	2.9	0.362	0.27	0.33	0.09	0.85	171.63
24	120	2.00	3.0	0.374	0.27	0.34	0.10	0.96	207.16
25	125	2.08	3.1	0.387	0.27	0.35	0.11	1.08	242.69
26	130	2.17	4.2	0.524	0.27	0.47	0.25	2.38	633.52
27	135	2.25	5.0	0.624	0.27	0.56	0.35	3.33	917.77
28	140	2.33	3.5	0.437	0.27	0.39	0.16	1.56	384.81
29	145	2.42	6.8	0.849	0.27	0.76	0.58	5.46	1557.32
30	150	2.50	7.3	0.911	0.27	0.82	0.64	6.06	1734.97
31	155	2.58	8.2	1.023	0.27	0.92	0.75	7.12	2054.75
32	160	2.67	5.9	0.736	0.27	0.66	0.46	4.40	1237.54
33	165	2.75	2.0	0.250	0.27	0.22	0.02	0.24	0.00
34	170	2.83	1.8	0.225	0.27	0.20	0.02	0.21	0.00
35	175	2.92	1.8	0.225	0.27	0.20	0.02	0.21	0.00
36	180	3.00	0.6	0.075	0.27	0.07	0.01	0.07	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.36
FLOOD VOLUME (acft)	0.28
FLOOD VOLUME (cuft)	12334.87
REQUIRED STORAGE (acft)	0.23
REQUIRED STORAGE (cuft)	9964.74
PEAK FLOW RATE (cfs)	7.12

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.49
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.83
UNIT TIME-PERCENT OF LAG	176.4
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.273
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.27 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.082	0.27	0.07	0.01	0.08	0.00
2	10	0.17	0.6	0.098	0.27	0.09	0.01	0.09	0.00
3	15	0.25	0.6	0.098	0.27	0.09	0.01	0.09	0.00
4	20	0.33	0.6	0.098	0.27	0.09	0.01	0.09	0.00
5	25	0.42	0.6	0.098	0.27	0.09	0.01	0.09	0.00
6	30	0.50	0.7	0.114	0.27	0.10	0.01	0.11	0.00
7	35	0.58	0.7	0.114	0.27	0.10	0.01	0.11	0.00
8	40	0.67	0.7	0.114	0.27	0.10	0.01	0.11	0.00
9	45	0.75	0.7	0.114	0.27	0.10	0.01	0.11	0.00
10	50	0.83	0.7	0.114	0.27	0.10	0.01	0.11	0.00
11	55	0.92	0.7	0.114	0.27	0.10	0.01	0.11	0.00
12	60	1.00	0.8	0.131	0.27	0.12	0.01	0.12	0.00
13	65	1.08	0.8	0.131	0.27	0.12	0.01	0.12	0.00
14	70	1.17	0.8	0.131	0.27	0.12	0.01	0.12	0.00
15	75	1.25	0.8	0.131	0.27	0.12	0.01	0.12	0.00
16	80	1.33	0.8	0.131	0.27	0.12	0.01	0.12	0.00
17	85	1.42	0.8	0.131	0.27	0.12	0.01	0.12	0.00
18	90	1.50	0.8	0.131	0.27	0.12	0.01	0.12	0.00
19	95	1.58	0.8	0.131	0.27	0.12	0.01	0.12	0.00
20	100	1.67	0.8	0.131	0.27	0.12	0.01	0.12	0.00
21	105	1.75	0.8	0.131	0.27	0.12	0.01	0.12	0.00
22	110	1.83	0.8	0.131	0.27	0.12	0.01	0.12	0.00
23	115	1.92	0.8	0.131	0.27	0.12	0.01	0.12	0.00
24	120	2.00	0.9	0.147	0.27	0.13	0.01	0.14	0.00
25	125	2.08	0.8	0.131	0.27	0.12	0.01	0.12	0.00
26	130	2.17	0.9	0.147	0.27	0.13	0.01	0.14	0.00
27	135	2.25	0.9	0.147	0.27	0.13	0.01	0.14	0.00
28	140	2.33	0.9	0.147	0.27	0.13	0.01	0.14	0.00
29	145	2.42	0.9	0.147	0.27	0.13	0.01	0.14	0.00
30	150	2.50	0.9	0.147	0.27	0.13	0.01	0.14	0.00
31	155	2.58	0.9	0.147	0.27	0.13	0.01	0.14	0.00
32	160	2.67	0.9	0.147	0.27	0.13	0.01	0.14	0.00
33	165	2.75	1.0	0.163	0.27	0.15	0.02	0.15	0.00
34	170	2.83	1.0	0.163	0.27	0.15	0.02	0.15	0.00
35	175	2.92	1.0	0.163	0.27	0.15	0.02	0.15	0.00
36	180	3.00	1.0	0.163	0.27	0.15	0.02	0.15	0.00
37	185	3.08	1.0	0.163	0.27	0.15	0.02	0.15	0.00
38	190	3.17	1.1	0.180	0.27	0.16	0.02	0.17	0.00
39	195	3.25	1.1	0.180	0.27	0.16	0.02	0.17	0.00
40	200	3.33	1.1	0.180	0.27	0.16	0.02	0.17	0.00
41	205	3.42	1.2	0.196	0.27	0.18	0.02	0.19	0.00
42	210	3.50	1.3	0.212	0.27	0.19	0.02	0.20	0.00
43	215	3.58	1.4	0.228	0.27	0.21	0.02	0.22	0.00
44	220	3.67	1.4	0.228	0.27	0.21	0.02	0.22	0.00
45	225	3.75	1.5	0.245	0.27	0.22	0.02	0.23	0.00
46	230	3.83	1.5	0.245	0.27	0.22	0.02	0.23	0.00
47	235	3.92	1.6	0.261	0.27	0.24	0.03	0.25	0.00
48	240	4.00	1.6	0.261	0.27	0.24	0.03	0.25	0.00
49	245	4.08	1.7	0.277	0.27	0.25	0.00	0.04	0.00
50	250	4.17	1.8	0.294	0.27	0.26	0.02	0.20	0.00
51	255	4.25	1.9	0.310	0.27	0.28	0.04	0.35	24.04
52	260	4.33	2.0	0.326	0.27	0.29	0.05	0.51	70.50
53	265	4.42	2.1	0.343	0.27	0.31	0.07	0.66	116.96
54	270	4.50	2.1	0.343	0.27	0.31	0.07	0.66	116.96
55	275	4.58	2.2	0.359	0.27	0.32	0.09	0.82	163.43
56	280	4.67	2.3	0.375	0.27	0.34	0.10	0.97	209.89

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.49
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.83
UNIT TIME-PERCENT OF LAG	176.4
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.273
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.27 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.392	0.27	0.35	0.12	1.13	256.35
58	290	4.83	2.4	0.392	0.27	0.35	0.12	1.13	256.35
59	295	4.92	2.5	0.408	0.27	0.37	0.14	1.28	302.82
60	300	5.00	2.6	0.424	0.27	0.38	0.15	1.44	349.28
61	305	5.08	3.1	0.506	0.27	0.46	0.23	2.21	581.59
62	310	5.17	3.6	0.588	0.27	0.53	0.31	2.99	813.91
63	315	5.25	3.9	0.636	0.27	0.57	0.36	3.45	953.30
64	320	5.33	4.2	0.685	0.27	0.62	0.41	3.92	1092.69
65	325	5.42	4.7	0.767	0.27	0.69	0.49	4.69	1325.00
66	330	5.50	5.6	0.914	0.27	0.82	0.64	6.08	1743.17
67	335	5.58	1.9	0.310	0.27	0.28	0.04	0.35	24.04
68	340	5.67	0.9	0.147	0.27	0.13	0.01	0.14	0.00
69	345	5.75	0.6	0.098	0.27	0.09	0.01	0.09	0.00
70	350	5.83	0.5	0.082	0.27	0.07	0.01	0.08	0.00
71	355	5.92	0.3	0.049	0.27	0.04	0.00	0.05	0.00
72	360	6.00	0.2	0.033	0.27	0.03	0.00	0.03	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.35
FLOOD VOLUME (acft)	0.28
FLOOD VOLUME (cuft)	12149.95
REQUIRED STORAGE (acft)	0.19
REQUIRED STORAGE (cuft)	8400.27
PEAK FLOW RATE (cfs)	6.08

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.490	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2729
LAG TIME - MINUTES	2.83	MINIMUM LOSS RATE (for var. loss) - in/hr	0.136
UNIT TIME-PERCENT OF LAG	529.1	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00253
		PERCOLATION RATE (cfs)	0.27

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.018	0.482	0.016	0.002	0.02	0.00
2	30	0.50	0.3	0.027	0.476	0.024	0.003	0.03	0.00
3	45	0.75	0.3	0.027	0.471	0.024	0.003	0.03	0.00
4	60	1.00	0.4	0.036	0.465	0.032	0.004	0.03	0.00
5	75	1.25	0.3	0.027	0.460	0.024	0.003	0.03	0.00
6	90	1.50	0.3	0.027	0.454	0.024	0.003	0.03	0.00
7	105	1.75	0.3	0.027	0.449	0.024	0.003	0.03	0.00
8	120	2.00	0.4	0.036	0.443	0.032	0.004	0.03	0.00
9	135	2.25	0.4	0.036	0.438	0.032	0.004	0.03	0.00
10	150	2.50	0.4	0.036	0.433	0.032	0.004	0.03	0.00
11	165	2.75	0.5	0.045	0.427	0.040	0.004	0.04	0.00
12	180	3.00	0.5	0.045	0.422	0.040	0.004	0.04	0.00
13	195	3.25	0.5	0.045	0.417	0.040	0.004	0.04	0.00
14	210	3.50	0.5	0.045	0.412	0.040	0.004	0.04	0.00
15	225	3.75	0.5	0.045	0.407	0.040	0.004	0.04	0.00
16	240	4.00	0.6	0.054	0.401	0.048	0.005	0.05	0.00
17	255	4.25	0.6	0.054	0.396	0.048	0.005	0.05	0.00
18	270	4.50	0.7	0.062	0.391	0.056	0.006	0.06	0.00
19	285	4.75	0.7	0.062	0.386	0.056	0.006	0.06	0.00
20	300	5.00	0.8	0.071	0.381	0.064	0.007	0.07	0.00
21	315	5.25	0.6	0.054	0.376	0.048	0.005	0.05	0.00
22	330	5.50	0.7	0.062	0.371	0.056	0.006	0.06	0.00
23	345	5.75	0.8	0.071	0.367	0.064	0.007	0.07	0.00
24	360	6.00	0.8	0.071	0.362	0.064	0.007	0.07	0.00
25	375	6.25	0.9	0.080	0.357	0.072	0.008	0.08	0.00
26	390	6.50	0.9	0.080	0.352	0.072	0.008	0.08	0.00
27	405	6.75	1.0	0.089	0.347	0.080	0.009	0.08	0.00
28	420	7.00	1.0	0.089	0.343	0.080	0.009	0.08	0.00
29	435	7.25	1.0	0.089	0.338	0.080	0.009	0.08	0.00
30	450	7.50	1.1	0.098	0.334	0.088	0.010	0.09	0.00
31	465	7.75	1.2	0.107	0.329	0.096	0.011	0.10	0.00
32	480	8.00	1.3	0.116	0.324	0.104	0.012	0.11	0.00
33	495	8.25	1.5	0.134	0.320	0.120	0.013	0.13	0.00
34	510	8.50	1.5	0.134	0.315	0.120	0.013	0.13	0.00
35	525	8.75	1.6	0.143	0.311	0.128	0.014	0.14	0.00
36	540	9.00	1.7	0.152	0.307	0.136	0.015	0.14	0.00
37	555	9.25	1.9	0.169	0.302	0.153	0.017	0.16	0.00
38	570	9.50	2.0	0.178	0.298	0.161	0.018	0.17	0.00
39	585	9.75	2.1	0.187	0.294	0.169	0.019	0.18	0.00
40	600	10.00	2.2	0.196	0.290	0.177	0.020	0.19	0.00
41	615	10.25	1.5	0.134	0.285	0.120	0.013	0.13	0.00
42	630	10.50	1.5	0.134	0.281	0.120	0.013	0.13	0.00
43	645	10.75	2.0	0.178	0.277	0.161	0.018	0.17	0.00
44	660	11.00	2.0	0.178	0.273	0.161	0.018	0.17	0.00
45	675	11.25	1.9	0.169	0.269	0.153	0.017	0.16	0.00
46	690	11.50	1.9	0.169	0.265	0.153	0.017	0.16	0.00
47	705	11.75	1.7	0.152	0.261	0.136	0.015	0.14	0.00
48	720	12.00	1.8	0.161	0.257	0.145	0.016	0.15	0.00
49	735	12.25	2.5	0.223	0.253	0.201	0.022	0.21	0.00
50	750	12.50	2.6	0.232	0.250	0.209	0.023	0.22	0.00
51	765	12.75	2.8	0.250	0.246	0.225	0.004	0.04	0.00
52	780	13.00	2.9	0.259	0.242	0.233	0.017	0.16	0.00
53	795	13.25	3.4	0.303	0.239	0.273	0.065	0.61	307.33
54	810	13.50	3.4	0.303	0.235	0.273	0.068	0.65	338.20
55	825	13.75	2.3	0.205	0.231	0.185	0.021	0.19	0.00
56	840	14.00	2.3	0.205	0.228	0.185	0.021	0.19	0.00
57	855	14.25	2.7	0.241	0.224	0.217	0.016	0.16	0.00
58	870	14.50	2.6	0.232	0.221	0.209	0.011	0.10	0.00
59	885	14.75	2.6	0.232	0.218	0.209	0.014	0.14	0.00
60	900	15.00	2.5	0.223	0.214	0.201	0.009	0.08	0.00
61	915	15.25	2.4	0.214	0.211	0.193	0.003	0.03	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.490	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2729
LAG TIME - MINUTES	2.83	MINIMUM LOSS RATE (for var. loss) - in/hr	0.136
UNIT TIME-PERCENT OF LAG	529.1	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00253
		PERCOLATION RATE (cfs)	0.27

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
62	930	15.50	2.3	0.205	0.208	0.185	0.021	0.19	0.00
63	945	15.75	1.9	0.169	0.205	0.153	0.017	0.16	0.00
64	960	16.00	1.9	0.169	0.201	0.153	0.017	0.16	0.00
65	975	16.25	0.4	0.036	0.198	0.032	0.004	0.03	0.00
66	990	16.50	0.4	0.036	0.195	0.032	0.004	0.03	0.00
67	1005	16.75	0.3	0.027	0.192	0.024	0.003	0.03	0.00
68	1020	17.00	0.3	0.027	0.189	0.024	0.003	0.03	0.00
69	1035	17.25	0.5	0.045	0.187	0.040	0.004	0.04	0.00
70	1050	17.50	0.5	0.045	0.184	0.040	0.004	0.04	0.00
71	1065	17.75	0.5	0.045	0.181	0.040	0.004	0.04	0.00
72	1080	18.00	0.4	0.036	0.178	0.032	0.004	0.03	0.00
73	1095	18.25	0.4	0.036	0.176	0.032	0.004	0.03	0.00
74	1110	18.50	0.4	0.036	0.173	0.032	0.004	0.03	0.00
75	1125	18.75	0.3	0.027	0.171	0.024	0.003	0.03	0.00
76	1140	19.00	0.2	0.018	0.168	0.016	0.002	0.02	0.00
77	1155	19.25	0.3	0.027	0.166	0.024	0.003	0.03	0.00
78	1170	19.50	0.4	0.036	0.164	0.032	0.004	0.03	0.00
79	1185	19.75	0.3	0.027	0.161	0.024	0.003	0.03	0.00
80	1200	20.00	0.2	0.018	0.159	0.016	0.002	0.02	0.00
81	1215	20.25	0.3	0.027	0.157	0.024	0.003	0.03	0.00
82	1230	20.50	0.3	0.027	0.155	0.024	0.003	0.03	0.00
83	1245	20.75	0.3	0.027	0.153	0.024	0.003	0.03	0.00
84	1260	21.00	0.2	0.018	0.151	0.016	0.002	0.02	0.00
85	1275	21.25	0.3	0.027	0.149	0.024	0.003	0.03	0.00
86	1290	21.50	0.2	0.018	0.148	0.016	0.002	0.02	0.00
87	1305	21.75	0.3	0.027	0.146	0.024	0.003	0.03	0.00
88	1320	22.00	0.2	0.018	0.145	0.016	0.002	0.02	0.00
89	1335	22.25	0.3	0.027	0.143	0.024	0.003	0.03	0.00
90	1350	22.50	0.2	0.018	0.142	0.016	0.002	0.02	0.00
91	1365	22.75	0.2	0.018	0.141	0.016	0.002	0.02	0.00
92	1380	23.00	0.2	0.018	0.139	0.016	0.002	0.02	0.00
93	1395	23.25	0.2	0.018	0.138	0.016	0.002	0.02	0.00
94	1410	23.50	0.2	0.018	0.138	0.016	0.002	0.02	0.00
95	1425	23.75	0.2	0.018	0.137	0.016	0.002	0.02	0.00
96	1440	24.00	0.2	0.018	0.137	0.016	0.002	0.02	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.22
FLOOD VOLUME (acft)	0.17
FLOOD VOLUME (cuft)	7524.21
REQUIRED STORAGE (acft)	0.01
REQUIRED STORAGE (cuft)	645.53
PEAK FLOW (cfs)	0.65

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
463.5	0	0		17610	0	0	0.00
464.5	1	1	1790	19400	18505	18505	0.42
465.5	1	2	1840	21240	20320	38825	0.89
466.5	1	3	1900	23140	22190	61015	1.40
467	0.5	3.5	970	24110	11813	72828	1.67

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.27 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.27 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.15	46	46	82	-	463.50	-	0.00
2	10	0.15	46	46	82	-	463.50	-	0.00
3	15	0.13	39	39	82	-	463.50	-	0.00
4	20	0.18	53	53	82	-	463.50	-	0.00
5	25	0.18	53	53	82	-	463.50	-	0.00
6	30	0.21	64	64	82	-	463.50	-	0.00
7	35	0.18	53	53	82	-	463.50	-	0.00
8	40	0.21	64	64	82	-	463.50	-	0.00
9	45	0.21	64	64	82	-	463.50	-	0.00
10	50	0.18	53	53	82	-	463.50	-	0.00
11	55	0.19	57	57	82	-	463.50	-	0.00
12	60	0.21	64	64	82	-	463.50	-	0.00
13	65	0.02	5	5	82	-	463.50	-	0.00
14	70	0.02	5	5	82	-	463.50	-	0.00
15	75	0.02	5	5	82	-	463.50	-	0.00
16	80	0.24	71	71	82	-	463.50	-	0.00
17	85	0.49	147	147	82	65	463.50	65	0.00
18	90	0.61	182	248	82	166	463.51	166	0.00
19	95	0.25	76	242	82	160	463.51	160	0.00
20	100	0.61	182	342	82	260	463.51	260	0.01
21	105	1.32	396	656	82	574	463.53	574	0.01
22	110	1.08	325	899	82	817	463.54	817	0.02
23	115	0.85	254	1,070	82	988	463.55	988	0.02
24	120	0.96	289	1,277	82	1,195	463.56	1,195	0.03
25	125	1.08	325	1,520	82	1,438	463.58	1,438	0.03
26	130	2.38	715	2,153	82	2,072	463.61	2,072	0.05
27	135	3.33	1,000	3,071	82	2,989	463.66	2,989	0.07
28	140	1.56	467	3,456	82	3,374	463.68	3,374	0.08
29	145	5.46	1,639	5,013	82	4,931	463.77	4,931	0.11
30	150	6.06	1,817	6,748	82	6,666	463.86	6,666	0.15
31	155	7.12	2,137	8,803	82	8,721	463.97	8,721	0.20
32	160	4.40	1,319	10,041	82	9,959	464.04	9,959	0.23
33	165	0.24	71	10,030	82	9,948	464.04	9,948	0.23
34	170	0.21	64	10,012	82	9,930	464.04	9,930	0.23
35	175	0.21	64	9,994	82	9,912	464.04	9,912	0.23
36	180	0.07	21	9,933	82	9,851	464.03	9,851	0.23

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.08	23	23	82	-	463.50	-	0.00
2	10	0.09	28	28	82	-	463.50	-	0.00
3	15	0.09	28	28	82	-	463.50	-	0.00
4	20	0.09	28	28	82	-	463.50	-	0.00
5	25	0.09	28	28	82	-	463.50	-	0.00
6	30	0.11	33	33	82	-	463.50	-	0.00
7	35	0.11	33	33	82	-	463.50	-	0.00
8	40	0.11	33	33	82	-	463.50	-	0.00
9	45	0.11	33	33	82	-	463.50	-	0.00
10	50	0.11	33	33	82	-	463.50	-	0.00
11	55	0.11	33	33	82	-	463.50	-	0.00
12	60	0.12	37	37	82	-	463.50	-	0.00
13	65	0.12	37	37	82	-	463.50	-	0.00
14	70	0.12	37	37	82	-	463.50	-	0.00
15	75	0.12	37	37	82	-	463.50	-	0.00
16	80	0.12	37	37	82	-	463.50	-	0.00
17	85	0.12	37	37	82	-	463.50	-	0.00
18	90	0.12	37	37	82	-	463.50	-	0.00
19	95	0.12	37	37	82	-	463.50	-	0.00
20	100	0.12	37	37	82	-	463.50	-	0.00
21	105	0.12	37	37	82	-	463.50	-	0.00
22	110	0.12	37	37	82	-	463.50	-	0.00
23	115	0.12	37	37	82	-	463.50	-	0.00
24	120	0.14	42	42	82	-	463.50	-	0.00
25	125	0.12	37	37	82	-	463.50	-	0.00
26	130	0.14	42	42	82	-	463.50	-	0.00
27	135	0.14	42	42	82	-	463.50	-	0.00
28	140	0.14	42	42	82	-	463.50	-	0.00
29	145	0.14	42	42	82	-	463.50	-	0.00
30	150	0.14	42	42	82	-	463.50	-	0.00
31	155	0.14	42	42	82	-	463.50	-	0.00
32	160	0.14	42	42	82	-	463.50	-	0.00
33	165	0.15	46	46	82	-	463.50	-	0.00
34	170	0.15	46	46	82	-	463.50	-	0.00
35	175	0.15	46	46	82	-	463.50	-	0.00
36	180	0.15	46	46	82	-	463.50	-	0.00
37	185	0.15	46	46	82	-	463.50	-	0.00
38	190	0.17	51	51	82	-	463.50	-	0.00
39	195	0.17	51	51	82	-	463.50	-	0.00
40	200	0.17	51	51	82	-	463.50	-	0.00
41	205	0.19	56	56	82	-	463.50	-	0.00
42	210	0.20	60	60	82	-	463.50	-	0.00
43	215	0.22	65	65	82	-	463.50	-	0.00
44	220	0.22	65	65	82	-	463.50	-	0.00
45	225	0.23	70	70	82	-	463.50	-	0.00
46	230	0.23	70	70	82	-	463.50	-	0.00
47	235	0.25	74	74	82	-	463.50	-	0.00
48	240	0.25	74	74	82	-	463.50	-	0.00
49	245	0.04	13	13	82	-	463.50	-	0.00
50	250	0.20	60	60	82	-	463.50	-	0.00
51	255	0.35	106	106	82	24	463.50	24	0.00
52	260	0.51	152	176	82	95	463.51	95	0.00
53	265	0.66	199	293	82	211	463.51	211	0.00
54	270	0.66	199	410	82	328	463.52	328	0.01
55	275	0.82	245	574	82	492	463.53	492	0.01

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	0.97	292	784	82	702	463.54	702	0.02
57	285	1.13	338	1,040	82	958	463.55	958	0.02
58	290	1.13	338	1,296	82	1,214	463.57	1,214	0.03
59	295	1.28	385	1,599	82	1,517	463.58	1,517	0.03
60	300	1.44	431	1,949	82	1,867	463.60	1,867	0.04
61	305	2.21	664	2,530	82	2,448	463.63	2,448	0.06
62	310	2.99	896	3,344	82	3,262	463.68	3,262	0.07
63	315	3.45	1,035	4,297	82	4,215	463.73	4,215	0.10
64	320	3.92	1,175	5,390	82	5,308	463.79	5,308	0.12
65	325	4.69	1,407	6,715	82	6,633	463.86	6,633	0.15
66	330	6.08	1,825	8,458	82	8,376	463.95	8,376	0.19
67	335	0.35	106	8,482	82	8,400	463.95	8,400	0.19
68	340	0.14	42	8,442	82	8,360	463.95	8,360	0.19
69	345	0.09	28	8,388	82	8,306	463.95	8,306	0.19
70	350	0.08	23	8,329	82	8,247	463.95	8,247	0.19
71	355	0.05	14	8,261	82	8,179	463.94	8,179	0.19
72	360	0.03	9	8,189	82	8,107	463.94	8,107	0.19

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.02	15	15	246	-	463.50	-	0.00
2	30	0.03	23	23	246	-	463.50	-	0.00
3	45	0.03	23	23	246	-	463.50	-	0.00
4	60	0.03	30	30	246	-	463.50	-	0.00
5	75	0.03	23	23	246	-	463.50	-	0.00
6	90	0.03	23	23	246	-	463.50	-	0.00
7	105	0.03	23	23	246	-	463.50	-	0.00
8	120	0.03	30	30	246	-	463.50	-	0.00
9	135	0.03	30	30	246	-	463.50	-	0.00
10	150	0.03	30	30	246	-	463.50	-	0.00
11	165	0.04	38	38	246	-	463.50	-	0.00
12	180	0.04	38	38	246	-	463.50	-	0.00
13	195	0.04	38	38	246	-	463.50	-	0.00
14	210	0.04	38	38	246	-	463.50	-	0.00
15	225	0.04	38	38	246	-	463.50	-	0.00
16	240	0.05	46	46	246	-	463.50	-	0.00
17	255	0.05	46	46	246	-	463.50	-	0.00
18	270	0.06	53	53	246	-	463.50	-	0.00
19	285	0.06	53	53	246	-	463.50	-	0.00
20	300	0.07	61	61	246	-	463.50	-	0.00
21	315	0.05	46	46	246	-	463.50	-	0.00
22	330	0.06	53	53	246	-	463.50	-	0.00
23	345	0.07	61	61	246	-	463.50	-	0.00
24	360	0.07	61	61	246	-	463.50	-	0.00
25	375	0.08	69	69	246	-	463.50	-	0.00
26	390	0.08	69	69	246	-	463.50	-	0.00
27	405	0.08	76	76	246	-	463.50	-	0.00
28	420	0.08	76	76	246	-	463.50	-	0.00
29	435	0.08	76	76	246	-	463.50	-	0.00
30	450	0.09	84	84	246	-	463.50	-	0.00
31	465	0.10	91	91	246	-	463.50	-	0.00
32	480	0.11	99	99	246	-	463.50	-	0.00
33	495	0.13	114	114	246	-	463.50	-	0.00
34	510	0.13	114	114	246	-	463.50	-	0.00
35	525	0.14	122	122	246	-	463.50	-	0.00
36	540	0.14	130	130	246	-	463.50	-	0.00
37	555	0.16	145	145	246	-	463.50	-	0.00
38	570	0.17	152	152	246	-	463.50	-	0.00
39	585	0.18	160	160	246	-	463.50	-	0.00
40	600	0.19	168	168	246	-	463.50	-	0.00
41	615	0.13	114	114	246	-	463.50	-	0.00
42	630	0.13	114	114	246	-	463.50	-	0.00
43	645	0.17	152	152	246	-	463.50	-	0.00
44	660	0.17	152	152	246	-	463.50	-	0.00
45	675	0.16	145	145	246	-	463.50	-	0.00
46	690	0.16	145	145	246	-	463.50	-	0.00
47	705	0.14	130	130	246	-	463.50	-	0.00
48	720	0.15	137	137	246	-	463.50	-	0.00
49	735	0.21	190	190	246	-	463.50	-	0.00
50	750	0.22	198	198	246	-	463.50	-	0.00
51	765	0.04	33	33	246	-	463.50	-	0.00
52	780	0.16	141	141	246	-	463.50	-	0.00
53	795	0.61	553	553	246	307	463.52	307	0.01
54	810	0.65	584	891	246	646	463.53	646	0.01
55	825	0.19	175	821	246	575	463.53	575	0.01
56	840	0.19	175	750	246	504	463.53	504	0.01
57	855	0.16	141	645	246	399	463.52	399	0.01
58	870	0.10	94	493	246	248	463.51	248	0.01

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	0.14	123	371	246	125	463.51	125	0.00
60	900	0.08	75	200	246	-	463.50	-	0.00
61	915	0.03	27	27	246	-	463.50	-	0.00
62	930	0.19	175	175	246	-	463.50	-	0.00
63	945	0.16	145	145	246	-	463.50	-	0.00
64	960	0.16	145	145	246	-	463.50	-	0.00
65	975	0.03	30	30	246	-	463.50	-	0.00
66	990	0.03	30	30	246	-	463.50	-	0.00
67	1005	0.03	23	23	246	-	463.50	-	0.00
68	1020	0.03	23	23	246	-	463.50	-	0.00
69	1035	0.04	38	38	246	-	463.50	-	0.00
70	1050	0.04	38	38	246	-	463.50	-	0.00
71	1065	0.04	38	38	246	-	463.50	-	0.00
72	1080	0.03	30	30	246	-	463.50	-	0.00
73	1095	0.03	30	30	246	-	463.50	-	0.00
74	1110	0.03	30	30	246	-	463.50	-	0.00
75	1125	0.03	23	23	246	-	463.50	-	0.00
76	1140	0.02	15	15	246	-	463.50	-	0.00
77	1155	0.03	23	23	246	-	463.50	-	0.00
78	1170	0.03	30	30	246	-	463.50	-	0.00
79	1185	0.03	23	23	246	-	463.50	-	0.00
80	1200	0.02	15	15	246	-	463.50	-	0.00
81	1215	0.03	23	23	246	-	463.50	-	0.00
82	1230	0.03	23	23	246	-	463.50	-	0.00
83	1245	0.03	23	23	246	-	463.50	-	0.00
84	1260	0.02	15	15	246	-	463.50	-	0.00
85	1275	0.03	23	23	246	-	463.50	-	0.00
86	1290	0.02	15	15	246	-	463.50	-	0.00
87	1305	0.03	23	23	246	-	463.50	-	0.00
88	1320	0.02	15	15	246	-	463.50	-	0.00
89	1335	0.03	23	23	246	-	463.50	-	0.00
90	1350	0.02	15	15	246	-	463.50	-	0.00
91	1365	0.02	15	15	246	-	463.50	-	0.00
92	1380	0.02	15	15	246	-	463.50	-	0.00
93	1395	0.02	15	15	246	-	463.50	-	0.00
94	1410	0.02	15	15	246	-	463.50	-	0.00
95	1425	0.02	15	15	246	-	463.50	-	0.00
96	1440	0.02	15	15	246	-	463.50	-	0.00

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 100 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 1		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	1.18		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS			
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	0.83		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	1000		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	15		
30				
31	ELEVATION OF HEADWATER	471.5		
32	ELEVATION OF CONCENTRATION POINT	468.8		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	2.12		
40	6-HOUR	2.78		
41	24-HOUR	4.47		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		465	3025	
45		466	3700	
46		467	4430	
47		468	5215	
48		468.5	5630	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 1
[3] AREA - ACRES	2.010
[4] L-FEET	1000
[5] L-MILES	0.189
[6] La-FEET	15.00
[7] La-MILES	0.003
[8] ELEVATION OF HEADWATER	471.5
[9] ELEVATION OF CONCENTRATION POINT	468.8
[10] H-FEET	2.7
[11] S-FEET/MILE	14.3
[12] S^0.5	3.78
[13] L*LCA/S^0.5	0.000
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.02
[16] LAG TIME-MINUTES	1.0
[17] 100% OF LAG-MINUTES	1.0
[18] 200% OF LAG-MINUTES	2.0
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.05

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
2.12	2.010	1.00	2.12	2.78	2.010	1.00	2.78	4.47	2.010	1.00	4.47
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	2.01	SUM [7]	2.12	SUM [9]	2.01	SUM [11]	2.78	SUM [13]	2.01	SUM [15]	4.47
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			2.12				2.78				4.47

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.39	1.40	1.43
FLOOD VOLUME	(cu-ft)	10,165	10,196	10,445
	(acre-ft)	0.23	0.23	0.24
REQUIRED STORAGE	(cu-ft)	9,580	9,148	8,100
	(acre-ft)	0.22	0.21	0.19
PEAK FLOW	(cfs)	3.70	3.26	0.80
MAXIMUM WSEL	(ft)	467.45	467.36	467.13

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	1.18	0.587	0.0305
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	0.00	0.000	0.0000
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	0.83	0.413	0.2147
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		2.01	SUM	0.2453

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.122626866

C= 0.00227

Ft=C(24-(T/60))^1.55 = 0.00227 (24-(T/60))^1.55 + 0.12 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.01
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.00
UNIT TIME-PERCENT OF LAG	502.5
TOTAL ADJUSTED STORM RAIN-INCHES	2.12
CONSTANT LOSS RATE-in/hr	0.25
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.05 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.331	0.25	0.30	0.09	0.17	37.46
2	10	0.17	1.3	0.331	0.25	0.30	0.09	0.17	37.46
3	15	0.25	1.1	0.280	0.25	0.25	0.03	0.07	6.78
4	20	0.33	1.5	0.382	0.25	0.34	0.14	0.27	68.14
5	25	0.42	1.5	0.382	0.25	0.34	0.14	0.27	68.14
6	30	0.50	1.8	0.458	0.25	0.41	0.21	0.43	114.16
7	35	0.58	1.5	0.382	0.25	0.34	0.14	0.27	68.14
8	40	0.67	1.8	0.458	0.25	0.41	0.21	0.43	114.16
9	45	0.75	1.8	0.458	0.25	0.41	0.21	0.43	114.16
10	50	0.83	1.5	0.382	0.25	0.34	0.14	0.27	68.14
11	55	0.92	1.6	0.407	0.25	0.37	0.16	0.33	83.48
12	60	1.00	1.8	0.458	0.25	0.41	0.21	0.43	114.16
13	65	1.08	2.2	0.560	0.25	0.50	0.31	0.63	175.52
14	70	1.17	2.2	0.560	0.25	0.50	0.31	0.63	175.52
15	75	1.25	2.2	0.560	0.25	0.50	0.31	0.63	175.52
16	80	1.33	2.0	0.509	0.25	0.46	0.26	0.53	144.84
17	85	1.42	2.6	0.661	0.25	0.60	0.42	0.84	236.89
18	90	1.50	2.7	0.687	0.25	0.62	0.44	0.89	252.23
19	95	1.58	2.4	0.611	0.25	0.55	0.37	0.73	206.21
20	100	1.67	2.7	0.687	0.25	0.62	0.44	0.89	252.23
21	105	1.75	3.3	0.840	0.25	0.76	0.59	1.19	344.27
22	110	1.83	3.1	0.789	0.25	0.71	0.54	1.09	313.59
23	115	1.92	2.9	0.738	0.25	0.66	0.49	0.99	282.91
24	120	2.00	3.0	0.763	0.25	0.69	0.52	1.04	298.25
25	125	2.08	3.1	0.789	0.25	0.71	0.54	1.09	313.59
26	130	2.17	4.2	1.068	0.25	0.96	0.82	1.65	482.33
27	135	2.25	5.0	1.272	0.25	1.14	1.03	2.06	605.05
28	140	2.33	3.5	0.890	0.25	0.80	0.65	1.30	374.95
29	145	2.42	6.8	1.730	0.25	1.56	1.48	2.98	881.18
30	150	2.50	7.3	1.857	0.25	1.67	1.61	3.24	957.88
31	155	2.58	8.2	2.086	0.25	1.88	1.84	3.70	1095.94
32	160	2.67	5.9	1.501	0.25	1.35	1.26	2.52	743.12
33	165	2.75	2.0	0.509	0.25	0.46	0.26	0.53	144.84
34	170	2.83	1.8	0.458	0.25	0.41	0.21	0.43	114.16
35	175	2.92	1.8	0.458	0.25	0.41	0.21	0.43	114.16
36	180	3.00	0.6	0.153	0.25	0.14	0.02	0.03	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.39
FLOOD VOLUME (acft)	0.23
FLOOD VOLUME (cuft)	10165.45
REQUIRED STORAGE (acft)	0.22
REQUIRED STORAGE (cuft)	9579.59
PEAK FLOW RATE (cfs)	3.70

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.01
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.00
UNIT TIME-PERCENT OF LAG	502.5
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.245
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.05 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.167	0.25	0.15	0.02	0.03	0.00
2	10	0.17	0.6	0.200	0.25	0.18	0.02	0.04	0.00
3	15	0.25	0.6	0.200	0.25	0.18	0.02	0.04	0.00
4	20	0.33	0.6	0.200	0.25	0.18	0.02	0.04	0.00
5	25	0.42	0.6	0.200	0.25	0.18	0.02	0.04	0.00
6	30	0.50	0.7	0.234	0.25	0.21	0.02	0.05	0.01
7	35	0.58	0.7	0.234	0.25	0.21	0.02	0.05	0.01
8	40	0.67	0.7	0.234	0.25	0.21	0.02	0.05	0.01
9	45	0.75	0.7	0.234	0.25	0.21	0.02	0.05	0.01
10	50	0.83	0.7	0.234	0.25	0.21	0.02	0.05	0.01
11	55	0.92	0.7	0.234	0.25	0.21	0.02	0.05	0.01
12	60	1.00	0.8	0.267	0.25	0.24	0.02	0.04	0.00
13	65	1.08	0.8	0.267	0.25	0.24	0.02	0.04	0.00
14	70	1.17	0.8	0.267	0.25	0.24	0.02	0.04	0.00
15	75	1.25	0.8	0.267	0.25	0.24	0.02	0.04	0.00
16	80	1.33	0.8	0.267	0.25	0.24	0.02	0.04	0.00
17	85	1.42	0.8	0.267	0.25	0.24	0.02	0.04	0.00
18	90	1.50	0.8	0.267	0.25	0.24	0.02	0.04	0.00
19	95	1.58	0.8	0.267	0.25	0.24	0.02	0.04	0.00
20	100	1.67	0.8	0.267	0.25	0.24	0.02	0.04	0.00
21	105	1.75	0.8	0.267	0.25	0.24	0.02	0.04	0.00
22	110	1.83	0.8	0.267	0.25	0.24	0.02	0.04	0.00
23	115	1.92	0.8	0.267	0.25	0.24	0.02	0.04	0.00
24	120	2.00	0.9	0.300	0.25	0.27	0.05	0.11	19.08
25	125	2.08	0.8	0.267	0.25	0.24	0.02	0.04	0.00
26	130	2.17	0.9	0.300	0.25	0.27	0.05	0.11	19.08
27	135	2.25	0.9	0.300	0.25	0.27	0.05	0.11	19.08
28	140	2.33	0.9	0.300	0.25	0.27	0.05	0.11	19.08
29	145	2.42	0.9	0.300	0.25	0.27	0.05	0.11	19.08
30	150	2.50	0.9	0.300	0.25	0.27	0.05	0.11	19.08
31	155	2.58	0.9	0.300	0.25	0.27	0.05	0.11	19.08
32	160	2.67	0.9	0.300	0.25	0.27	0.05	0.11	19.08
33	165	2.75	1.0	0.334	0.25	0.30	0.09	0.18	39.20
34	170	2.83	1.0	0.334	0.25	0.30	0.09	0.18	39.20
35	175	2.92	1.0	0.334	0.25	0.30	0.09	0.18	39.20
36	180	3.00	1.0	0.334	0.25	0.30	0.09	0.18	39.20
37	185	3.08	1.0	0.334	0.25	0.30	0.09	0.18	39.20
38	190	3.17	1.1	0.367	0.25	0.33	0.12	0.24	59.31
39	195	3.25	1.1	0.367	0.25	0.33	0.12	0.24	59.31
40	200	3.33	1.1	0.367	0.25	0.33	0.12	0.24	59.31
41	205	3.42	1.2	0.400	0.25	0.36	0.16	0.31	79.43
42	210	3.50	1.3	0.434	0.25	0.39	0.19	0.38	99.55
43	215	3.58	1.4	0.467	0.25	0.42	0.22	0.45	119.66
44	220	3.67	1.4	0.467	0.25	0.42	0.22	0.45	119.66
45	225	3.75	1.5	0.500	0.25	0.45	0.26	0.51	139.78
46	230	3.83	1.5	0.500	0.25	0.45	0.26	0.51	139.78
47	235	3.92	1.6	0.534	0.25	0.48	0.29	0.58	159.89
48	240	4.00	1.6	0.534	0.25	0.48	0.29	0.58	159.89
49	245	4.08	1.7	0.567	0.25	0.51	0.32	0.65	180.01
50	250	4.17	1.8	0.600	0.25	0.54	0.36	0.71	200.13
51	255	4.25	1.9	0.634	0.25	0.57	0.39	0.78	220.24
52	260	4.33	2.0	0.667	0.25	0.60	0.42	0.85	240.36
53	265	4.42	2.1	0.701	0.25	0.63	0.46	0.92	260.48
54	270	4.50	2.1	0.701	0.25	0.63	0.46	0.92	260.48
55	275	4.58	2.2	0.734	0.25	0.66	0.49	0.98	280.59
56	280	4.67	2.3	0.767	0.25	0.69	0.52	1.05	300.71

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.01
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.00
UNIT TIME-PERCENT OF LAG	502.5
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.245
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.05 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.801	0.25	0.72	0.56	1.12	320.82
58	290	4.83	2.4	0.801	0.25	0.72	0.56	1.12	320.82
59	295	4.92	2.5	0.834	0.25	0.75	0.59	1.18	340.94
60	300	5.00	2.6	0.867	0.25	0.78	0.62	1.25	361.06
61	305	5.08	3.1	1.034	0.25	0.93	0.79	1.59	461.64
62	310	5.17	3.6	1.201	0.25	1.08	0.96	1.92	562.22
63	315	5.25	3.9	1.301	0.25	1.17	1.06	2.12	622.56
64	320	5.33	4.2	1.401	0.25	1.26	1.16	2.32	682.91
65	325	5.42	4.7	1.568	0.25	1.41	1.32	2.66	783.49
66	330	5.50	5.6	1.868	0.25	1.68	1.62	3.26	964.54
67	335	5.58	1.9	0.634	0.25	0.57	0.39	0.78	220.24
68	340	5.67	0.9	0.300	0.25	0.27	0.05	0.11	19.08
69	345	5.75	0.6	0.200	0.25	0.18	0.02	0.04	0.00
70	350	5.83	0.5	0.167	0.25	0.15	0.02	0.03	0.00
71	355	5.92	0.3	0.100	0.25	0.09	0.01	0.02	0.00
72	360	6.00	0.2	0.067	0.25	0.06	0.01	0.01	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.40
FLOOD VOLUME (acft)	0.23
FLOOD VOLUME (cuft)	10195.68
REQUIRED STORAGE (acft)	0.21
REQUIRED STORAGE (cuft)	9147.59
PEAK FLOW RATE (cfs)	3.26

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.010	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2453
LAG TIME - MINUTES	1.00	MINIMUM LOSS RATE (for var. loss) - in/hr	0.123
UNIT TIME-PERCENT OF LAG	1507.5	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00227
		PERCOLATION RATE (cfs)	0.05

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.036	0.433	0.032	0.004	0.01	0.00
2	30	0.50	0.3	0.054	0.428	0.048	0.005	0.01	0.00
3	45	0.75	0.3	0.054	0.423	0.048	0.005	0.01	0.00
4	60	1.00	0.4	0.072	0.418	0.064	0.007	0.01	0.00
5	75	1.25	0.3	0.054	0.413	0.048	0.005	0.01	0.00
6	90	1.50	0.3	0.054	0.408	0.048	0.005	0.01	0.00
7	105	1.75	0.3	0.054	0.403	0.048	0.005	0.01	0.00
8	120	2.00	0.4	0.072	0.399	0.064	0.007	0.01	0.00
9	135	2.25	0.4	0.072	0.394	0.064	0.007	0.01	0.00
10	150	2.50	0.4	0.072	0.389	0.064	0.007	0.01	0.00
11	165	2.75	0.5	0.089	0.384	0.080	0.009	0.02	0.00
12	180	3.00	0.5	0.089	0.379	0.080	0.009	0.02	0.00
13	195	3.25	0.5	0.089	0.375	0.080	0.009	0.02	0.00
14	210	3.50	0.5	0.089	0.370	0.080	0.009	0.02	0.00
15	225	3.75	0.5	0.089	0.365	0.080	0.009	0.02	0.00
16	240	4.00	0.6	0.107	0.361	0.097	0.011	0.02	0.00
17	255	4.25	0.6	0.107	0.356	0.097	0.011	0.02	0.00
18	270	4.50	0.7	0.125	0.352	0.113	0.013	0.03	0.00
19	285	4.75	0.7	0.125	0.347	0.113	0.013	0.03	0.00
20	300	5.00	0.8	0.143	0.343	0.129	0.014	0.03	0.00
21	315	5.25	0.6	0.107	0.338	0.097	0.011	0.02	0.00
22	330	5.50	0.7	0.125	0.334	0.113	0.013	0.03	0.00
23	345	5.75	0.8	0.143	0.330	0.129	0.014	0.03	0.00
24	360	6.00	0.8	0.143	0.325	0.129	0.014	0.03	0.00
25	375	6.25	0.9	0.161	0.321	0.145	0.016	0.03	0.00
26	390	6.50	0.9	0.161	0.317	0.145	0.016	0.03	0.00
27	405	6.75	1.0	0.179	0.312	0.161	0.018	0.04	0.00
28	420	7.00	1.0	0.179	0.308	0.161	0.018	0.04	0.00
29	435	7.25	1.0	0.179	0.304	0.161	0.018	0.04	0.00
30	450	7.50	1.1	0.197	0.300	0.177	0.020	0.04	0.00
31	465	7.75	1.2	0.215	0.296	0.193	0.021	0.04	0.00
32	480	8.00	1.3	0.232	0.292	0.209	0.023	0.05	0.00
33	495	8.25	1.5	0.268	0.288	0.241	0.027	0.05	6.29
34	510	8.50	1.5	0.268	0.284	0.241	0.027	0.05	6.29
35	525	8.75	1.6	0.286	0.280	0.257	0.007	0.01	0.00
36	540	9.00	1.7	0.304	0.276	0.274	0.028	0.06	9.01
37	555	9.25	1.9	0.340	0.272	0.306	0.068	0.14	80.76
38	570	9.50	2.0	0.358	0.268	0.322	0.090	0.18	120.10
39	585	9.75	2.1	0.375	0.264	0.338	0.111	0.22	159.37
40	600	10.00	2.2	0.393	0.260	0.354	0.133	0.27	198.58
41	615	10.25	1.5	0.268	0.256	0.241	0.012	0.02	0.00
42	630	10.50	1.5	0.268	0.253	0.241	0.015	0.03	0.00
43	645	10.75	2.0	0.358	0.249	0.322	0.109	0.22	154.08
44	660	11.00	2.0	0.358	0.245	0.322	0.112	0.23	160.67
45	675	11.25	1.9	0.340	0.242	0.306	0.098	0.20	134.85
46	690	11.50	1.9	0.340	0.238	0.306	0.101	0.20	141.31
47	705	11.75	1.7	0.304	0.235	0.274	0.069	0.14	83.00
48	720	12.00	1.8	0.322	0.231	0.290	0.091	0.18	121.66
49	735	12.25	2.5	0.447	0.228	0.402	0.219	0.44	354.32
50	750	12.50	2.6	0.465	0.224	0.418	0.240	0.48	392.84
51	765	12.75	2.8	0.501	0.221	0.451	0.280	0.56	463.63
52	780	13.00	2.9	0.519	0.218	0.467	0.301	0.60	502.00
53	795	13.25	3.4	0.608	0.214	0.547	0.394	0.79	669.68
54	810	13.50	3.4	0.608	0.211	0.547	0.397	0.80	675.55
55	825	13.75	2.3	0.411	0.208	0.370	0.203	0.41	325.56
56	840	14.00	2.3	0.411	0.205	0.370	0.206	0.42	331.29
57	855	14.25	2.7	0.483	0.202	0.434	0.281	0.57	466.31
58	870	14.50	2.6	0.465	0.199	0.418	0.266	0.54	439.54
59	885	14.75	2.6	0.465	0.196	0.418	0.269	0.54	445.03
60	900	15.00	2.5	0.447	0.193	0.402	0.254	0.51	418.10
61	915	15.25	2.4	0.429	0.190	0.386	0.240	0.48	391.08
62	930	15.50	2.3	0.411	0.187	0.370	0.225	0.45	363.98
63	945	15.75	1.9	0.340	0.184	0.306	0.156	0.31	239.77
64	960	16.00	1.9	0.340	0.181	0.306	0.159	0.32	244.85
65	975	16.25	0.4	0.072	0.178	0.064	0.007	0.01	0.00
66	990	16.50	0.4	0.072	0.176	0.064	0.007	0.01	0.00
67	1005	16.75	0.3	0.054	0.173	0.048	0.005	0.01	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.010	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2453
LAG TIME - MINUTES	1.00	MINIMUM LOSS RATE (for var. loss) - in/hr	0.123
UNIT TIME-PERCENT OF LAG	1507.5	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00227
		PERCOLATION RATE (cfs)	0.05

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
68	1020	17.00	0.3	0.054	0.170	0.048	0.005	0.01	0.00
69	1035	17.25	0.5	0.089	0.168	0.080	0.009	0.02	0.00
70	1050	17.50	0.5	0.089	0.165	0.080	0.009	0.02	0.00
71	1065	17.75	0.5	0.089	0.163	0.080	0.009	0.02	0.00
72	1080	18.00	0.4	0.072	0.160	0.064	0.007	0.01	0.00
73	1095	18.25	0.4	0.072	0.158	0.064	0.007	0.01	0.00
74	1110	18.50	0.4	0.072	0.156	0.064	0.007	0.01	0.00
75	1125	18.75	0.3	0.054	0.153	0.048	0.005	0.01	0.00
76	1140	19.00	0.2	0.036	0.151	0.032	0.004	0.01	0.00
77	1155	19.25	0.3	0.054	0.149	0.048	0.005	0.01	0.00
78	1170	19.50	0.4	0.072	0.147	0.064	0.007	0.01	0.00
79	1185	19.75	0.3	0.054	0.145	0.048	0.005	0.01	0.00
80	1200	20.00	0.2	0.036	0.143	0.032	0.004	0.01	0.00
81	1215	20.25	0.3	0.054	0.141	0.048	0.005	0.01	0.00
82	1230	20.50	0.3	0.054	0.139	0.048	0.005	0.01	0.00
83	1245	20.75	0.3	0.054	0.138	0.048	0.005	0.01	0.00
84	1260	21.00	0.2	0.036	0.136	0.032	0.004	0.01	0.00
85	1275	21.25	0.3	0.054	0.134	0.048	0.005	0.01	0.00
86	1290	21.50	0.2	0.036	0.133	0.032	0.004	0.01	0.00
87	1305	21.75	0.3	0.054	0.131	0.048	0.005	0.01	0.00
88	1320	22.00	0.2	0.036	0.130	0.032	0.004	0.01	0.00
89	1335	22.25	0.3	0.054	0.129	0.048	0.005	0.01	0.00
90	1350	22.50	0.2	0.036	0.127	0.032	0.004	0.01	0.00
91	1365	22.75	0.2	0.036	0.126	0.032	0.004	0.01	0.00
92	1380	23.00	0.2	0.036	0.125	0.032	0.004	0.01	0.00
93	1395	23.25	0.2	0.036	0.124	0.032	0.004	0.01	0.00
94	1410	23.50	0.2	0.036	0.124	0.032	0.004	0.01	0.00
95	1425	23.75	0.2	0.036	0.123	0.032	0.004	0.01	0.00
96	1440	24.00	0.2	0.036	0.123	0.032	0.004	0.01	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.43
FLOOD VOLUME (acft)	0.24
FLOOD VOLUME (cuft)	10444.84
REQUIRED STORAGE (acft)	0.19
REQUIRED STORAGE (cuft)	8099.53
PEAK FLOW (cfs)	0.80

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
465	0	0		3025	0	0	0.00
466	1	1	675	3700	3363	3363	0.08
467	1	2	730	4430	4065	7428	0.17
468	1	3	785	5215	4823	12250	0.28
468.5	0.5	3.5	415	5630	2711	14961	0.34

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.05 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.05 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.17	52	52	14	37	465.01	37	0.00
2	10	0.17	52	89	14	75	465.02	75	0.00
3	15	0.07	21	96	14	82	465.02	82	0.00
4	20	0.27	82	164	14	150	465.04	150	0.00
5	25	0.27	82	232	14	218	465.06	218	0.01
6	30	0.43	128	346	14	332	465.10	332	0.01
7	35	0.27	82	414	14	400	465.12	400	0.01
8	40	0.43	128	529	14	514	465.15	514	0.01
9	45	0.43	128	643	14	629	465.19	629	0.01
10	50	0.27	82	711	14	697	465.21	697	0.02
11	55	0.33	98	794	14	780	465.23	780	0.02
12	60	0.43	128	908	14	894	465.27	894	0.02
13	65	0.63	190	1,084	14	1,070	465.32	1,070	0.02
14	70	0.63	190	1,260	14	1,245	465.37	1,245	0.03
15	75	0.63	190	1,435	14	1,421	465.42	1,421	0.03
16	80	0.53	159	1,580	14	1,566	465.47	1,566	0.04
17	85	0.84	251	1,817	14	1,803	465.54	1,803	0.04
18	90	0.89	266	2,069	14	2,055	465.61	2,055	0.05
19	95	0.73	220	2,275	14	2,261	465.67	2,261	0.05
20	100	0.89	266	2,527	14	2,513	465.75	2,513	0.06
21	105	1.19	358	2,872	14	2,858	465.85	2,858	0.07
22	110	1.09	328	3,185	14	3,171	465.94	3,171	0.07
23	115	0.99	297	3,468	14	3,454	466.02	3,454	0.08
24	120	1.04	312	3,766	14	3,752	466.10	3,752	0.09
25	125	1.09	328	4,080	14	4,066	466.17	4,066	0.09
26	130	1.65	496	4,562	14	4,548	466.29	4,548	0.10
27	135	2.06	619	5,167	14	5,153	466.44	5,153	0.12
28	140	1.30	389	5,542	14	5,528	466.53	5,528	0.13
29	145	2.98	895	6,424	14	6,409	466.75	6,409	0.15
30	150	3.24	972	7,381	14	7,367	466.99	7,367	0.17
31	155	3.70	1,110	8,477	14	8,463	467.21	8,463	0.19
32	160	2.52	757	9,220	14	9,206	467.37	9,206	0.21
33	165	0.53	159	9,365	14	9,351	467.40	9,351	0.21
34	170	0.43	128	9,479	14	9,465	467.42	9,465	0.22
35	175	0.43	128	9,594	14	9,580	467.45	9,580	0.22
36	180	0.03	9	9,589	14	9,575	467.45	9,575	0.22

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.03	10	10	14	-	465.00	-	0.00
2	10	0.04	12	12	14	-	465.00	-	0.00
3	15	0.04	12	12	14	-	465.00	-	0.00
4	20	0.04	12	12	14	-	465.00	-	0.00
5	25	0.04	12	12	14	-	465.00	-	0.00
6	30	0.05	14	14	14	0	465.00	0	0.00
7	35	0.05	14	14	14	0	465.00	0	0.00
8	40	0.05	14	14	14	0	465.00	0	0.00
9	45	0.05	14	14	14	0	465.00	0	0.00
10	50	0.05	14	14	14	0	465.00	0	0.00
11	55	0.05	14	14	14	0	465.00	0	0.00
12	60	0.04	13	13	14	-	465.00	-	0.00
13	65	0.04	13	13	14	-	465.00	-	0.00
14	70	0.04	13	13	14	-	465.00	-	0.00
15	75	0.04	13	13	14	-	465.00	-	0.00
16	80	0.04	13	13	14	-	465.00	-	0.00
17	85	0.04	13	13	14	-	465.00	-	0.00
18	90	0.04	13	13	14	-	465.00	-	0.00
19	95	0.04	13	13	14	-	465.00	-	0.00
20	100	0.04	13	13	14	-	465.00	-	0.00
21	105	0.04	13	13	14	-	465.00	-	0.00
22	110	0.04	13	13	14	-	465.00	-	0.00
23	115	0.04	13	13	14	-	465.00	-	0.00
24	120	0.11	33	33	14	19	465.01	19	0.00
25	125	0.04	13	32	14	18	465.01	18	0.00
26	130	0.11	33	51	14	37	465.01	37	0.00
27	135	0.11	33	70	14	56	465.02	56	0.00
28	140	0.11	33	89	14	75	465.02	75	0.00
29	145	0.11	33	108	14	94	465.03	94	0.00
30	150	0.11	33	128	14	113	465.03	113	0.00
31	155	0.11	33	147	14	133	465.04	133	0.00
32	160	0.11	33	166	14	152	465.05	152	0.00
33	165	0.18	53	205	14	191	465.06	191	0.00
34	170	0.18	53	244	14	230	465.07	230	0.01
35	175	0.18	53	283	14	269	465.08	269	0.01
36	180	0.18	53	322	14	308	465.09	308	0.01
37	185	0.18	53	362	14	348	465.10	348	0.01
38	190	0.24	73	421	14	407	465.12	407	0.01
39	195	0.24	73	480	14	466	465.14	466	0.01
40	200	0.24	73	540	14	526	465.16	526	0.01
41	205	0.31	94	619	14	605	465.18	605	0.01
42	210	0.38	114	719	14	705	465.21	705	0.02
43	215	0.45	134	838	14	824	465.25	824	0.02
44	220	0.45	134	958	14	944	465.28	944	0.02
45	225	0.51	154	1,098	14	1,084	465.32	1,084	0.02
46	230	0.51	154	1,237	14	1,223	465.36	1,223	0.03
47	235	0.58	174	1,397	14	1,383	465.41	1,383	0.03
48	240	0.58	174	1,557	14	1,543	465.46	1,543	0.04
49	245	0.65	194	1,737	14	1,723	465.51	1,723	0.04
50	250	0.71	214	1,937	14	1,923	465.57	1,923	0.04
51	255	0.78	234	2,158	14	2,144	465.64	2,144	0.05
52	260	0.85	254	2,398	14	2,384	465.71	2,384	0.05
53	265	0.92	275	2,658	14	2,644	465.79	2,644	0.06
54	270	0.92	275	2,919	14	2,905	465.86	2,905	0.07
55	275	0.98	295	3,200	14	3,185	465.95	3,185	0.07

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	1.05	315	3,500	14	3,486	466.03	3,486	0.08
57	285	1.12	335	3,821	14	3,807	466.11	3,807	0.09
58	290	1.12	335	4,142	14	4,128	466.19	4,128	0.09
59	295	1.18	355	4,483	14	4,469	466.27	4,469	0.10
60	300	1.25	375	4,844	14	4,830	466.36	4,830	0.11
61	305	1.59	476	5,306	14	5,291	466.47	5,291	0.12
62	310	1.92	576	5,868	14	5,854	466.61	5,854	0.13
63	315	2.12	637	6,490	14	6,476	466.77	6,476	0.15
64	320	2.32	697	7,173	14	7,159	466.93	7,159	0.16
65	325	2.66	798	7,957	14	7,943	467.11	7,943	0.18
66	330	3.26	979	8,921	14	8,907	467.31	8,907	0.20
67	335	0.78	234	9,142	14	9,127	467.35	9,127	0.21
68	340	0.11	33	9,161	14	9,147	467.36	9,147	0.21
69	345	0.04	12	9,159	14	9,145	467.36	9,145	0.21
70	350	0.03	10	9,155	14	9,140	467.36	9,140	0.21
71	355	0.02	6	9,147	14	9,132	467.35	9,132	0.21
72	360	0.01	4	9,136	14	9,122	467.35	9,122	0.21

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.01	6	6	42	-	465.00	-	0.00
2	30	0.01	10	10	42	-	465.00	-	0.00
3	45	0.01	10	10	42	-	465.00	-	0.00
4	60	0.01	13	13	42	-	465.00	-	0.00
5	75	0.01	10	10	42	-	465.00	-	0.00
6	90	0.01	10	10	42	-	465.00	-	0.00
7	105	0.01	10	10	42	-	465.00	-	0.00
8	120	0.01	13	13	42	-	465.00	-	0.00
9	135	0.01	13	13	42	-	465.00	-	0.00
10	150	0.01	13	13	42	-	465.00	-	0.00
11	165	0.02	16	16	42	-	465.00	-	0.00
12	180	0.02	16	16	42	-	465.00	-	0.00
13	195	0.02	16	16	42	-	465.00	-	0.00
14	210	0.02	16	16	42	-	465.00	-	0.00
15	225	0.02	16	16	42	-	465.00	-	0.00
16	240	0.02	19	19	42	-	465.00	-	0.00
17	255	0.02	19	19	42	-	465.00	-	0.00
18	270	0.03	23	23	42	-	465.00	-	0.00
19	285	0.03	23	23	42	-	465.00	-	0.00
20	300	0.03	26	26	42	-	465.00	-	0.00
21	315	0.02	19	19	42	-	465.00	-	0.00
22	330	0.03	23	23	42	-	465.00	-	0.00
23	345	0.03	26	26	42	-	465.00	-	0.00
24	360	0.03	26	26	42	-	465.00	-	0.00
25	375	0.03	29	29	42	-	465.00	-	0.00
26	390	0.03	29	29	42	-	465.00	-	0.00
27	405	0.04	32	32	42	-	465.00	-	0.00
28	420	0.04	32	32	42	-	465.00	-	0.00
29	435	0.04	32	32	42	-	465.00	-	0.00
30	450	0.04	36	36	42	-	465.00	-	0.00
31	465	0.04	39	39	42	-	465.00	-	0.00
32	480	0.05	42	42	42	-	465.00	-	0.00
33	495	0.05	49	49	42	6	465.00	6	0.00
34	510	0.05	49	55	42	13	465.00	13	0.00
35	525	0.01	12	24	42	-	465.00	-	0.00
36	540	0.06	51	51	42	9	465.00	9	0.00
37	555	0.14	123	132	42	90	465.03	90	0.00
38	570	0.18	162	252	42	210	465.06	210	0.00
39	585	0.22	202	411	42	369	465.11	369	0.01
40	600	0.27	241	610	42	568	465.17	568	0.01
41	615	0.02	21	589	42	547	465.16	547	0.01
42	630	0.03	28	575	42	532	465.16	532	0.01
43	645	0.22	196	729	42	687	465.20	687	0.02
44	660	0.23	203	889	42	847	465.25	847	0.02
45	675	0.20	177	1,024	42	982	465.29	982	0.02
46	690	0.20	184	1,166	42	1,123	465.33	1,123	0.03
47	705	0.14	125	1,249	42	1,206	465.36	1,206	0.03
48	720	0.18	164	1,370	42	1,328	465.39	1,328	0.03
49	735	0.44	397	1,725	42	1,682	465.50	1,682	0.04
50	750	0.48	435	2,117	42	2,075	465.62	2,075	0.05
51	765	0.56	506	2,581	42	2,539	465.76	2,539	0.06
52	780	0.60	544	3,083	42	3,041	465.90	3,041	0.07
53	795	0.79	712	3,753	42	3,711	466.09	3,711	0.09
54	810	0.80	718	4,428	42	4,386	466.25	4,386	0.10
55	825	0.41	368	4,754	42	4,712	466.33	4,712	0.11
56	840	0.42	374	5,085	42	5,043	466.41	5,043	0.12
57	855	0.57	509	5,551	42	5,509	466.53	5,509	0.13
58	870	0.54	482	5,991	42	5,949	466.64	5,949	0.14

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	0.54	487	6,436	42	6,394	466.75	6,394	0.15
60	900	0.51	460	6,854	42	6,812	466.85	6,812	0.16
61	915	0.48	433	7,245	42	7,203	466.94	7,203	0.17
62	930	0.45	406	7,609	42	7,567	467.03	7,567	0.17
63	945	0.31	282	7,849	42	7,807	467.08	7,807	0.18
64	960	0.32	287	8,094	42	8,052	467.13	8,052	0.18
65	975	0.01	13	8,065	42	8,022	467.12	8,022	0.18
66	990	0.01	13	8,035	42	7,993	467.12	7,993	0.18
67	1005	0.01	10	8,003	42	7,961	467.11	7,961	0.18
68	1020	0.01	10	7,970	42	7,928	467.10	7,928	0.18
69	1035	0.02	16	7,944	42	7,902	467.10	7,902	0.18
70	1050	0.02	16	7,918	42	7,876	467.09	7,876	0.18
71	1065	0.02	16	7,892	42	7,850	467.09	7,850	0.18
72	1080	0.01	13	7,863	42	7,821	467.08	7,821	0.18
73	1095	0.01	13	7,833	42	7,791	467.08	7,791	0.18
74	1110	0.01	13	7,804	42	7,762	467.07	7,762	0.18
75	1125	0.01	10	7,772	42	7,729	467.06	7,729	0.18
76	1140	0.01	6	7,736	42	7,694	467.06	7,694	0.18
77	1155	0.01	10	7,703	42	7,661	467.05	7,661	0.18
78	1170	0.01	13	7,674	42	7,632	467.04	7,632	0.18
79	1185	0.01	10	7,642	42	7,599	467.04	7,599	0.17
80	1200	0.01	6	7,606	42	7,564	467.03	7,564	0.17
81	1215	0.01	10	7,573	42	7,531	467.02	7,531	0.17
82	1230	0.01	10	7,541	42	7,499	467.01	7,499	0.17
83	1245	0.01	10	7,508	42	7,466	467.01	7,466	0.17
84	1260	0.01	6	7,473	42	7,430	467.00	7,430	0.17
85	1275	0.01	10	7,440	42	7,398	466.99	7,398	0.17
86	1290	0.01	6	7,404	42	7,362	466.98	7,362	0.17
87	1305	0.01	10	7,372	42	7,330	466.98	7,330	0.17
88	1320	0.01	6	7,336	42	7,294	466.97	7,294	0.17
89	1335	0.01	10	7,303	42	7,261	466.96	7,261	0.17
90	1350	0.01	6	7,268	42	7,225	466.95	7,225	0.17
91	1365	0.01	6	7,232	42	7,190	466.94	7,190	0.17
92	1380	0.01	6	7,196	42	7,154	466.93	7,154	0.16
93	1395	0.01	6	7,160	42	7,118	466.92	7,118	0.16
94	1410	0.01	6	7,125	42	7,082	466.92	7,082	0.16
95	1425	0.01	6	7,089	42	7,047	466.91	7,047	0.16
96	1440	0.01	6	7,053	42	7,011	466.90	7,011	0.16

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 100 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 2		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	2.51		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	7.46		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	0.6		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	724		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	100		
30				
31	ELEVATION OF HEADWATER	472		
32	ELEVATION OF CONCENTRATION POINT	468.5		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	2.12		
40	6-HOUR	2.78		
41	24-HOUR	4.47		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		465	15600	
45		466	17120	
46		467	18710	
47		468	20350	
48		468.5	21200	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 2
[3] AREA - ACRES	10.570
[4] L-FEET	724
[5] L-MILES	0.137
[6] La-FEET	100.00
[7] La-MILES	0.019
[8] ELEVATION OF HEADWATER	472
[9] ELEVATION OF CONCENTRATION POINT	468.5
[10] H-FEET	3.5
[11] S-FEET/MILE	25.5
[12] S^0.5	5.05
[13] L*LCA/S^0.5	0.001
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.03
[16] LAG TIME-MINUTES	1.6
[17] 100% OF LAG-MINUTES	1.6
[18] 200% OF LAG-MINUTES	3.2
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.24

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
2.12	10.570	1.00	2.12	2.78	10.570	1.00	2.78	4.47	10.570	1.00	4.47
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	10.57	SUM [7]	2.12	SUM [9]	10.57	SUM [11]	2.78	SUM [13]	10.57	SUM [15]	4.47
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			2.12				2.78				4.47

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.54	1.64	1.79
FLOOD VOLUME	(cu-ft)	59,174	63,009	68,653
	(acre-ft)	1.36	1.45	1.58
REQUIRED STORAGE	(cu-ft)	56,096	57,661	56,204
	(acre-ft)	1.29	1.32	1.29
PEAK FLOW	(cfs)	20.00	17.69	4.66
MAXIMUM WSEL	(ft)	468.11	468.19	468.12

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	2.51	0.237	0.0123
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	7.46	0.706	0.1523
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	0.60	0.057	0.0295
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		10.57	SUM	0.1942

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.097085525
C= 0.00180

Ft=C(24-(T/60))^1.55 = 0.00180 (24-(T/60))^1.55 + 0.10 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.57
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.62
UNIT TIME-PERCENT OF LAG	308.6
TOTAL ADJUSTED STORM RAIN-INCHES	2.12
CONSTANT LOSS RATE-in/hr	0.19
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.24 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.331	0.19	0.30	0.14	1.44	360.41
2	10	0.17	1.3	0.331	0.19	0.30	0.14	1.44	360.41
3	15	0.25	1.1	0.280	0.19	0.25	0.09	0.91	199.07
4	20	0.33	1.5	0.382	0.19	0.34	0.19	1.98	521.75
5	25	0.42	1.5	0.382	0.19	0.34	0.19	1.98	521.75
6	30	0.50	1.8	0.458	0.19	0.41	0.26	2.79	763.76
7	35	0.58	1.5	0.382	0.19	0.34	0.19	1.98	521.75
8	40	0.67	1.8	0.458	0.19	0.41	0.26	2.79	763.76
9	45	0.75	1.8	0.458	0.19	0.41	0.26	2.79	763.76
10	50	0.83	1.5	0.382	0.19	0.34	0.19	1.98	521.75
11	55	0.92	1.6	0.407	0.19	0.37	0.21	2.25	602.42
12	60	1.00	1.8	0.458	0.19	0.41	0.26	2.79	763.76
13	65	1.08	2.2	0.560	0.19	0.50	0.37	3.86	1086.45
14	70	1.17	2.2	0.560	0.19	0.50	0.37	3.86	1086.45
15	75	1.25	2.2	0.560	0.19	0.50	0.37	3.86	1086.45
16	80	1.33	2.0	0.509	0.19	0.46	0.31	3.33	925.11
17	85	1.42	2.6	0.661	0.19	0.60	0.47	4.94	1409.13
18	90	1.50	2.7	0.687	0.19	0.62	0.49	5.21	1489.80
19	95	1.58	2.4	0.611	0.19	0.55	0.42	4.40	1247.79
20	100	1.67	2.7	0.687	0.19	0.62	0.49	5.21	1489.80
21	105	1.75	3.3	0.840	0.19	0.76	0.65	6.82	1973.82
22	110	1.83	3.1	0.789	0.19	0.71	0.59	6.28	1812.48
23	115	1.92	2.9	0.738	0.19	0.66	0.54	5.75	1651.14
24	120	2.00	3.0	0.763	0.19	0.69	0.57	6.01	1731.81
25	125	2.08	3.1	0.789	0.19	0.71	0.59	6.28	1812.48
26	130	2.17	4.2	1.068	0.19	0.96	0.87	9.24	2699.85
27	135	2.25	5.0	1.272	0.19	1.14	1.08	11.39	3345.21
28	140	2.33	3.5	0.890	0.19	0.80	0.70	7.36	2135.16
29	145	2.42	6.8	1.730	0.19	1.56	1.54	16.23	4797.28
30	150	2.50	7.3	1.857	0.19	1.67	1.66	17.58	5200.63
31	155	2.58	8.2	2.086	0.19	1.88	1.89	20.00	5926.66
32	160	2.67	5.9	1.501	0.19	1.35	1.31	13.81	4071.24
33	165	2.75	2.0	0.509	0.19	0.46	0.31	3.33	925.11
34	170	2.83	1.8	0.458	0.19	0.41	0.26	2.79	763.76
35	175	2.92	1.8	0.458	0.19	0.41	0.26	2.79	763.76
36	180	3.00	0.6	0.153	0.19	0.14	0.02	0.16	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.54
FLOOD VOLUME (acft)	1.36
FLOOD VOLUME (cuft)	59173.82
REQUIRED STORAGE (acft)	1.29
REQUIRED STORAGE (cuft)	56095.73
PEAK FLOW RATE (cfs)	20.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.57
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.62
UNIT TIME-PERCENT OF LAG	308.6
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.194
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.24 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.167	0.19	0.15	0.02	0.18	0.00
2	10	0.17	0.6	0.200	0.19	0.18	0.01	0.06	0.00
3	15	0.25	0.6	0.200	0.19	0.18	0.01	0.06	0.00
4	20	0.33	0.6	0.200	0.19	0.18	0.01	0.06	0.00
5	25	0.42	0.6	0.200	0.19	0.18	0.01	0.06	0.00
6	30	0.50	0.7	0.234	0.19	0.21	0.04	0.42	52.19
7	35	0.58	0.7	0.234	0.19	0.21	0.04	0.42	52.19
8	40	0.67	0.7	0.234	0.19	0.21	0.04	0.42	52.19
9	45	0.75	0.7	0.234	0.19	0.21	0.04	0.42	52.19
10	50	0.83	0.7	0.234	0.19	0.21	0.04	0.42	52.19
11	55	0.92	0.7	0.234	0.19	0.21	0.04	0.42	52.19
12	60	1.00	0.8	0.267	0.19	0.24	0.07	0.77	157.98
13	65	1.08	0.8	0.267	0.19	0.24	0.07	0.77	157.98
14	70	1.17	0.8	0.267	0.19	0.24	0.07	0.77	157.98
15	75	1.25	0.8	0.267	0.19	0.24	0.07	0.77	157.98
16	80	1.33	0.8	0.267	0.19	0.24	0.07	0.77	157.98
17	85	1.42	0.8	0.267	0.19	0.24	0.07	0.77	157.98
18	90	1.50	0.8	0.267	0.19	0.24	0.07	0.77	157.98
19	95	1.58	0.8	0.267	0.19	0.24	0.07	0.77	157.98
20	100	1.67	0.8	0.267	0.19	0.24	0.07	0.77	157.98
21	105	1.75	0.8	0.267	0.19	0.24	0.07	0.77	157.98
22	110	1.83	0.8	0.267	0.19	0.24	0.07	0.77	157.98
23	115	1.92	0.8	0.267	0.19	0.24	0.07	0.77	157.98
24	120	2.00	0.9	0.300	0.19	0.27	0.11	1.12	263.76
25	125	2.08	0.8	0.267	0.19	0.24	0.07	0.77	157.98
26	130	2.17	0.9	0.300	0.19	0.27	0.11	1.12	263.76
27	135	2.25	0.9	0.300	0.19	0.27	0.11	1.12	263.76
28	140	2.33	0.9	0.300	0.19	0.27	0.11	1.12	263.76
29	145	2.42	0.9	0.300	0.19	0.27	0.11	1.12	263.76
30	150	2.50	0.9	0.300	0.19	0.27	0.11	1.12	263.76
31	155	2.58	0.9	0.300	0.19	0.27	0.11	1.12	263.76
32	160	2.67	0.9	0.300	0.19	0.27	0.11	1.12	263.76
33	165	2.75	1.0	0.334	0.19	0.30	0.14	1.47	369.55
34	170	2.83	1.0	0.334	0.19	0.30	0.14	1.47	369.55
35	175	2.92	1.0	0.334	0.19	0.30	0.14	1.47	369.55
36	180	3.00	1.0	0.334	0.19	0.30	0.14	1.47	369.55
37	185	3.08	1.0	0.334	0.19	0.30	0.14	1.47	369.55
38	190	3.17	1.1	0.367	0.19	0.33	0.17	1.83	475.33
39	195	3.25	1.1	0.367	0.19	0.33	0.17	1.83	475.33
40	200	3.33	1.1	0.367	0.19	0.33	0.17	1.83	475.33
41	205	3.42	1.2	0.400	0.19	0.36	0.21	2.18	581.11
42	210	3.50	1.3	0.434	0.19	0.39	0.24	2.53	686.90
43	215	3.58	1.4	0.467	0.19	0.42	0.27	2.88	792.68
44	220	3.67	1.4	0.467	0.19	0.42	0.27	2.88	792.68
45	225	3.75	1.5	0.500	0.19	0.45	0.31	3.24	898.47
46	230	3.83	1.5	0.500	0.19	0.45	0.31	3.24	898.47
47	235	3.92	1.6	0.534	0.19	0.48	0.34	3.59	1004.25
48	240	4.00	1.6	0.534	0.19	0.48	0.34	3.59	1004.25
49	245	4.08	1.7	0.567	0.19	0.51	0.37	3.94	1110.04
50	250	4.17	1.8	0.600	0.19	0.54	0.41	4.29	1215.82
51	255	4.25	1.9	0.634	0.19	0.57	0.44	4.65	1321.61
52	260	4.33	2.0	0.667	0.19	0.60	0.47	5.00	1427.39
53	265	4.42	2.1	0.701	0.19	0.63	0.51	5.35	1533.18
54	270	4.50	2.1	0.701	0.19	0.63	0.51	5.35	1533.18
55	275	4.58	2.2	0.734	0.19	0.66	0.54	5.71	1638.96
56	280	4.67	2.3	0.767	0.19	0.69	0.57	6.06	1744.75

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.57
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.62
UNIT TIME-PERCENT OF LAG	308.6
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.194
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.24 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.801	0.19	0.72	0.61	6.41	1850.53
58	290	4.83	2.4	0.801	0.19	0.72	0.61	6.41	1850.53
59	295	4.92	2.5	0.834	0.19	0.75	0.64	6.76	1956.31
60	300	5.00	2.6	0.867	0.19	0.78	0.67	7.12	2062.10
61	305	5.08	3.1	1.034	0.19	0.93	0.84	8.88	2591.02
62	310	5.17	3.6	1.201	0.19	1.08	1.01	10.64	3119.94
63	315	5.25	3.9	1.301	0.19	1.17	1.11	11.70	3437.30
64	320	5.33	4.2	1.401	0.19	1.26	1.21	12.76	3754.65
65	325	5.42	4.7	1.568	0.19	1.41	1.37	14.52	4283.57
66	330	5.50	5.6	1.868	0.19	1.68	1.67	17.69	5235.64
67	335	5.58	1.9	0.634	0.19	0.57	0.44	4.65	1321.61
68	340	5.67	0.9	0.300	0.19	0.27	0.11	1.12	263.76
69	345	5.75	0.6	0.200	0.19	0.18	0.01	0.06	0.00
70	350	5.83	0.5	0.167	0.19	0.15	0.02	0.18	0.00
71	355	5.92	0.3	0.100	0.19	0.09	0.01	0.11	0.00
72	360	6.00	0.2	0.067	0.19	0.06	0.01	0.07	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.64
FLOOD VOLUME (acft)	1.45
FLOOD VOLUME (cuft)	63008.73
REQUIRED STORAGE (acft)	1.32
REQUIRED STORAGE (cuft)	57661.37
PEAK FLOW RATE (cfs)	17.69

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.570	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.1942
LAG TIME - MINUTES	1.62	MINIMUM LOSS RATE (for var. loss) - in/hr	0.097
UNIT TIME-PERCENT OF LAG	925.8	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00180
		PERCOLATION RATE (cfs)	0.24

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.036	0.343	0.032	0.004	0.04	0.00
2	30	0.50	0.3	0.054	0.339	0.048	0.005	0.06	0.00
3	45	0.75	0.3	0.054	0.335	0.048	0.005	0.06	0.00
4	60	1.00	0.4	0.072	0.331	0.064	0.007	0.08	0.00
5	75	1.25	0.3	0.054	0.327	0.048	0.005	0.06	0.00
6	90	1.50	0.3	0.054	0.323	0.048	0.005	0.06	0.00
7	105	1.75	0.3	0.054	0.319	0.048	0.005	0.06	0.00
8	120	2.00	0.4	0.072	0.316	0.064	0.007	0.08	0.00
9	135	2.25	0.4	0.072	0.312	0.064	0.007	0.08	0.00
10	150	2.50	0.4	0.072	0.308	0.064	0.007	0.08	0.00
11	165	2.75	0.5	0.089	0.304	0.080	0.009	0.09	0.00
12	180	3.00	0.5	0.089	0.300	0.080	0.009	0.09	0.00
13	195	3.25	0.5	0.089	0.297	0.080	0.009	0.09	0.00
14	210	3.50	0.5	0.089	0.293	0.080	0.009	0.09	0.00
15	225	3.75	0.5	0.089	0.289	0.080	0.009	0.09	0.00
16	240	4.00	0.6	0.107	0.286	0.097	0.011	0.11	0.00
17	255	4.25	0.6	0.107	0.282	0.097	0.011	0.11	0.00
18	270	4.50	0.7	0.125	0.278	0.113	0.013	0.13	0.00
19	285	4.75	0.7	0.125	0.275	0.113	0.013	0.13	0.00
20	300	5.00	0.8	0.143	0.271	0.129	0.014	0.15	0.00
21	315	5.25	0.6	0.107	0.268	0.097	0.011	0.11	0.00
22	330	5.50	0.7	0.125	0.264	0.113	0.013	0.13	0.00
23	345	5.75	0.8	0.143	0.261	0.129	0.014	0.15	0.00
24	360	6.00	0.8	0.143	0.257	0.129	0.014	0.15	0.00
25	375	6.25	0.9	0.161	0.254	0.145	0.016	0.17	0.00
26	390	6.50	0.9	0.161	0.251	0.145	0.016	0.17	0.00
27	405	6.75	1.0	0.179	0.247	0.161	0.018	0.19	0.00
28	420	7.00	1.0	0.179	0.244	0.161	0.018	0.19	0.00
29	435	7.25	1.0	0.179	0.241	0.161	0.018	0.19	0.00
30	450	7.50	1.1	0.197	0.237	0.177	0.020	0.21	0.00
31	465	7.75	1.2	0.215	0.234	0.193	0.021	0.23	0.00
32	480	8.00	1.3	0.232	0.231	0.209	0.002	0.02	0.00
33	495	8.25	1.5	0.268	0.228	0.241	0.041	0.43	167.88
34	510	8.50	1.5	0.268	0.224	0.241	0.044	0.46	198.07
35	525	8.75	1.6	0.286	0.221	0.257	0.065	0.68	398.09
36	540	9.00	1.7	0.304	0.218	0.274	0.086	0.91	597.84
37	555	9.25	1.9	0.340	0.215	0.306	0.125	1.32	967.41
38	570	9.50	2.0	0.358	0.212	0.322	0.146	1.54	1166.63
39	585	9.75	2.1	0.375	0.209	0.338	0.166	1.76	1365.57
40	600	10.00	2.2	0.393	0.206	0.354	0.187	1.98	1564.23
41	615	10.25	1.5	0.268	0.203	0.241	0.065	0.69	401.88
42	630	10.50	1.5	0.268	0.200	0.241	0.068	0.72	429.90
43	645	10.75	2.0	0.358	0.197	0.322	0.160	1.70	1308.09
44	660	11.00	2.0	0.358	0.194	0.322	0.163	1.73	1335.54
45	675	11.25	1.9	0.340	0.191	0.306	0.148	1.57	1192.62
46	690	11.50	1.9	0.340	0.189	0.306	0.151	1.60	1219.49
47	705	11.75	1.7	0.304	0.186	0.274	0.118	1.25	905.90
48	720	12.00	1.8	0.322	0.183	0.290	0.139	1.47	1102.28
49	735	12.25	2.5	0.447	0.180	0.402	0.267	2.82	2318.92
50	750	12.50	2.6	0.465	0.178	0.418	0.287	3.04	2514.71
51	765	12.75	2.8	0.501	0.175	0.451	0.326	3.44	2880.29
52	780	13.00	2.9	0.519	0.172	0.467	0.346	3.66	3075.47
53	795	13.25	3.4	0.608	0.170	0.547	0.438	4.63	3950.71
54	810	13.50	3.4	0.608	0.167	0.547	0.441	4.66	3975.18
55	825	13.75	2.3	0.411	0.165	0.370	0.247	2.61	2128.32
56	840	14.00	2.3	0.411	0.162	0.370	0.249	2.63	2152.16
57	855	14.25	2.7	0.483	0.160	0.434	0.323	3.42	2856.04
58	870	14.50	2.6	0.465	0.157	0.418	0.308	3.25	2709.14
59	885	14.75	2.6	0.465	0.155	0.418	0.310	3.28	2732.00
60	900	15.00	2.5	0.447	0.152	0.402	0.295	3.11	2584.44
61	915	15.25	2.4	0.429	0.150	0.386	0.279	2.95	2436.54
62	930	15.50	2.3	0.411	0.148	0.370	0.263	2.78	2288.29
63	945	15.75	1.9	0.340	0.146	0.306	0.194	2.05	1629.43
64	960	16.00	1.9	0.340	0.143	0.306	0.196	2.08	1650.58
65	975	16.25	0.4	0.072	0.141	0.064	0.007	0.08	0.00
66	990	16.50	0.4	0.072	0.139	0.064	0.007	0.08	0.00
67	1005	16.75	0.3	0.054	0.137	0.048	0.005	0.06	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.570	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.1942
LAG TIME - MINUTES	1.62	MINIMUM LOSS RATE (for var. loss) - in/hr	0.097
UNIT TIME-PERCENT OF LAG	925.8	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00180
		PERCOLATION RATE (cfs)	0.24

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
68	1020	17.00	0.3	0.054	0.135	0.048	0.005	0.06	0.00
69	1035	17.25	0.5	0.089	0.133	0.080	0.009	0.09	0.00
70	1050	17.50	0.5	0.089	0.131	0.080	0.009	0.09	0.00
71	1065	17.75	0.5	0.089	0.129	0.080	0.009	0.09	0.00
72	1080	18.00	0.4	0.072	0.127	0.064	0.007	0.08	0.00
73	1095	18.25	0.4	0.072	0.125	0.064	0.007	0.08	0.00
74	1110	18.50	0.4	0.072	0.123	0.064	0.007	0.08	0.00
75	1125	18.75	0.3	0.054	0.121	0.048	0.005	0.06	0.00
76	1140	19.00	0.2	0.036	0.120	0.032	0.004	0.04	0.00
77	1155	19.25	0.3	0.054	0.118	0.048	0.005	0.06	0.00
78	1170	19.50	0.4	0.072	0.116	0.064	0.007	0.08	0.00
79	1185	19.75	0.3	0.054	0.115	0.048	0.005	0.06	0.00
80	1200	20.00	0.2	0.036	0.113	0.032	0.004	0.04	0.00
81	1215	20.25	0.3	0.054	0.112	0.048	0.005	0.06	0.00
82	1230	20.50	0.3	0.054	0.110	0.048	0.005	0.06	0.00
83	1245	20.75	0.3	0.054	0.109	0.048	0.005	0.06	0.00
84	1260	21.00	0.2	0.036	0.108	0.032	0.004	0.04	0.00
85	1275	21.25	0.3	0.054	0.106	0.048	0.005	0.06	0.00
86	1290	21.50	0.2	0.036	0.105	0.032	0.004	0.04	0.00
87	1305	21.75	0.3	0.054	0.104	0.048	0.005	0.06	0.00
88	1320	22.00	0.2	0.036	0.103	0.032	0.004	0.04	0.00
89	1335	22.25	0.3	0.054	0.102	0.048	0.005	0.06	0.00
90	1350	22.50	0.2	0.036	0.101	0.032	0.004	0.04	0.00
91	1365	22.75	0.2	0.036	0.100	0.032	0.004	0.04	0.00
92	1380	23.00	0.2	0.036	0.099	0.032	0.004	0.04	0.00
93	1395	23.25	0.2	0.036	0.099	0.032	0.004	0.04	0.00
94	1410	23.50	0.2	0.036	0.098	0.032	0.004	0.04	0.00
95	1425	23.75	0.2	0.036	0.097	0.032	0.004	0.04	0.00
96	1440	24.00	0.2	0.036	0.097	0.032	0.004	0.04	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.79
FLOOD VOLUME (acft)	1.58
FLOOD VOLUME (cuft)	68652.95
REQUIRED STORAGE (acft)	1.29
REQUIRED STORAGE (cuft)	56203.65
PEAK FLOW (cfs)	4.66

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
465	0	0		15600	0	0	0.00
466	1	1	1520	17120	16360	16360	0.38
467	1	2	1590	18710	17915	34275	0.79
468	1	3	1640	20350	19530	53805	1.24
468.5	0.5	3.5	850	21200	10388	64193	1.47

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.24 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.24 cfs

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JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	1.44	433	433	73	360	465.02	360	0.01
2	10	1.44	433	793	73	721	465.04	721	0.02
3	15	0.91	272	992	73	920	465.06	920	0.02
4	20	1.98	594	1,514	73	1,442	465.09	1,442	0.03
5	25	1.98	594	2,036	73	1,963	465.12	1,963	0.05
6	30	2.79	836	2,800	73	2,727	465.17	2,727	0.06
7	35	1.98	594	3,322	73	3,249	465.20	3,249	0.07
8	40	2.79	836	4,085	73	4,013	465.25	4,013	0.09
9	45	2.79	836	4,849	73	4,776	465.29	4,776	0.11
10	50	1.98	594	5,371	73	5,298	465.32	5,298	0.12
11	55	2.25	675	5,973	73	5,901	465.36	5,901	0.14
12	60	2.79	836	6,737	73	6,664	465.41	6,664	0.15
13	65	3.86	1,159	7,823	73	7,751	465.47	7,751	0.18
14	70	3.86	1,159	8,910	73	8,837	465.54	8,837	0.20
15	75	3.86	1,159	9,996	73	9,924	465.61	9,924	0.23
16	80	3.33	998	10,921	73	10,849	465.66	10,849	0.25
17	85	4.94	1,482	12,331	73	12,258	465.75	12,258	0.28
18	90	5.21	1,562	13,820	73	13,748	465.84	13,748	0.32
19	95	4.40	1,320	15,068	73	14,996	465.92	14,996	0.34
20	100	5.21	1,562	16,558	73	16,485	466.01	16,485	0.38
21	105	6.82	2,046	18,532	73	18,459	466.12	18,459	0.42
22	110	6.28	1,885	20,344	73	20,272	466.22	20,272	0.47
23	115	5.75	1,724	21,995	73	21,923	466.31	21,923	0.50
24	120	6.01	1,804	23,727	73	23,655	466.41	23,655	0.54
25	125	6.28	1,885	25,540	73	25,467	466.51	25,467	0.58
26	130	9.24	2,772	28,239	73	28,167	466.66	28,167	0.65
27	135	11.39	3,418	31,585	73	31,512	466.85	31,512	0.72
28	140	7.36	2,208	33,720	73	33,647	466.96	33,647	0.77
29	145	16.23	4,870	38,517	73	38,445	467.21	38,445	0.88
30	150	17.58	5,273	43,718	73	43,645	467.48	43,645	1.00
31	155	20.00	5,999	49,644	73	49,572	467.78	49,572	1.14
32	160	13.81	4,144	53,716	73	53,643	467.99	53,643	1.23
33	165	3.33	998	54,641	73	54,568	468.04	54,568	1.25
34	170	2.79	836	55,405	73	55,332	468.07	55,332	1.27
35	175	2.79	836	56,168	73	56,096	468.11	56,096	1.29
36	180	0.16	48	56,144	73	56,072	468.11	56,072	1.29

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.18	53	53	73	-	465.00	-	0.00
2	10	0.06	19	19	73	-	465.00	-	0.00
3	15	0.06	19	19	73	-	465.00	-	0.00
4	20	0.06	19	19	73	-	465.00	-	0.00
5	25	0.06	19	19	73	-	465.00	-	0.00
6	30	0.42	125	125	73	52	465.00	52	0.00
7	35	0.42	125	177	73	104	465.01	104	0.00
8	40	0.42	125	229	73	157	465.01	157	0.00
9	45	0.42	125	281	73	209	465.01	209	0.00
10	50	0.42	125	334	73	261	465.02	261	0.01
11	55	0.42	125	386	73	313	465.02	313	0.01
12	60	0.77	231	544	73	471	465.03	471	0.01
13	65	0.77	231	702	73	629	465.04	629	0.01
14	70	0.77	231	860	73	787	465.05	787	0.02
15	75	0.77	231	1,018	73	945	465.06	945	0.02
16	80	0.77	231	1,176	73	1,103	465.07	1,103	0.03
17	85	0.77	231	1,334	73	1,261	465.08	1,261	0.03
18	90	0.77	231	1,492	73	1,419	465.09	1,419	0.03
19	95	0.77	231	1,650	73	1,577	465.10	1,577	0.04
20	100	0.77	231	1,808	73	1,735	465.11	1,735	0.04
21	105	0.77	231	1,966	73	1,893	465.12	1,893	0.04
22	110	0.77	231	2,123	73	2,051	465.13	2,051	0.05
23	115	0.77	231	2,281	73	2,209	465.14	2,209	0.05
24	120	1.12	336	2,545	73	2,473	465.15	2,473	0.06
25	125	0.77	231	2,703	73	2,631	465.16	2,631	0.06
26	130	1.12	336	2,967	73	2,894	465.18	2,894	0.07
27	135	1.12	336	3,231	73	3,158	465.19	3,158	0.07
28	140	1.12	336	3,494	73	3,422	465.21	3,422	0.08
29	145	1.12	336	3,758	73	3,686	465.23	3,686	0.08
30	150	1.12	336	4,022	73	3,949	465.24	3,949	0.09
31	155	1.12	336	4,286	73	4,213	465.26	4,213	0.10
32	160	1.12	336	4,550	73	4,477	465.27	4,477	0.10
33	165	1.47	442	4,919	73	4,846	465.30	4,846	0.11
34	170	1.47	442	5,289	73	5,216	465.32	5,216	0.12
35	175	1.47	442	5,658	73	5,586	465.34	5,586	0.13
36	180	1.47	442	6,028	73	5,955	465.36	5,955	0.14
37	185	1.47	442	6,397	73	6,325	465.39	6,325	0.15
38	190	1.83	548	6,873	73	6,800	465.42	6,800	0.16
39	195	1.83	548	7,348	73	7,275	465.44	7,275	0.17
40	200	1.83	548	7,823	73	7,751	465.47	7,751	0.18
41	205	2.18	654	8,404	73	8,332	465.51	8,332	0.19
42	210	2.53	759	9,091	73	9,019	465.55	9,019	0.21
43	215	2.88	865	9,884	73	9,811	465.60	9,811	0.23
44	220	2.88	865	10,677	73	10,604	465.65	10,604	0.24
45	225	3.24	971	11,575	73	11,503	465.70	11,503	0.26
46	230	3.24	971	12,474	73	12,401	465.76	12,401	0.28
47	235	3.59	1,077	13,478	73	13,405	465.82	13,405	0.31
48	240	3.59	1,077	14,482	73	14,409	465.88	14,409	0.33
49	245	3.94	1,183	15,592	73	15,520	465.95	15,520	0.36
50	250	4.29	1,288	16,808	73	16,735	466.02	16,735	0.38
51	255	4.65	1,394	18,130	73	18,057	466.09	18,057	0.41
52	260	5.00	1,500	19,557	73	19,484	466.17	19,484	0.45
53	265	5.35	1,606	21,090	73	21,018	466.26	21,018	0.48
54	270	5.35	1,606	22,623	73	22,551	466.35	22,551	0.52
55	275	5.71	1,712	24,262	73	24,190	466.44	24,190	0.56

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	6.06	1,817	26,007	73	25,934	466.53	25,934	0.60
57	285	6.41	1,923	27,858	73	27,785	466.64	27,785	0.64
58	290	6.41	1,923	29,708	73	29,635	466.74	29,635	0.68
59	295	6.76	2,029	31,664	73	31,592	466.85	31,592	0.73
60	300	7.12	2,135	33,726	73	33,654	466.97	33,654	0.77
61	305	8.88	2,664	36,317	73	36,245	467.10	36,245	0.83
62	310	10.64	3,193	39,437	73	39,365	467.26	39,365	0.90
63	315	11.70	3,510	42,875	73	42,802	467.44	42,802	0.98
64	320	12.76	3,827	46,629	73	46,557	467.63	46,557	1.07
65	325	14.52	4,356	50,913	73	50,840	467.85	50,840	1.17
66	330	17.69	5,308	56,149	73	56,076	468.11	56,076	1.29
67	335	4.65	1,394	57,470	73	57,398	468.17	57,398	1.32
68	340	1.12	336	57,734	73	57,661	468.19	57,661	1.32
69	345	0.06	19	57,680	73	57,608	468.18	57,608	1.32
70	350	0.18	53	57,661	73	57,588	468.18	57,588	1.32
71	355	0.11	32	57,620	73	57,547	468.18	57,547	1.32
72	360	0.07	21	57,568	73	57,496	468.18	57,496	1.32

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.04	34	34	218	-	465.00	-	0.00
2	30	0.06	51	51	218	-	465.00	-	0.00
3	45	0.06	51	51	218	-	465.00	-	0.00
4	60	0.08	68	68	218	-	465.00	-	0.00
5	75	0.06	51	51	218	-	465.00	-	0.00
6	90	0.06	51	51	218	-	465.00	-	0.00
7	105	0.06	51	51	218	-	465.00	-	0.00
8	120	0.08	68	68	218	-	465.00	-	0.00
9	135	0.08	68	68	218	-	465.00	-	0.00
10	150	0.08	68	68	218	-	465.00	-	0.00
11	165	0.09	85	85	218	-	465.00	-	0.00
12	180	0.09	85	85	218	-	465.00	-	0.00
13	195	0.09	85	85	218	-	465.00	-	0.00
14	210	0.09	85	85	218	-	465.00	-	0.00
15	225	0.09	85	85	218	-	465.00	-	0.00
16	240	0.11	102	102	218	-	465.00	-	0.00
17	255	0.11	102	102	218	-	465.00	-	0.00
18	270	0.13	119	119	218	-	465.00	-	0.00
19	285	0.13	119	119	218	-	465.00	-	0.00
20	300	0.15	136	136	218	-	465.00	-	0.00
21	315	0.11	102	102	218	-	465.00	-	0.00
22	330	0.13	119	119	218	-	465.00	-	0.00
23	345	0.15	136	136	218	-	465.00	-	0.00
24	360	0.15	136	136	218	-	465.00	-	0.00
25	375	0.17	153	153	218	-	465.00	-	0.00
26	390	0.17	153	153	218	-	465.00	-	0.00
27	405	0.19	170	170	218	-	465.00	-	0.00
28	420	0.19	170	170	218	-	465.00	-	0.00
29	435	0.19	170	170	218	-	465.00	-	0.00
30	450	0.21	187	187	218	-	465.00	-	0.00
31	465	0.23	204	204	218	-	465.00	-	0.00
32	480	0.02	15	15	218	-	465.00	-	0.00
33	495	0.43	386	386	218	168	465.01	168	0.00
34	510	0.46	416	584	218	366	465.02	366	0.01
35	525	0.68	616	982	218	764	465.05	764	0.02
36	540	0.91	816	1,580	218	1,362	465.08	1,362	0.03
37	555	1.32	1,185	2,547	218	2,329	465.14	2,329	0.05
38	570	1.54	1,384	3,714	218	3,496	465.21	3,496	0.08
39	585	1.76	1,583	5,079	218	4,861	465.30	4,861	0.11
40	600	1.98	1,782	6,643	218	6,426	465.39	6,426	0.15
41	615	0.69	620	7,045	218	6,828	465.42	6,828	0.16
42	630	0.72	648	7,475	218	7,257	465.44	7,257	0.17
43	645	1.70	1,526	8,783	218	8,566	465.52	8,566	0.20
44	660	1.73	1,553	10,119	218	9,901	465.61	9,901	0.23
45	675	1.57	1,410	11,311	218	11,094	465.68	11,094	0.25
46	690	1.60	1,437	12,531	218	12,313	465.75	12,313	0.28
47	705	1.25	1,124	13,437	218	13,219	465.81	13,219	0.30
48	720	1.47	1,320	14,539	218	14,321	465.88	14,321	0.33
49	735	2.82	2,537	16,858	218	16,640	466.02	16,640	0.38
50	750	3.04	2,732	19,373	218	19,155	466.16	19,155	0.44
51	765	3.44	3,098	22,253	218	22,035	466.32	22,035	0.51
52	780	3.66	3,293	25,329	218	25,111	466.49	25,111	0.58
53	795	4.63	4,168	29,279	218	29,062	466.71	29,062	0.67
54	810	4.66	4,193	33,254	218	33,037	466.93	33,037	0.76
55	825	2.61	2,346	35,383	218	35,165	467.05	35,165	0.81
56	840	2.63	2,370	37,535	218	37,317	467.16	37,317	0.86
57	855	3.42	3,074	40,391	218	40,173	467.30	40,173	0.92
58	870	3.25	2,927	43,100	218	42,882	467.44	42,882	0.98

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	3.28	2,950	45,832	218	45,614	467.58	45,614	1.05
60	900	3.11	2,802	48,417	218	48,199	467.71	48,199	1.11
61	915	2.95	2,654	50,853	218	50,635	467.84	50,635	1.16
62	930	2.78	2,506	53,141	218	52,924	467.95	52,924	1.21
63	945	2.05	1,847	54,771	218	54,553	468.04	54,553	1.25
64	960	2.08	1,868	56,421	218	56,204	468.12	56,204	1.29
65	975	0.08	68	56,272	218	56,054	468.11	56,054	1.29
66	990	0.08	68	56,122	218	55,904	468.10	55,904	1.28
67	1005	0.06	51	55,955	218	55,738	468.09	55,738	1.28
68	1020	0.06	51	55,789	218	55,571	468.08	55,571	1.28
69	1035	0.09	85	55,656	218	55,438	468.08	55,438	1.27
70	1050	0.09	85	55,523	218	55,305	468.07	55,305	1.27
71	1065	0.09	85	55,390	218	55,173	468.07	55,173	1.27
72	1080	0.08	68	55,241	218	55,023	468.06	55,023	1.26
73	1095	0.08	68	55,091	218	54,873	468.05	54,873	1.26
74	1110	0.08	68	54,941	218	54,724	468.04	54,724	1.26
75	1125	0.06	51	54,775	218	54,557	468.04	54,557	1.25
76	1140	0.04	34	54,591	218	54,373	468.03	54,373	1.25
77	1155	0.06	51	54,424	218	54,206	468.02	54,206	1.24
78	1170	0.08	68	54,274	218	54,057	468.01	54,057	1.24
79	1185	0.06	51	54,108	218	53,890	468.00	53,890	1.24
80	1200	0.04	34	53,924	218	53,706	467.99	53,706	1.23
81	1215	0.06	51	53,757	218	53,539	467.99	53,539	1.23
82	1230	0.06	51	53,590	218	53,373	467.98	53,373	1.23
83	1245	0.06	51	53,424	218	53,206	467.97	53,206	1.22
84	1260	0.04	34	53,240	218	53,022	467.96	53,022	1.22
85	1275	0.06	51	53,073	218	52,856	467.95	52,856	1.21
86	1290	0.04	34	52,890	218	52,672	467.94	52,672	1.21
87	1305	0.06	51	52,723	218	52,505	467.93	52,505	1.21
88	1320	0.04	34	52,539	218	52,321	467.92	52,321	1.20
89	1335	0.06	51	52,372	218	52,155	467.92	52,155	1.20
90	1350	0.04	34	52,189	218	51,971	467.91	51,971	1.19
91	1365	0.04	34	52,005	218	51,787	467.90	51,787	1.19
92	1380	0.04	34	51,821	218	51,603	467.89	51,603	1.18
93	1395	0.04	34	51,637	218	51,420	467.88	51,420	1.18
94	1410	0.04	34	51,454	218	51,236	467.87	51,236	1.18
95	1425	0.04	34	51,270	218	51,052	467.86	51,052	1.17
96	1440	0.04	34	51,086	218	50,869	467.85	50,869	1.17

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 100 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 3		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	2.56		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	6.65		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	1.04		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	750		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	170		
30				
31	ELEVATION OF HEADWATER	471.8		
32	ELEVATION OF CONCENTRATION POINT	468.5		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	2.12		
40	6-HOUR	2.78		
41	24-HOUR	4.47		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		465	15000	
45		466	16600	
46		467	18250	
47		468	19960	
48		468.5	20831	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 3
[3] AREA - ACRES	10.250
[4] L-FEET	750
[5] L-MILES	0.142
[6] La-FEET	170.00
[7] La-MILES	0.032
[8] ELEVATION OF HEADWATER	471.8
[9] ELEVATION OF CONCENTRATION POINT	468.5
[10] H-FEET	3.3
[11] S-FEET/MILE	23.2
[12] S^0.5	4.82
[13] L*LCA/S^0.5	0.001
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.03
[16] LAG TIME-MINUTES	2.0
[17] 100% OF LAG-MINUTES	2.0
[18] 200% OF LAG-MINUTES	4.1
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.23

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
2.12	10.250	1.00	2.12	2.78	10.250	1.00	2.78	4.47	10.250	1.00	4.47
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	10.25	SUM [7]	2.12	SUM [9]	10.25	SUM [11]	2.78	SUM [13]	10.25	SUM [15]	4.47
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			2.12				2.78				4.47

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.51	1.59	1.71
FLOOD VOLUME	(cu-ft)	56,125	59,056	63,525
	(acre-ft)	1.29	1.36	1.46
REQUIRED STORAGE	(cu-ft)	53,172	53,709	51,340
	(acre-ft)	1.22	1.23	1.18
PEAK FLOW	(cfs)	19.27	17.04	4.42
MAXIMUM WSEL	(ft)	468.04	468.07	467.95

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	2.56	0.250	0.0130
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	6.65	0.649	0.1400
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	1.04	0.101	0.0528
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		10.25	SUM	0.2058

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.102877561
C= 0.00191

Ft=C(24-(T/60))^1.55 = 0.00191 (24-(T/60))^1.55 + 0.10 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.25
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.05
UNIT TIME-PERCENT OF LAG	244.5
TOTAL ADJUSTED STORM RAIN-INCHES	2.12
CONSTANT LOSS RATE-in/hr	0.21
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.23 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.331	0.21	0.30	0.12	1.28	314.48
2	10	0.17	1.3	0.331	0.21	0.30	0.12	1.28	314.48
3	15	0.25	1.1	0.280	0.21	0.25	0.07	0.76	158.02
4	20	0.33	1.5	0.382	0.21	0.34	0.18	1.80	470.93
5	25	0.42	1.5	0.382	0.21	0.34	0.18	1.80	470.93
6	30	0.50	1.8	0.458	0.21	0.41	0.25	2.58	705.62
7	35	0.58	1.5	0.382	0.21	0.34	0.18	1.80	470.93
8	40	0.67	1.8	0.458	0.21	0.41	0.25	2.58	705.62
9	45	0.75	1.8	0.458	0.21	0.41	0.25	2.58	705.62
10	50	0.83	1.5	0.382	0.21	0.34	0.18	1.80	470.93
11	55	0.92	1.6	0.407	0.21	0.37	0.20	2.06	549.16
12	60	1.00	1.8	0.458	0.21	0.41	0.25	2.58	705.62
13	65	1.08	2.2	0.560	0.21	0.50	0.35	3.63	1018.53
14	70	1.17	2.2	0.560	0.21	0.50	0.35	3.63	1018.53
15	75	1.25	2.2	0.560	0.21	0.50	0.35	3.63	1018.53
16	80	1.33	2.0	0.509	0.21	0.46	0.30	3.11	862.07
17	85	1.42	2.6	0.661	0.21	0.60	0.46	4.67	1331.44
18	90	1.50	2.7	0.687	0.21	0.62	0.48	4.93	1409.67
19	95	1.58	2.4	0.611	0.21	0.55	0.40	4.15	1174.98
20	100	1.67	2.7	0.687	0.21	0.62	0.48	4.93	1409.67
21	105	1.75	3.3	0.840	0.21	0.76	0.63	6.50	1879.04
22	110	1.83	3.1	0.789	0.21	0.71	0.58	5.97	1722.58
23	115	1.92	2.9	0.738	0.21	0.66	0.53	5.45	1566.12
24	120	2.00	3.0	0.763	0.21	0.69	0.56	5.71	1644.35
25	125	2.08	3.1	0.789	0.21	0.71	0.58	5.97	1722.58
26	130	2.17	4.2	1.068	0.21	0.96	0.86	8.84	2583.09
27	135	2.25	5.0	1.272	0.21	1.14	1.07	10.93	3208.91
28	140	2.33	3.5	0.890	0.21	0.80	0.68	7.02	2035.49
29	145	2.42	6.8	1.730	0.21	1.56	1.52	15.62	4617.02
30	150	2.50	7.3	1.857	0.21	1.67	1.65	16.93	5008.16
31	155	2.58	8.2	2.086	0.21	1.88	1.88	19.27	5712.21
32	160	2.67	5.9	1.501	0.21	1.35	1.30	13.28	3912.96
33	165	2.75	2.0	0.509	0.21	0.46	0.30	3.11	862.07
34	170	2.83	1.8	0.458	0.21	0.41	0.25	2.58	705.62
35	175	2.92	1.8	0.458	0.21	0.41	0.25	2.58	705.62
36	180	3.00	0.6	0.153	0.21	0.14	0.02	0.16	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.51
FLOOD VOLUME (acft)	1.29
FLOOD VOLUME (cuft)	56125.24
REQUIRED STORAGE (acft)	1.22
REQUIRED STORAGE (cuft)	53171.53
PEAK FLOW RATE (cfs)	19.27

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.25
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.05
UNIT TIME-PERCENT OF LAG	244.5
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.206
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.23 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.167	0.21	0.15	0.02	0.17	0.00
2	10	0.17	0.6	0.200	0.21	0.18	0.02	0.21	0.00
3	15	0.25	0.6	0.200	0.21	0.18	0.02	0.21	0.00
4	20	0.33	0.6	0.200	0.21	0.18	0.02	0.21	0.00
5	25	0.42	0.6	0.200	0.21	0.18	0.02	0.21	0.00
6	30	0.50	0.7	0.234	0.21	0.21	0.03	0.28	15.59
7	35	0.58	0.7	0.234	0.21	0.21	0.03	0.28	15.59
8	40	0.67	0.7	0.234	0.21	0.21	0.03	0.28	15.59
9	45	0.75	0.7	0.234	0.21	0.21	0.03	0.28	15.59
10	50	0.83	0.7	0.234	0.21	0.21	0.03	0.28	15.59
11	55	0.92	0.7	0.234	0.21	0.21	0.03	0.28	15.59
12	60	1.00	0.8	0.267	0.21	0.24	0.06	0.63	118.17
13	65	1.08	0.8	0.267	0.21	0.24	0.06	0.63	118.17
14	70	1.17	0.8	0.267	0.21	0.24	0.06	0.63	118.17
15	75	1.25	0.8	0.267	0.21	0.24	0.06	0.63	118.17
16	80	1.33	0.8	0.267	0.21	0.24	0.06	0.63	118.17
17	85	1.42	0.8	0.267	0.21	0.24	0.06	0.63	118.17
18	90	1.50	0.8	0.267	0.21	0.24	0.06	0.63	118.17
19	95	1.58	0.8	0.267	0.21	0.24	0.06	0.63	118.17
20	100	1.67	0.8	0.267	0.21	0.24	0.06	0.63	118.17
21	105	1.75	0.8	0.267	0.21	0.24	0.06	0.63	118.17
22	110	1.83	0.8	0.267	0.21	0.24	0.06	0.63	118.17
23	115	1.92	0.8	0.267	0.21	0.24	0.06	0.63	118.17
24	120	2.00	0.9	0.300	0.21	0.27	0.09	0.97	220.75
25	125	2.08	0.8	0.267	0.21	0.24	0.06	0.63	118.17
26	130	2.17	0.9	0.300	0.21	0.27	0.09	0.97	220.75
27	135	2.25	0.9	0.300	0.21	0.27	0.09	0.97	220.75
28	140	2.33	0.9	0.300	0.21	0.27	0.09	0.97	220.75
29	145	2.42	0.9	0.300	0.21	0.27	0.09	0.97	220.75
30	150	2.50	0.9	0.300	0.21	0.27	0.09	0.97	220.75
31	155	2.58	0.9	0.300	0.21	0.27	0.09	0.97	220.75
32	160	2.67	0.9	0.300	0.21	0.27	0.09	0.97	220.75
33	165	2.75	1.0	0.334	0.21	0.30	0.13	1.31	323.33
34	170	2.83	1.0	0.334	0.21	0.30	0.13	1.31	323.33
35	175	2.92	1.0	0.334	0.21	0.30	0.13	1.31	323.33
36	180	3.00	1.0	0.334	0.21	0.30	0.13	1.31	323.33
37	185	3.08	1.0	0.334	0.21	0.30	0.13	1.31	323.33
38	190	3.17	1.1	0.367	0.21	0.33	0.16	1.65	425.91
39	195	3.25	1.1	0.367	0.21	0.33	0.16	1.65	425.91
40	200	3.33	1.1	0.367	0.21	0.33	0.16	1.65	425.91
41	205	3.42	1.2	0.400	0.21	0.36	0.19	1.99	528.50
42	210	3.50	1.3	0.434	0.21	0.39	0.23	2.34	631.08
43	215	3.58	1.4	0.467	0.21	0.42	0.26	2.68	733.66
44	220	3.67	1.4	0.467	0.21	0.42	0.26	2.68	733.66
45	225	3.75	1.5	0.500	0.21	0.45	0.29	3.02	836.24
46	230	3.83	1.5	0.500	0.21	0.45	0.29	3.02	836.24
47	235	3.92	1.6	0.534	0.21	0.48	0.33	3.36	938.82
48	240	4.00	1.6	0.534	0.21	0.48	0.33	3.36	938.82
49	245	4.08	1.7	0.567	0.21	0.51	0.36	3.70	1041.41
50	250	4.17	1.8	0.600	0.21	0.54	0.39	4.05	1143.99
51	255	4.25	1.9	0.634	0.21	0.57	0.43	4.39	1246.57
52	260	4.33	2.0	0.667	0.21	0.60	0.46	4.73	1349.15
53	265	4.42	2.1	0.701	0.21	0.63	0.49	5.07	1451.73
54	270	4.50	2.1	0.701	0.21	0.63	0.49	5.07	1451.73
55	275	4.58	2.2	0.734	0.21	0.66	0.53	5.41	1554.32
56	280	4.67	2.3	0.767	0.21	0.69	0.56	5.76	1656.90

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.25
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.05
UNIT TIME-PERCENT OF LAG	244.5
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.206
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.23 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.801	0.21	0.72	0.59	6.10	1759.48
58	290	4.83	2.4	0.801	0.21	0.72	0.59	6.10	1759.48
59	295	4.92	2.5	0.834	0.21	0.75	0.63	6.44	1862.06
60	300	5.00	2.6	0.867	0.21	0.78	0.66	6.78	1964.64
61	305	5.08	3.1	1.034	0.21	0.93	0.83	8.49	2477.55
62	310	5.17	3.6	1.201	0.21	1.08	1.00	10.20	2990.46
63	315	5.25	3.9	1.301	0.21	1.17	1.10	11.23	3298.21
64	320	5.33	4.2	1.401	0.21	1.26	1.20	12.25	3605.96
65	325	5.42	4.7	1.568	0.21	1.41	1.36	13.96	4118.87
66	330	5.50	5.6	1.868	0.21	1.68	1.66	17.04	5042.10
67	335	5.58	1.9	0.634	0.21	0.57	0.43	4.39	1246.57
68	340	5.67	0.9	0.300	0.21	0.27	0.09	0.97	220.75
69	345	5.75	0.6	0.200	0.21	0.18	0.02	0.21	0.00
70	350	5.83	0.5	0.167	0.21	0.15	0.02	0.17	0.00
71	355	5.92	0.3	0.100	0.21	0.09	0.01	0.10	0.00
72	360	6.00	0.2	0.067	0.21	0.06	0.01	0.07	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.59
FLOOD VOLUME (acft)	1.36
FLOOD VOLUME (cuft)	59055.81
REQUIRED STORAGE (acft)	1.23
REQUIRED STORAGE (cuft)	53709.02
PEAK FLOW RATE (cfs)	17.04

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.250	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2058
LAG TIME - MINUTES	2.05	MINIMUM LOSS RATE (for var. loss) - in/hr	0.103
UNIT TIME-PERCENT OF LAG	733.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00191
		PERCOLATION RATE (cfs)	0.23

Unit Time Period	Time		Pattern	Storm	Loss Rate		Effective	Flood	Required
	Minutes	Hours	Percent	Rain in/hr	in/hr		Rain	Hydrograph Flow	Storage
			(Plate E-5.9)		Max	Low	in/hr	cfs	cf
1	15	0.25	0.2	0.036	0.363	0.032	0.004	0.04	0.00
2	30	0.50	0.3	0.054	0.359	0.048	0.005	0.05	0.00
3	45	0.75	0.3	0.054	0.355	0.048	0.005	0.05	0.00
4	60	1.00	0.4	0.072	0.351	0.064	0.007	0.07	0.00
5	75	1.25	0.3	0.054	0.347	0.048	0.005	0.05	0.00
6	90	1.50	0.3	0.054	0.343	0.048	0.005	0.05	0.00
7	105	1.75	0.3	0.054	0.338	0.048	0.005	0.05	0.00
8	120	2.00	0.4	0.072	0.334	0.064	0.007	0.07	0.00
9	135	2.25	0.4	0.072	0.330	0.064	0.007	0.07	0.00
10	150	2.50	0.4	0.072	0.326	0.064	0.007	0.07	0.00
11	165	2.75	0.5	0.089	0.322	0.080	0.009	0.09	0.00
12	180	3.00	0.5	0.089	0.318	0.080	0.009	0.09	0.00
13	195	3.25	0.5	0.089	0.314	0.080	0.009	0.09	0.00
14	210	3.50	0.5	0.089	0.310	0.080	0.009	0.09	0.00
15	225	3.75	0.5	0.089	0.307	0.080	0.009	0.09	0.00
16	240	4.00	0.6	0.107	0.303	0.097	0.011	0.11	0.00
17	255	4.25	0.6	0.107	0.299	0.097	0.011	0.11	0.00
18	270	4.50	0.7	0.125	0.295	0.113	0.013	0.13	0.00
19	285	4.75	0.7	0.125	0.291	0.113	0.013	0.13	0.00
20	300	5.00	0.8	0.143	0.288	0.129	0.014	0.15	0.00
21	315	5.25	0.6	0.107	0.284	0.097	0.011	0.11	0.00
22	330	5.50	0.7	0.125	0.280	0.113	0.013	0.13	0.00
23	345	5.75	0.8	0.143	0.276	0.129	0.014	0.15	0.00
24	360	6.00	0.8	0.143	0.273	0.129	0.014	0.15	0.00
25	375	6.25	0.9	0.161	0.269	0.145	0.016	0.16	0.00
26	390	6.50	0.9	0.161	0.266	0.145	0.016	0.16	0.00
27	405	6.75	1.0	0.179	0.262	0.161	0.018	0.18	0.00
28	420	7.00	1.0	0.179	0.258	0.161	0.018	0.18	0.00
29	435	7.25	1.0	0.179	0.255	0.161	0.018	0.18	0.00
30	450	7.50	1.1	0.197	0.252	0.177	0.020	0.20	0.00
31	465	7.75	1.2	0.215	0.248	0.193	0.021	0.22	0.00
32	480	8.00	1.3	0.232	0.245	0.209	0.023	0.24	5.05
33	495	8.25	1.5	0.268	0.241	0.241	0.027	0.28	39.29
34	510	8.50	1.5	0.268	0.238	0.241	0.030	0.31	70.31
35	525	8.75	1.6	0.286	0.235	0.257	0.052	0.53	266.00
36	540	9.00	1.7	0.304	0.231	0.274	0.073	0.75	461.42
37	555	9.25	1.9	0.340	0.228	0.306	0.112	1.15	821.51
38	570	9.50	2.0	0.358	0.225	0.322	0.133	1.36	1016.37
39	585	9.75	2.1	0.375	0.222	0.338	0.154	1.58	1210.96
40	600	10.00	2.2	0.393	0.218	0.354	0.175	1.79	1405.26
41	615	10.25	1.5	0.268	0.215	0.241	0.053	0.54	279.74
42	630	10.50	1.5	0.268	0.212	0.241	0.056	0.58	308.53
43	645	10.75	2.0	0.358	0.209	0.322	0.149	1.52	1161.74
44	660	11.00	2.0	0.358	0.206	0.322	0.152	1.55	1189.95
45	675	11.25	1.9	0.340	0.203	0.306	0.137	1.40	1052.92
46	690	11.50	1.9	0.340	0.200	0.306	0.140	1.43	1080.54
47	705	11.75	1.7	0.304	0.197	0.274	0.107	1.10	777.97
48	720	12.00	1.8	0.322	0.194	0.290	0.128	1.31	969.93
49	735	12.25	2.5	0.447	0.191	0.402	0.256	2.62	2151.25
50	750	12.50	2.6	0.465	0.188	0.418	0.277	2.84	2342.59
51	765	12.75	2.8	0.501	0.185	0.451	0.315	3.23	2698.57
52	780	13.00	2.9	0.519	0.183	0.467	0.336	3.44	2889.30
53	795	13.25	3.4	0.608	0.180	0.547	0.428	4.39	3739.48
54	810	13.50	3.4	0.608	0.177	0.547	0.431	4.42	3764.62
55	825	13.75	2.3	0.411	0.174	0.370	0.237	2.43	1975.07
56	840	14.00	2.3	0.411	0.172	0.370	0.239	2.45	1999.56
57	855	14.25	2.7	0.483	0.169	0.434	0.314	3.21	2683.50
58	870	14.50	2.6	0.465	0.167	0.418	0.298	3.06	2542.39
59	885	14.75	2.6	0.465	0.164	0.418	0.301	3.08	2565.88
60	900	15.00	2.5	0.447	0.162	0.402	0.285	2.93	2424.08
61	915	15.25	2.4	0.429	0.159	0.386	0.270	2.77	2281.94
62	930	15.50	2.3	0.411	0.157	0.370	0.255	2.61	2139.45
63	945	15.75	1.9	0.340	0.154	0.306	0.185	1.90	1501.78
64	960	16.00	1.9	0.340	0.152	0.306	0.188	1.93	1523.52
65	975	16.25	0.4	0.072	0.150	0.064	0.007	0.07	0.00
66	990	16.50	0.4	0.072	0.147	0.064	0.007	0.07	0.00
67	1005	16.75	0.3	0.054	0.145	0.048	0.005	0.05	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.250	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2058
LAG TIME - MINUTES	2.05	MINIMUM LOSS RATE (for var. loss) - in/hr	0.103
UNIT TIME-PERCENT OF LAG	733.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00191
		PERCOLATION RATE (cfs)	0.23

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
68	1020	17.00	0.3	0.054	0.143	0.048	0.005	0.05	0.00
69	1035	17.25	0.5	0.089	0.141	0.080	0.009	0.09	0.00
70	1050	17.50	0.5	0.089	0.139	0.080	0.009	0.09	0.00
71	1065	17.75	0.5	0.089	0.137	0.080	0.009	0.09	0.00
72	1080	18.00	0.4	0.072	0.134	0.064	0.007	0.07	0.00
73	1095	18.25	0.4	0.072	0.133	0.064	0.007	0.07	0.00
74	1110	18.50	0.4	0.072	0.131	0.064	0.007	0.07	0.00
75	1125	18.75	0.3	0.054	0.129	0.048	0.005	0.05	0.00
76	1140	19.00	0.2	0.036	0.127	0.032	0.004	0.04	0.00
77	1155	19.25	0.3	0.054	0.125	0.048	0.005	0.05	0.00
78	1170	19.50	0.4	0.072	0.123	0.064	0.007	0.07	0.00
79	1185	19.75	0.3	0.054	0.122	0.048	0.005	0.05	0.00
80	1200	20.00	0.2	0.036	0.120	0.032	0.004	0.04	0.00
81	1215	20.25	0.3	0.054	0.118	0.048	0.005	0.05	0.00
82	1230	20.50	0.3	0.054	0.117	0.048	0.005	0.05	0.00
83	1245	20.75	0.3	0.054	0.115	0.048	0.005	0.05	0.00
84	1260	21.00	0.2	0.036	0.114	0.032	0.004	0.04	0.00
85	1275	21.25	0.3	0.054	0.113	0.048	0.005	0.05	0.00
86	1290	21.50	0.2	0.036	0.111	0.032	0.004	0.04	0.00
87	1305	21.75	0.3	0.054	0.110	0.048	0.005	0.05	0.00
88	1320	22.00	0.2	0.036	0.109	0.032	0.004	0.04	0.00
89	1335	22.25	0.3	0.054	0.108	0.048	0.005	0.05	0.00
90	1350	22.50	0.2	0.036	0.107	0.032	0.004	0.04	0.00
91	1365	22.75	0.2	0.036	0.106	0.032	0.004	0.04	0.00
92	1380	23.00	0.2	0.036	0.105	0.032	0.004	0.04	0.00
93	1395	23.25	0.2	0.036	0.104	0.032	0.004	0.04	0.00
94	1410	23.50	0.2	0.036	0.104	0.032	0.004	0.04	0.00
95	1425	23.75	0.2	0.036	0.103	0.032	0.004	0.04	0.00
96	1440	24.00	0.2	0.036	0.103	0.032	0.004	0.04	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.71
FLOOD VOLUME (acft)	1.46
FLOOD VOLUME (cuft)	63525.46
REQUIRED STORAGE (acft)	1.18
REQUIRED STORAGE (cuft)	51340.48
PEAK FLOW (cfs)	4.42

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
465	0	0		15000	0	0	0.00
466	1	1	1600	16600	15800	15800	0.36
467	1	2	1650	18250	17425	33225	0.76
468	1	3	1710	19960	19105	52330	1.20
468.5	0.5	3.5	871	20831	10198	62528	1.44

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.23 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.23 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	1.28	384	384	70	314	465.02	314	0.01
2	10	1.28	384	699	70	629	465.04	629	0.01
3	15	0.76	228	857	70	787	465.05	787	0.02
4	20	1.80	541	1,328	70	1,258	465.08	1,258	0.03
5	25	1.80	541	1,799	70	1,729	465.11	1,729	0.04
6	30	2.58	775	2,504	70	2,434	465.15	2,434	0.06
7	35	1.80	541	2,975	70	2,905	465.18	2,905	0.07
8	40	2.58	775	3,681	70	3,611	465.23	3,611	0.08
9	45	2.58	775	4,386	70	4,317	465.27	4,317	0.10
10	50	1.80	541	4,857	70	4,788	465.30	4,788	0.11
11	55	2.06	619	5,406	70	5,337	465.34	5,337	0.12
12	60	2.58	775	6,112	70	6,042	465.38	6,042	0.14
13	65	3.63	1,088	7,131	70	7,061	465.45	7,061	0.16
14	70	3.63	1,088	8,149	70	8,079	465.51	8,079	0.19
15	75	3.63	1,088	9,168	70	9,098	465.58	9,098	0.21
16	80	3.11	932	10,030	70	9,960	465.63	9,960	0.23
17	85	4.67	1,401	11,361	70	11,291	465.71	11,291	0.26
18	90	4.93	1,479	12,771	70	12,701	465.80	12,701	0.29
19	95	4.15	1,245	13,946	70	13,876	465.88	13,876	0.32
20	100	4.93	1,479	15,356	70	15,286	465.97	15,286	0.35
21	105	6.50	1,949	17,235	70	17,165	466.08	17,165	0.39
22	110	5.97	1,792	18,957	70	18,887	466.18	18,887	0.43
23	115	5.45	1,636	20,523	70	20,453	466.27	20,453	0.47
24	120	5.71	1,714	22,168	70	22,098	466.36	22,098	0.51
25	125	5.97	1,792	23,890	70	23,820	466.46	23,820	0.55
26	130	8.84	2,653	26,473	70	26,403	466.61	26,403	0.61
27	135	10.93	3,279	29,682	70	29,612	466.79	29,612	0.68
28	140	7.02	2,105	31,718	70	31,648	466.91	31,648	0.73
29	145	15.62	4,687	36,335	70	36,265	467.16	36,265	0.83
30	150	16.93	5,078	41,343	70	41,273	467.42	41,273	0.95
31	155	19.27	5,782	47,055	70	46,985	467.72	46,985	1.08
32	160	13.28	3,983	50,968	70	50,898	467.93	50,898	1.17
33	165	3.11	932	51,830	70	51,760	467.97	51,760	1.19
34	170	2.58	775	52,536	70	52,466	468.01	52,466	1.20
35	175	2.58	775	53,241	70	53,172	468.04	53,172	1.22
36	180	0.16	47	53,218	70	53,149	468.04	53,149	1.22

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.17	51	51	70	-	465.00	-	0.00
2	10	0.21	62	62	70	-	465.00	-	0.00
3	15	0.21	62	62	70	-	465.00	-	0.00
4	20	0.21	62	62	70	-	465.00	-	0.00
5	25	0.21	62	62	70	-	465.00	-	0.00
6	30	0.28	85	85	70	16	465.00	16	0.00
7	35	0.28	85	101	70	31	465.00	31	0.00
8	40	0.28	85	117	70	47	465.00	47	0.00
9	45	0.28	85	132	70	62	465.00	62	0.00
10	50	0.28	85	148	70	78	465.00	78	0.00
11	55	0.28	85	163	70	94	465.01	94	0.00
12	60	0.63	188	281	70	212	465.01	212	0.00
13	65	0.63	188	400	70	330	465.02	330	0.01
14	70	0.63	188	518	70	448	465.03	448	0.01
15	75	0.63	188	636	70	566	465.04	566	0.01
16	80	0.63	188	754	70	684	465.04	684	0.02
17	85	0.63	188	872	70	803	465.05	803	0.02
18	90	0.63	188	990	70	921	465.06	921	0.02
19	95	0.63	188	1,109	70	1,039	465.07	1,039	0.02
20	100	0.63	188	1,227	70	1,157	465.07	1,157	0.03
21	105	0.63	188	1,345	70	1,275	465.08	1,275	0.03
22	110	0.63	188	1,463	70	1,393	465.09	1,393	0.03
23	115	0.63	188	1,581	70	1,512	465.10	1,512	0.03
24	120	0.97	291	1,802	70	1,732	465.11	1,732	0.04
25	125	0.63	188	1,920	70	1,850	465.12	1,850	0.04
26	130	0.97	291	2,141	70	2,071	465.13	2,071	0.05
27	135	0.97	291	2,362	70	2,292	465.15	2,292	0.05
28	140	0.97	291	2,582	70	2,513	465.16	2,513	0.06
29	145	0.97	291	2,803	70	2,733	465.17	2,733	0.06
30	150	0.97	291	3,024	70	2,954	465.19	2,954	0.07
31	155	0.97	291	3,245	70	3,175	465.20	3,175	0.07
32	160	0.97	291	3,465	70	3,396	465.21	3,396	0.08
33	165	1.31	393	3,789	70	3,719	465.24	3,719	0.09
34	170	1.31	393	4,112	70	4,042	465.26	4,042	0.09
35	175	1.31	393	4,435	70	4,366	465.28	4,366	0.10
36	180	1.31	393	4,759	70	4,689	465.30	4,689	0.11
37	185	1.31	393	5,082	70	5,012	465.32	5,012	0.12
38	190	1.65	496	5,508	70	5,438	465.34	5,438	0.12
39	195	1.65	496	5,934	70	5,864	465.37	5,864	0.13
40	200	1.65	496	6,360	70	6,290	465.40	6,290	0.14
41	205	1.99	598	6,888	70	6,819	465.43	6,819	0.16
42	210	2.34	701	7,519	70	7,450	465.47	7,450	0.17
43	215	2.68	803	8,253	70	8,183	465.52	8,183	0.19
44	220	2.68	803	8,987	70	8,917	465.56	8,917	0.20
45	225	3.02	906	9,823	70	9,753	465.62	9,753	0.22
46	230	3.02	906	10,659	70	10,589	465.67	10,589	0.24
47	235	3.36	1,009	11,598	70	11,528	465.73	11,528	0.26
48	240	3.36	1,009	12,537	70	12,467	465.79	12,467	0.29
49	245	3.70	1,111	13,578	70	13,509	465.85	13,509	0.31
50	250	4.05	1,214	14,722	70	14,652	465.93	14,652	0.34
51	255	4.39	1,316	15,969	70	15,899	466.01	15,899	0.36
52	260	4.73	1,419	17,318	70	17,248	466.08	17,248	0.40
53	265	5.07	1,522	18,770	70	18,700	466.17	18,700	0.43
54	270	5.07	1,522	20,221	70	20,152	466.25	20,152	0.46
55	275	5.41	1,624	21,776	70	21,706	466.34	21,706	0.50

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	5.76	1,727	23,433	70	23,363	466.43	23,363	0.54
57	285	6.10	1,829	25,192	70	25,122	466.53	25,122	0.58
58	290	6.10	1,829	26,952	70	26,882	466.64	26,882	0.62
59	295	6.44	1,932	28,814	70	28,744	466.74	28,744	0.66
60	300	6.78	2,034	30,778	70	30,709	466.86	30,709	0.70
61	305	8.49	2,547	33,256	70	33,186	467.00	33,186	0.76
62	310	10.20	3,060	36,246	70	36,177	467.15	36,177	0.83
63	315	11.23	3,368	39,545	70	39,475	467.33	39,475	0.91
64	320	12.25	3,676	43,151	70	43,081	467.52	43,081	0.99
65	325	13.96	4,189	47,269	70	47,200	467.73	47,200	1.08
66	330	17.04	5,112	52,311	70	52,242	468.00	52,242	1.20
67	335	4.39	1,316	53,558	70	53,488	468.06	53,488	1.23
68	340	0.97	291	53,779	70	53,709	468.07	53,709	1.23
69	345	0.21	62	53,771	70	53,701	468.07	53,701	1.23
70	350	0.17	51	53,752	70	53,682	468.07	53,682	1.23
71	355	0.10	31	53,713	70	53,643	468.06	53,643	1.23
72	360	0.07	21	53,664	70	53,594	468.06	53,594	1.23

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.04	33	33	209	-	465.00	-	0.00
2	30	0.05	49	49	209	-	465.00	-	0.00
3	45	0.05	49	49	209	-	465.00	-	0.00
4	60	0.07	66	66	209	-	465.00	-	0.00
5	75	0.05	49	49	209	-	465.00	-	0.00
6	90	0.05	49	49	209	-	465.00	-	0.00
7	105	0.05	49	49	209	-	465.00	-	0.00
8	120	0.07	66	66	209	-	465.00	-	0.00
9	135	0.07	66	66	209	-	465.00	-	0.00
10	150	0.07	66	66	209	-	465.00	-	0.00
11	165	0.09	82	82	209	-	465.00	-	0.00
12	180	0.09	82	82	209	-	465.00	-	0.00
13	195	0.09	82	82	209	-	465.00	-	0.00
14	210	0.09	82	82	209	-	465.00	-	0.00
15	225	0.09	82	82	209	-	465.00	-	0.00
16	240	0.11	99	99	209	-	465.00	-	0.00
17	255	0.11	99	99	209	-	465.00	-	0.00
18	270	0.13	115	115	209	-	465.00	-	0.00
19	285	0.13	115	115	209	-	465.00	-	0.00
20	300	0.15	132	132	209	-	465.00	-	0.00
21	315	0.11	99	99	209	-	465.00	-	0.00
22	330	0.13	115	115	209	-	465.00	-	0.00
23	345	0.15	132	132	209	-	465.00	-	0.00
24	360	0.15	132	132	209	-	465.00	-	0.00
25	375	0.16	148	148	209	-	465.00	-	0.00
26	390	0.16	148	148	209	-	465.00	-	0.00
27	405	0.18	165	165	209	-	465.00	-	0.00
28	420	0.18	165	165	209	-	465.00	-	0.00
29	435	0.18	165	165	209	-	465.00	-	0.00
30	450	0.20	181	181	209	-	465.00	-	0.00
31	465	0.22	198	198	209	-	465.00	-	0.00
32	480	0.24	214	214	209	5	465.00	5	0.00
33	495	0.28	249	254	209	44	465.00	44	0.00
34	510	0.31	280	324	209	115	465.01	115	0.00
35	525	0.53	475	590	209	381	465.02	381	0.01
36	540	0.75	671	1,051	209	842	465.05	842	0.02
37	555	1.15	1,031	1,873	209	1,664	465.11	1,664	0.04
38	570	1.36	1,226	2,889	209	2,680	465.17	2,680	0.06
39	585	1.58	1,420	4,100	209	3,891	465.25	3,891	0.09
40	600	1.79	1,615	5,506	209	5,296	465.34	5,296	0.12
41	615	0.54	489	5,785	209	5,576	465.35	5,576	0.13
42	630	0.58	518	6,094	209	5,884	465.37	5,884	0.14
43	645	1.52	1,371	7,256	209	7,046	465.45	7,046	0.16
44	660	1.55	1,399	8,446	209	8,236	465.52	8,236	0.19
45	675	1.40	1,262	9,498	209	9,289	465.59	9,289	0.21
46	690	1.43	1,290	10,579	209	10,370	465.66	10,370	0.24
47	705	1.10	987	11,357	209	11,148	465.71	11,148	0.26
48	720	1.31	1,179	12,327	209	12,117	465.77	12,117	0.28
49	735	2.62	2,361	14,478	209	14,269	465.90	14,269	0.33
50	750	2.84	2,552	16,821	209	16,611	466.05	16,611	0.38
51	765	3.23	2,908	19,519	209	19,310	466.20	19,310	0.44
52	780	3.44	3,099	22,409	209	22,199	466.37	22,199	0.51
53	795	4.39	3,949	26,148	209	25,939	466.58	25,939	0.60
54	810	4.42	3,974	29,913	209	29,703	466.80	29,703	0.68
55	825	2.43	2,184	31,888	209	31,678	466.91	31,678	0.73
56	840	2.45	2,209	33,887	209	33,678	467.02	33,678	0.77
57	855	3.21	2,893	36,571	209	36,361	467.16	36,361	0.83
58	870	3.06	2,752	39,113	209	38,904	467.30	38,904	0.89

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	3.08	2,775	41,679	209	41,470	467.43	41,470	0.95
60	900	2.93	2,633	44,103	209	43,894	467.56	43,894	1.01
61	915	2.77	2,491	46,385	209	46,176	467.68	46,176	1.06
62	930	2.61	2,349	48,525	209	48,315	467.79	48,315	1.11
63	945	1.90	1,711	50,026	209	49,817	467.87	49,817	1.14
64	960	1.93	1,733	51,550	209	51,340	467.95	51,340	1.18
65	975	0.07	66	51,406	209	51,197	467.94	51,197	1.18
66	990	0.07	66	51,263	209	51,054	467.93	51,054	1.17
67	1005	0.05	49	51,103	209	50,894	467.92	50,894	1.17
68	1020	0.05	49	50,943	209	50,734	467.92	50,734	1.16
69	1035	0.09	82	50,816	209	50,607	467.91	50,607	1.16
70	1050	0.09	82	50,689	209	50,480	467.90	50,480	1.16
71	1065	0.09	82	50,563	209	50,353	467.90	50,353	1.16
72	1080	0.07	66	50,419	209	50,210	467.89	50,210	1.15
73	1095	0.07	66	50,276	209	50,066	467.88	50,066	1.15
74	1110	0.07	66	50,132	209	49,923	467.87	49,923	1.15
75	1125	0.05	49	49,972	209	49,763	467.87	49,763	1.14
76	1140	0.04	33	49,796	209	49,587	467.86	49,587	1.14
77	1155	0.05	49	49,636	209	49,427	467.85	49,427	1.13
78	1170	0.07	66	49,493	209	49,283	467.84	49,283	1.13
79	1185	0.05	49	49,333	209	49,124	467.83	49,124	1.13
80	1200	0.04	33	49,157	209	48,947	467.82	48,947	1.12
81	1215	0.05	49	48,997	209	48,787	467.81	48,787	1.12
82	1230	0.05	49	48,837	209	48,627	467.81	48,627	1.12
83	1245	0.05	49	48,677	209	48,467	467.80	48,467	1.11
84	1260	0.04	33	48,500	209	48,291	467.79	48,291	1.11
85	1275	0.05	49	48,341	209	48,131	467.78	48,131	1.10
86	1290	0.04	33	48,164	209	47,955	467.77	47,955	1.10
87	1305	0.05	49	48,004	209	47,795	467.76	47,795	1.10
88	1320	0.04	33	47,828	209	47,619	467.75	47,619	1.09
89	1335	0.05	49	47,668	209	47,459	467.75	47,459	1.09
90	1350	0.04	33	47,492	209	47,282	467.74	47,282	1.09
91	1365	0.04	33	47,315	209	47,106	467.73	47,106	1.08
92	1380	0.04	33	47,139	209	46,929	467.72	46,929	1.08
93	1395	0.04	33	46,962	209	46,753	467.71	46,753	1.07
94	1410	0.04	33	46,786	209	46,577	467.70	46,577	1.07
95	1425	0.04	33	46,610	209	46,400	467.69	46,400	1.07
96	1440	0.04	33	46,433	209	46,224	467.68	46,224	1.06

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 100 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 4		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	2.33		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	6.56		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	0.9		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	620		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	70		
30				
31	ELEVATION OF HEADWATER	470.5		
32	ELEVATION OF CONCENTRATION POINT	468		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	2.12		
40	6-HOUR	2.78		
41	24-HOUR	4.47		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		464.5	13730	
45		465.5	15200	
46		466.5	16700	
47		467.5	18270	
48		468	19075	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 4
[3] AREA - ACRES	9.790
[4] L-FEET	620
[5] L-MILES	0.117
[6] La-FEET	70.00
[7] La-MILES	0.013
[8] ELEVATION OF HEADWATER	470.5
[9] ELEVATION OF CONCENTRATION POINT	468
[10] H-FEET	2.5
[11] S-FEET/MILE	21.3
[12] S^0.5	4.61
[13] L*LCA/S^0.5	0.000
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.02
[16] LAG TIME-MINUTES	1.4
[17] 100% OF LAG-MINUTES	1.4
[18] 200% OF LAG-MINUTES	2.8
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.21

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
2.12	9.790	1.00	2.12	2.78	9.790	1.00	2.78	4.47	9.790	1.00	4.47
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	9.79	SUM [7]	2.12	SUM [9]	9.79	SUM [11]	2.78	SUM [13]	9.79	SUM [15]	4.47
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			2.12				2.78				4.47

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.51	1.59	1.71
FLOOD VOLUME	(cu-ft)	53,707	56,587	60,936
	(acre-ft)	1.23	1.30	1.40
REQUIRED STORAGE	(cu-ft)	50,983	51,654	49,570
	(acre-ft)	1.17	1.19	1.14
PEAK FLOW	(cfs)	18.42	16.28	4.23
MAXIMUM WSEL	(ft)	467.67	467.70	467.59

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	2.33	0.238	0.0124
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	6.56	0.670	0.1446
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	0.90	0.092	0.0478
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		9.79	SUM	0.2048

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.102390603
C= 0.00190

Ft=C(24-(T/60))^1.55 = 0.00190 (24-(T/60))^1.55 + 0.10 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period,
T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.79
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.38
UNIT TIME-PERCENT OF LAG	362.1
TOTAL ADJUSTED STORM RAIN-INCHES	2.12
CONSTANT LOSS RATE-in/hr	0.20
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.21 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.331	0.20	0.30	0.13	1.23	306.00
2	10	0.17	1.3	0.331	0.20	0.30	0.13	1.23	306.00
3	15	0.25	1.1	0.280	0.20	0.25	0.08	0.73	156.57
4	20	0.33	1.5	0.382	0.20	0.34	0.18	1.73	455.43
5	25	0.42	1.5	0.382	0.20	0.34	0.18	1.73	455.43
6	30	0.50	1.8	0.458	0.20	0.41	0.25	2.48	679.59
7	35	0.58	1.5	0.382	0.20	0.34	0.18	1.73	455.43
8	40	0.67	1.8	0.458	0.20	0.41	0.25	2.48	679.59
9	45	0.75	1.8	0.458	0.20	0.41	0.25	2.48	679.59
10	50	0.83	1.5	0.382	0.20	0.34	0.18	1.73	455.43
11	55	0.92	1.6	0.407	0.20	0.37	0.20	1.98	530.15
12	60	1.00	1.8	0.458	0.20	0.41	0.25	2.48	679.59
13	65	1.08	2.2	0.560	0.20	0.50	0.35	3.47	978.46
14	70	1.17	2.2	0.560	0.20	0.50	0.35	3.47	978.46
15	75	1.25	2.2	0.560	0.20	0.50	0.35	3.47	978.46
16	80	1.33	2.0	0.509	0.20	0.46	0.30	2.98	829.02
17	85	1.42	2.6	0.661	0.20	0.60	0.46	4.47	1277.32
18	90	1.50	2.7	0.687	0.20	0.62	0.48	4.72	1352.04
19	95	1.58	2.4	0.611	0.20	0.55	0.41	3.97	1127.89
20	100	1.67	2.7	0.687	0.20	0.62	0.48	4.72	1352.04
21	105	1.75	3.3	0.840	0.20	0.76	0.63	6.21	1800.35
22	110	1.83	3.1	0.789	0.20	0.71	0.58	5.72	1650.91
23	115	1.92	2.9	0.738	0.20	0.66	0.53	5.22	1501.48
24	120	2.00	3.0	0.763	0.20	0.69	0.56	5.47	1576.19
25	125	2.08	3.1	0.789	0.20	0.71	0.58	5.72	1650.91
26	130	2.17	4.2	1.068	0.20	0.96	0.86	8.46	2472.80
27	135	2.25	5.0	1.272	0.20	1.14	1.07	10.45	3070.54
28	140	2.33	3.5	0.890	0.20	0.80	0.69	6.71	1949.78
29	145	2.42	6.8	1.730	0.20	1.56	1.53	14.93	4415.45
30	150	2.50	7.3	1.857	0.20	1.67	1.65	16.18	4789.04
31	155	2.58	8.2	2.086	0.20	1.88	1.88	18.42	5461.49
32	160	2.67	5.9	1.501	0.20	1.35	1.30	12.69	3742.99
33	165	2.75	2.0	0.509	0.20	0.46	0.30	2.98	829.02
34	170	2.83	1.8	0.458	0.20	0.41	0.25	2.48	679.59
35	175	2.92	1.8	0.458	0.20	0.41	0.25	2.48	679.59
36	180	3.00	0.6	0.153	0.20	0.14	0.02	0.15	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.51
FLOOD VOLUME (acft)	1.23
FLOOD VOLUME (cuft)	53707.39
REQUIRED STORAGE (acft)	1.17
REQUIRED STORAGE (cuft)	50982.60
PEAK FLOW RATE (cfs)	18.42

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.79
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.38
UNIT TIME-PERCENT OF LAG	362.1
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.205
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.21 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.167	0.20	0.15	0.02	0.16	0.00
2	10	0.17	0.6	0.200	0.20	0.18	0.02	0.20	0.00
3	15	0.25	0.6	0.200	0.20	0.18	0.02	0.20	0.00
4	20	0.33	0.6	0.200	0.20	0.18	0.02	0.20	0.00
5	25	0.42	0.6	0.200	0.20	0.18	0.02	0.20	0.00
6	30	0.50	0.7	0.234	0.20	0.21	0.03	0.28	20.52
7	35	0.58	0.7	0.234	0.20	0.21	0.03	0.28	20.52
8	40	0.67	0.7	0.234	0.20	0.21	0.03	0.28	20.52
9	45	0.75	0.7	0.234	0.20	0.21	0.03	0.28	20.52
10	50	0.83	0.7	0.234	0.20	0.21	0.03	0.28	20.52
11	55	0.92	0.7	0.234	0.20	0.21	0.03	0.28	20.52
12	60	1.00	0.8	0.267	0.20	0.24	0.06	0.61	118.50
13	65	1.08	0.8	0.267	0.20	0.24	0.06	0.61	118.50
14	70	1.17	0.8	0.267	0.20	0.24	0.06	0.61	118.50
15	75	1.25	0.8	0.267	0.20	0.24	0.06	0.61	118.50
16	80	1.33	0.8	0.267	0.20	0.24	0.06	0.61	118.50
17	85	1.42	0.8	0.267	0.20	0.24	0.06	0.61	118.50
18	90	1.50	0.8	0.267	0.20	0.24	0.06	0.61	118.50
19	95	1.58	0.8	0.267	0.20	0.24	0.06	0.61	118.50
20	100	1.67	0.8	0.267	0.20	0.24	0.06	0.61	118.50
21	105	1.75	0.8	0.267	0.20	0.24	0.06	0.61	118.50
22	110	1.83	0.8	0.267	0.20	0.24	0.06	0.61	118.50
23	115	1.92	0.8	0.267	0.20	0.24	0.06	0.61	118.50
24	120	2.00	0.9	0.300	0.20	0.27	0.10	0.93	216.48
25	125	2.08	0.8	0.267	0.20	0.24	0.06	0.61	118.50
26	130	2.17	0.9	0.300	0.20	0.27	0.10	0.93	216.48
27	135	2.25	0.9	0.300	0.20	0.27	0.10	0.93	216.48
28	140	2.33	0.9	0.300	0.20	0.27	0.10	0.93	216.48
29	145	2.42	0.9	0.300	0.20	0.27	0.10	0.93	216.48
30	150	2.50	0.9	0.300	0.20	0.27	0.10	0.93	216.48
31	155	2.58	0.9	0.300	0.20	0.27	0.10	0.93	216.48
32	160	2.67	0.9	0.300	0.20	0.27	0.10	0.93	216.48
33	165	2.75	1.0	0.334	0.20	0.30	0.13	1.26	314.46
34	170	2.83	1.0	0.334	0.20	0.30	0.13	1.26	314.46
35	175	2.92	1.0	0.334	0.20	0.30	0.13	1.26	314.46
36	180	3.00	1.0	0.334	0.20	0.30	0.13	1.26	314.46
37	185	3.08	1.0	0.334	0.20	0.30	0.13	1.26	314.46
38	190	3.17	1.1	0.367	0.20	0.33	0.16	1.59	412.44
39	195	3.25	1.1	0.367	0.20	0.33	0.16	1.59	412.44
40	200	3.33	1.1	0.367	0.20	0.33	0.16	1.59	412.44
41	205	3.42	1.2	0.400	0.20	0.36	0.20	1.91	510.41
42	210	3.50	1.3	0.434	0.20	0.39	0.23	2.24	608.39
43	215	3.58	1.4	0.467	0.20	0.42	0.26	2.57	706.37
44	220	3.67	1.4	0.467	0.20	0.42	0.26	2.57	706.37
45	225	3.75	1.5	0.500	0.20	0.45	0.30	2.89	804.35
46	230	3.83	1.5	0.500	0.20	0.45	0.30	2.89	804.35
47	235	3.92	1.6	0.534	0.20	0.48	0.33	3.22	902.33
48	240	4.00	1.6	0.534	0.20	0.48	0.33	3.22	902.33
49	245	4.08	1.7	0.567	0.20	0.51	0.36	3.55	1000.31
50	250	4.17	1.8	0.600	0.20	0.54	0.40	3.87	1098.28
51	255	4.25	1.9	0.634	0.20	0.57	0.43	4.20	1196.26
52	260	4.33	2.0	0.667	0.20	0.60	0.46	4.53	1294.24
53	265	4.42	2.1	0.701	0.20	0.63	0.50	4.85	1392.22
54	270	4.50	2.1	0.701	0.20	0.63	0.50	4.85	1392.22
55	275	4.58	2.2	0.734	0.20	0.66	0.53	5.18	1490.20
56	280	4.67	2.3	0.767	0.20	0.69	0.56	5.51	1588.18

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.79
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.38
UNIT TIME-PERCENT OF LAG	362.1
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.205
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.21 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.801	0.20	0.72	0.60	5.83	1686.15
58	290	4.83	2.4	0.801	0.20	0.72	0.60	5.83	1686.15
59	295	4.92	2.5	0.834	0.20	0.75	0.63	6.16	1784.13
60	300	5.00	2.6	0.867	0.20	0.78	0.66	6.49	1882.11
61	305	5.08	3.1	1.034	0.20	0.93	0.83	8.12	2372.00
62	310	5.17	3.6	1.201	0.20	1.08	1.00	9.75	2861.89
63	315	5.25	3.9	1.301	0.20	1.17	1.10	10.73	3155.83
64	320	5.33	4.2	1.401	0.20	1.26	1.20	11.71	3449.76
65	325	5.42	4.7	1.568	0.20	1.41	1.36	13.35	3939.66
66	330	5.50	5.6	1.868	0.20	1.68	1.66	16.28	4821.46
67	335	5.58	1.9	0.634	0.20	0.57	0.43	4.20	1196.26
68	340	5.67	0.9	0.300	0.20	0.27	0.10	0.93	216.48
69	345	5.75	0.6	0.200	0.20	0.18	0.02	0.20	0.00
70	350	5.83	0.5	0.167	0.20	0.15	0.02	0.16	0.00
71	355	5.92	0.3	0.100	0.20	0.09	0.01	0.10	0.00
72	360	6.00	0.2	0.067	0.20	0.06	0.01	0.07	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.59
FLOOD VOLUME (acft)	1.30
FLOOD VOLUME (cuft)	56587.21
REQUIRED STORAGE (acft)	1.19
REQUIRED STORAGE (cuft)	51653.82
PEAK FLOW RATE (cfs)	16.28

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.790	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2048
LAG TIME - MINUTES	1.38	MINIMUM LOSS RATE (for var. loss) - in/hr	0.102
UNIT TIME-PERCENT OF LAG	1086.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00190
		PERCOLATION RATE (cfs)	0.21

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.036	0.362	0.032	0.004	0.04	0.00
2	30	0.50	0.3	0.054	0.357	0.048	0.005	0.05	0.00
3	45	0.75	0.3	0.054	0.353	0.048	0.005	0.05	0.00
4	60	1.00	0.4	0.072	0.349	0.064	0.007	0.07	0.00
5	75	1.25	0.3	0.054	0.345	0.048	0.005	0.05	0.00
6	90	1.50	0.3	0.054	0.341	0.048	0.005	0.05	0.00
7	105	1.75	0.3	0.054	0.337	0.048	0.005	0.05	0.00
8	120	2.00	0.4	0.072	0.333	0.064	0.007	0.07	0.00
9	135	2.25	0.4	0.072	0.329	0.064	0.007	0.07	0.00
10	150	2.50	0.4	0.072	0.325	0.064	0.007	0.07	0.00
11	165	2.75	0.5	0.089	0.321	0.080	0.009	0.09	0.00
12	180	3.00	0.5	0.089	0.317	0.080	0.009	0.09	0.00
13	195	3.25	0.5	0.089	0.313	0.080	0.009	0.09	0.00
14	210	3.50	0.5	0.089	0.309	0.080	0.009	0.09	0.00
15	225	3.75	0.5	0.089	0.305	0.080	0.009	0.09	0.00
16	240	4.00	0.6	0.107	0.301	0.097	0.011	0.11	0.00
17	255	4.25	0.6	0.107	0.297	0.097	0.011	0.11	0.00
18	270	4.50	0.7	0.125	0.294	0.113	0.013	0.12	0.00
19	285	4.75	0.7	0.125	0.290	0.113	0.013	0.12	0.00
20	300	5.00	0.8	0.143	0.286	0.129	0.014	0.14	0.00
21	315	5.25	0.6	0.107	0.282	0.097	0.011	0.11	0.00
22	330	5.50	0.7	0.125	0.279	0.113	0.013	0.12	0.00
23	345	5.75	0.8	0.143	0.275	0.129	0.014	0.14	0.00
24	360	6.00	0.8	0.143	0.272	0.129	0.014	0.14	0.00
25	375	6.25	0.9	0.161	0.268	0.145	0.016	0.16	0.00
26	390	6.50	0.9	0.161	0.264	0.145	0.016	0.16	0.00
27	405	6.75	1.0	0.179	0.261	0.161	0.018	0.18	0.00
28	420	7.00	1.0	0.179	0.257	0.161	0.018	0.18	0.00
29	435	7.25	1.0	0.179	0.254	0.161	0.018	0.18	0.00
30	450	7.50	1.1	0.197	0.250	0.177	0.020	0.19	0.00
31	465	7.75	1.2	0.215	0.247	0.193	0.021	0.21	0.00
32	480	8.00	1.3	0.232	0.243	0.209	0.023	0.23	13.15
33	495	8.25	1.5	0.268	0.240	0.241	0.028	0.28	55.92
34	510	8.50	1.5	0.268	0.237	0.241	0.031	0.31	85.41
35	525	8.75	1.6	0.286	0.233	0.257	0.053	0.52	272.18
36	540	9.00	1.7	0.304	0.230	0.274	0.074	0.72	458.69
37	555	9.25	1.9	0.340	0.227	0.306	0.113	1.10	802.48
38	570	9.50	2.0	0.358	0.224	0.322	0.134	1.31	988.46
39	585	9.75	2.1	0.375	0.220	0.338	0.155	1.52	1174.18
40	600	10.00	2.2	0.393	0.217	0.354	0.176	1.72	1359.63
41	615	10.25	1.5	0.268	0.214	0.241	0.054	0.53	284.49
42	630	10.50	1.5	0.268	0.211	0.241	0.057	0.56	311.86
43	645	10.75	2.0	0.358	0.208	0.322	0.150	1.46	1126.65
44	660	11.00	2.0	0.358	0.205	0.322	0.153	1.49	1153.47
45	675	11.25	1.9	0.340	0.202	0.306	0.138	1.35	1022.46
46	690	11.50	1.9	0.340	0.199	0.306	0.141	1.38	1048.71
47	705	11.75	1.7	0.304	0.196	0.274	0.108	1.06	759.60
48	720	12.00	1.8	0.322	0.193	0.290	0.129	1.26	942.83
49	735	12.25	2.5	0.447	0.190	0.402	0.257	2.51	2071.00
50	750	12.50	2.6	0.465	0.187	0.418	0.278	2.72	2253.64
51	765	12.75	2.8	0.501	0.185	0.451	0.316	3.09	2593.53
52	780	13.00	2.9	0.519	0.182	0.467	0.337	3.30	2775.58
53	795	13.25	3.4	0.608	0.179	0.547	0.429	4.20	3587.49
54	810	13.50	3.4	0.608	0.176	0.547	0.432	4.23	3611.39
55	825	13.75	2.3	0.411	0.174	0.370	0.238	2.33	1902.04
56	840	14.00	2.3	0.411	0.171	0.370	0.240	2.35	1925.32
57	855	14.25	2.7	0.483	0.168	0.434	0.314	3.08	2578.46
58	870	14.50	2.6	0.465	0.166	0.418	0.299	2.93	2443.57
59	885	14.75	2.6	0.465	0.163	0.418	0.302	2.95	2465.90
60	900	15.00	2.5	0.447	0.161	0.402	0.286	2.80	2330.36
61	915	15.25	2.4	0.429	0.158	0.386	0.271	2.65	2194.50
62	930	15.50	2.3	0.411	0.156	0.370	0.255	2.50	2058.30
63	945	15.75	1.9	0.340	0.153	0.306	0.186	1.82	1449.14
64	960	16.00	1.9	0.340	0.151	0.306	0.189	1.85	1469.81
65	975	16.25	0.4	0.072	0.149	0.064	0.007	0.07	0.00
66	990	16.50	0.4	0.072	0.147	0.064	0.007	0.07	0.00
67	1005	16.75	0.3	0.054	0.144	0.048	0.005	0.05	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.790	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2048
LAG TIME - MINUTES	1.38	MINIMUM LOSS RATE (for var. loss) - in/hr	0.102
UNIT TIME-PERCENT OF LAG	1086.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00190
		PERCOLATION RATE (cfs)	0.21

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
68	1020	17.00	0.3	0.054	0.142	0.048	0.005	0.05	0.00
69	1035	17.25	0.5	0.089	0.140	0.080	0.009	0.09	0.00
70	1050	17.50	0.5	0.089	0.138	0.080	0.009	0.09	0.00
71	1065	17.75	0.5	0.089	0.136	0.080	0.009	0.09	0.00
72	1080	18.00	0.4	0.072	0.134	0.064	0.007	0.07	0.00
73	1095	18.25	0.4	0.072	0.132	0.064	0.007	0.07	0.00
74	1110	18.50	0.4	0.072	0.130	0.064	0.007	0.07	0.00
75	1125	18.75	0.3	0.054	0.128	0.048	0.005	0.05	0.00
76	1140	19.00	0.2	0.036	0.126	0.032	0.004	0.04	0.00
77	1155	19.25	0.3	0.054	0.124	0.048	0.005	0.05	0.00
78	1170	19.50	0.4	0.072	0.123	0.064	0.007	0.07	0.00
79	1185	19.75	0.3	0.054	0.121	0.048	0.005	0.05	0.00
80	1200	20.00	0.2	0.036	0.119	0.032	0.004	0.04	0.00
81	1215	20.25	0.3	0.054	0.118	0.048	0.005	0.05	0.00
82	1230	20.50	0.3	0.054	0.116	0.048	0.005	0.05	0.00
83	1245	20.75	0.3	0.054	0.115	0.048	0.005	0.05	0.00
84	1260	21.00	0.2	0.036	0.113	0.032	0.004	0.04	0.00
85	1275	21.25	0.3	0.054	0.112	0.048	0.005	0.05	0.00
86	1290	21.50	0.2	0.036	0.111	0.032	0.004	0.04	0.00
87	1305	21.75	0.3	0.054	0.110	0.048	0.005	0.05	0.00
88	1320	22.00	0.2	0.036	0.108	0.032	0.004	0.04	0.00
89	1335	22.25	0.3	0.054	0.107	0.048	0.005	0.05	0.00
90	1350	22.50	0.2	0.036	0.106	0.032	0.004	0.04	0.00
91	1365	22.75	0.2	0.036	0.105	0.032	0.004	0.04	0.00
92	1380	23.00	0.2	0.036	0.105	0.032	0.004	0.04	0.00
93	1395	23.25	0.2	0.036	0.104	0.032	0.004	0.04	0.00
94	1410	23.50	0.2	0.036	0.103	0.032	0.004	0.04	0.00
95	1425	23.75	0.2	0.036	0.103	0.032	0.004	0.04	0.00
96	1440	24.00	0.2	0.036	0.102	0.032	0.004	0.04	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.71
FLOOD VOLUME (acft)	1.40
FLOOD VOLUME (cuft)	60935.59
REQUIRED STORAGE (acft)	1.14
REQUIRED STORAGE (cuft)	49570.20
PEAK FLOW (cfs)	4.23

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
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BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
464.5	0	0		13730	0	0	0.00
465.5	1	1	1470	15200	14465	14465	0.33
466.5	1	2	1500	16700	15950	30415	0.70
467.5	1	3	1570	18270	17485	47900	1.10
468	0.5	3.5	805	19075	9336	57236	1.31

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.21 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.21 cfs

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JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	1.23	370	370	64	306	464.52	306	0.01
2	10	1.23	370	676	64	612	464.54	612	0.01
3	15	0.73	220	832	64	769	464.55	769	0.02
4	20	1.73	519	1,288	64	1,224	464.58	1,224	0.03
5	25	1.73	519	1,743	64	1,679	464.62	1,679	0.04
6	30	2.48	743	2,423	64	2,359	464.66	2,359	0.05
7	35	1.73	519	2,878	64	2,814	464.69	2,814	0.06
8	40	2.48	743	3,558	64	3,494	464.74	3,494	0.08
9	45	2.48	743	4,238	64	4,174	464.79	4,174	0.10
10	50	1.73	519	4,693	64	4,629	464.82	4,629	0.11
11	55	1.98	594	5,223	64	5,159	464.86	5,159	0.12
12	60	2.48	743	5,903	64	5,839	464.90	5,839	0.13
13	65	3.47	1,042	6,881	64	6,817	464.97	6,817	0.16
14	70	3.47	1,042	7,860	64	7,796	465.04	7,796	0.18
15	75	3.47	1,042	8,838	64	8,774	465.11	8,774	0.20
16	80	2.98	893	9,667	64	9,603	465.16	9,603	0.22
17	85	4.47	1,341	10,944	64	10,881	465.25	10,881	0.25
18	90	4.72	1,416	12,296	64	12,233	465.35	12,233	0.28
19	95	3.97	1,192	13,424	64	13,360	465.42	13,360	0.31
20	100	4.72	1,416	14,776	64	14,712	465.52	14,712	0.34
21	105	6.21	1,864	16,577	64	16,513	465.63	16,513	0.38
22	110	5.72	1,715	18,228	64	18,164	465.73	18,164	0.42
23	115	5.22	1,565	19,729	64	19,665	465.83	19,665	0.45
24	120	5.47	1,640	21,305	64	21,241	465.92	21,241	0.49
25	125	5.72	1,715	22,956	64	22,892	466.03	22,892	0.53
26	130	8.46	2,537	25,429	64	25,365	466.18	25,365	0.58
27	135	10.45	3,134	28,500	64	28,436	466.38	28,436	0.65
28	140	6.71	2,014	30,449	64	30,385	466.50	30,385	0.70
29	145	14.93	4,479	34,865	64	34,801	466.75	34,801	0.80
30	150	16.18	4,853	39,654	64	39,590	467.02	39,590	0.91
31	155	18.42	5,525	45,115	64	45,051	467.34	45,051	1.03
32	160	12.69	3,807	48,858	64	48,794	467.55	48,794	1.12
33	165	2.98	893	49,687	64	49,623	467.59	49,623	1.14
34	170	2.48	743	50,367	64	50,303	467.63	50,303	1.15
35	175	2.48	743	51,046	64	50,983	467.67	50,983	1.17
36	180	0.15	45	51,027	64	50,964	467.66	50,964	1.17

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.16	49	49	64	-	464.50	-	0.00
2	10	0.20	59	59	64	-	464.50	-	0.00
3	15	0.20	59	59	64	-	464.50	-	0.00
4	20	0.20	59	59	64	-	464.50	-	0.00
5	25	0.20	59	59	64	-	464.50	-	0.00
6	30	0.28	84	84	64	21	464.50	21	0.00
7	35	0.28	84	105	64	41	464.50	41	0.00
8	40	0.28	84	125	64	62	464.50	62	0.00
9	45	0.28	84	146	64	82	464.51	82	0.00
10	50	0.28	84	166	64	103	464.51	103	0.00
11	55	0.28	84	187	64	123	464.51	123	0.00
12	60	0.61	182	306	64	242	464.52	242	0.01
13	65	0.61	182	424	64	360	464.52	360	0.01
14	70	0.61	182	543	64	479	464.53	479	0.01
15	75	0.61	182	661	64	597	464.54	597	0.01
16	80	0.61	182	780	64	716	464.55	716	0.02
17	85	0.61	182	898	64	834	464.56	834	0.02
18	90	0.61	182	1,017	64	953	464.57	953	0.02
19	95	0.61	182	1,135	64	1,071	464.57	1,071	0.02
20	100	0.61	182	1,254	64	1,190	464.58	1,190	0.03
21	105	0.61	182	1,372	64	1,308	464.59	1,308	0.03
22	110	0.61	182	1,491	64	1,427	464.60	1,427	0.03
23	115	0.61	182	1,609	64	1,545	464.61	1,545	0.04
24	120	0.93	280	1,826	64	1,762	464.62	1,762	0.04
25	125	0.61	182	1,944	64	1,880	464.63	1,880	0.04
26	130	0.93	280	2,161	64	2,097	464.64	2,097	0.05
27	135	0.93	280	2,377	64	2,313	464.66	2,313	0.05
28	140	0.93	280	2,593	64	2,530	464.67	2,530	0.06
29	145	0.93	280	2,810	64	2,746	464.69	2,746	0.06
30	150	0.93	280	3,026	64	2,963	464.70	2,963	0.07
31	155	0.93	280	3,243	64	3,179	464.72	3,179	0.07
32	160	0.93	280	3,459	64	3,395	464.73	3,395	0.08
33	165	1.26	378	3,774	64	3,710	464.76	3,710	0.09
34	170	1.26	378	4,088	64	4,024	464.78	4,024	0.09
35	175	1.26	378	4,403	64	4,339	464.80	4,339	0.10
36	180	1.26	378	4,717	64	4,653	464.82	4,653	0.11
37	185	1.26	378	5,032	64	4,968	464.84	4,968	0.11
38	190	1.59	476	5,444	64	5,380	464.87	5,380	0.12
39	195	1.59	476	5,857	64	5,793	464.90	5,793	0.13
40	200	1.59	476	6,269	64	6,205	464.93	6,205	0.14
41	205	1.91	574	6,779	64	6,716	464.96	6,716	0.15
42	210	2.24	672	7,388	64	7,324	465.01	7,324	0.17
43	215	2.57	770	8,094	64	8,030	465.06	8,030	0.18
44	220	2.57	770	8,801	64	8,737	465.10	8,737	0.20
45	225	2.89	868	9,605	64	9,541	465.16	9,541	0.22
46	230	2.89	868	10,409	64	10,345	465.22	10,345	0.24
47	235	3.22	966	11,312	64	11,248	465.28	11,248	0.26
48	240	3.22	966	12,214	64	12,150	465.34	12,150	0.28
49	245	3.55	1,064	13,214	64	13,150	465.41	13,150	0.30
50	250	3.87	1,162	14,312	64	14,249	465.49	14,249	0.33
51	255	4.20	1,260	15,509	64	15,445	465.56	15,445	0.35
52	260	4.53	1,358	16,803	64	16,739	465.64	16,739	0.38
53	265	4.85	1,456	18,195	64	18,131	465.73	18,131	0.42
54	270	4.85	1,456	19,587	64	19,524	465.82	19,524	0.45
55	275	5.18	1,554	21,078	64	21,014	465.91	21,014	0.48

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	5.51	1,652	22,666	64	22,602	466.01	22,602	0.52
57	285	5.83	1,750	24,352	64	24,288	466.12	24,288	0.56
58	290	5.83	1,750	26,038	64	25,974	466.22	25,974	0.60
59	295	6.16	1,848	27,822	64	27,758	466.33	27,758	0.64
60	300	6.49	1,946	29,704	64	29,640	466.45	29,640	0.68
61	305	8.12	2,436	32,076	64	32,012	466.59	32,012	0.73
62	310	9.75	2,926	34,938	64	34,874	466.76	34,874	0.80
63	315	10.73	3,220	38,094	64	38,030	466.94	38,030	0.87
64	320	11.71	3,514	41,544	64	41,480	467.13	41,480	0.95
65	325	13.35	4,004	45,483	64	45,420	467.36	45,420	1.04
66	330	16.28	4,885	50,305	64	50,241	467.63	50,241	1.15
67	335	4.20	1,260	51,501	64	51,437	467.69	51,437	1.18
68	340	0.93	280	51,718	64	51,654	467.70	51,654	1.19
69	345	0.20	59	51,713	64	51,649	467.70	51,649	1.19
70	350	0.16	49	51,698	64	51,634	467.70	51,634	1.19
71	355	0.10	29	51,663	64	51,599	467.70	51,599	1.18
72	360	0.07	20	51,619	64	51,555	467.70	51,555	1.18

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.04	32	32	192	-	464.50	-	0.00
2	30	0.05	47	47	192	-	464.50	-	0.00
3	45	0.05	47	47	192	-	464.50	-	0.00
4	60	0.07	63	63	192	-	464.50	-	0.00
5	75	0.05	47	47	192	-	464.50	-	0.00
6	90	0.05	47	47	192	-	464.50	-	0.00
7	105	0.05	47	47	192	-	464.50	-	0.00
8	120	0.07	63	63	192	-	464.50	-	0.00
9	135	0.07	63	63	192	-	464.50	-	0.00
10	150	0.07	63	63	192	-	464.50	-	0.00
11	165	0.09	79	79	192	-	464.50	-	0.00
12	180	0.09	79	79	192	-	464.50	-	0.00
13	195	0.09	79	79	192	-	464.50	-	0.00
14	210	0.09	79	79	192	-	464.50	-	0.00
15	225	0.09	79	79	192	-	464.50	-	0.00
16	240	0.11	95	95	192	-	464.50	-	0.00
17	255	0.11	95	95	192	-	464.50	-	0.00
18	270	0.12	110	110	192	-	464.50	-	0.00
19	285	0.12	110	110	192	-	464.50	-	0.00
20	300	0.14	126	126	192	-	464.50	-	0.00
21	315	0.11	95	95	192	-	464.50	-	0.00
22	330	0.12	110	110	192	-	464.50	-	0.00
23	345	0.14	126	126	192	-	464.50	-	0.00
24	360	0.14	126	126	192	-	464.50	-	0.00
25	375	0.16	142	142	192	-	464.50	-	0.00
26	390	0.16	142	142	192	-	464.50	-	0.00
27	405	0.18	158	158	192	-	464.50	-	0.00
28	420	0.18	158	158	192	-	464.50	-	0.00
29	435	0.18	158	158	192	-	464.50	-	0.00
30	450	0.19	173	173	192	-	464.50	-	0.00
31	465	0.21	189	189	192	-	464.50	-	0.00
32	480	0.23	205	205	192	13	464.50	13	0.00
33	495	0.28	248	261	192	69	464.50	69	0.00
34	510	0.31	277	346	192	154	464.51	154	0.00
35	525	0.52	464	618	192	427	464.53	427	0.01
36	540	0.72	650	1,077	192	885	464.56	885	0.02
37	555	1.10	994	1,879	192	1,688	464.62	1,688	0.04
38	570	1.31	1,180	2,868	192	2,676	464.69	2,676	0.06
39	585	1.52	1,366	4,042	192	3,850	464.77	3,850	0.09
40	600	1.72	1,551	5,402	192	5,210	464.86	5,210	0.12
41	615	0.53	476	5,686	192	5,495	464.88	5,495	0.13
42	630	0.56	504	5,998	192	5,806	464.90	5,806	0.13
43	645	1.46	1,318	7,125	192	6,933	464.98	6,933	0.16
44	660	1.49	1,345	8,278	192	8,087	465.06	8,087	0.19
45	675	1.35	1,214	9,301	192	9,109	465.13	9,109	0.21
46	690	1.38	1,240	10,349	192	10,158	465.20	10,158	0.23
47	705	1.06	951	11,109	192	10,917	465.25	10,917	0.25
48	720	1.26	1,134	12,052	192	11,860	465.32	11,860	0.27
49	735	2.51	2,263	14,123	192	13,931	465.46	13,931	0.32
50	750	2.72	2,445	16,376	192	16,185	465.61	16,185	0.37
51	765	3.09	2,785	18,970	192	18,778	465.77	18,778	0.43
52	780	3.30	2,967	21,746	192	21,554	465.94	21,554	0.49
53	795	4.20	3,779	25,333	192	25,141	466.17	25,141	0.58
54	810	4.23	3,803	28,944	192	28,753	466.40	28,753	0.66
55	825	2.33	2,094	30,846	192	30,655	466.51	30,655	0.70
56	840	2.35	2,117	32,772	192	32,580	466.62	32,580	0.75
57	855	3.08	2,770	35,350	192	35,159	466.77	35,159	0.81
58	870	2.93	2,635	37,794	192	37,602	466.91	37,602	0.86

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	2.95	2,658	40,260	192	40,068	467.05	40,068	0.92
60	900	2.80	2,522	42,590	192	42,398	467.19	42,398	0.97
61	915	2.65	2,386	44,785	192	44,593	467.31	44,593	1.02
62	930	2.50	2,250	46,843	192	46,651	467.43	46,651	1.07
63	945	1.82	1,641	48,292	192	48,100	467.51	48,100	1.10
64	960	1.85	1,661	49,762	192	49,570	467.59	49,570	1.14
65	975	0.07	63	49,633	192	49,442	467.58	49,442	1.14
66	990	0.07	63	49,505	192	49,313	467.58	49,313	1.13
67	1005	0.05	47	49,360	192	49,169	467.57	49,169	1.13
68	1020	0.05	47	49,216	192	49,024	467.56	49,024	1.13
69	1035	0.09	79	49,103	192	48,911	467.55	48,911	1.12
70	1050	0.09	79	48,990	192	48,798	467.55	48,798	1.12
71	1065	0.09	79	48,877	192	48,686	467.54	48,686	1.12
72	1080	0.07	63	48,749	192	48,557	467.54	48,557	1.11
73	1095	0.07	63	48,620	192	48,428	467.53	48,428	1.11
74	1110	0.07	63	48,491	192	48,300	467.52	48,300	1.11
75	1125	0.05	47	48,347	192	48,155	467.51	48,155	1.11
76	1140	0.04	32	48,187	192	47,995	467.51	47,995	1.10
77	1155	0.05	47	48,042	192	47,851	467.50	47,851	1.10
78	1170	0.07	63	47,914	192	47,722	467.49	47,722	1.10
79	1185	0.05	47	47,769	192	47,578	467.48	47,578	1.09
80	1200	0.04	32	47,609	192	47,418	467.47	47,418	1.09
81	1215	0.05	47	47,465	192	47,273	467.46	47,273	1.09
82	1230	0.05	47	47,320	192	47,129	467.46	47,129	1.08
83	1245	0.05	47	47,176	192	46,984	467.45	46,984	1.08
84	1260	0.04	32	47,016	192	46,824	467.44	46,824	1.07
85	1275	0.05	47	46,872	192	46,680	467.43	46,680	1.07
86	1290	0.04	32	46,711	192	46,520	467.42	46,520	1.07
87	1305	0.05	47	46,567	192	46,375	467.41	46,375	1.06
88	1320	0.04	32	46,407	192	46,215	467.40	46,215	1.06
89	1335	0.05	47	46,262	192	46,071	467.40	46,071	1.06
90	1350	0.04	32	46,102	192	45,911	467.39	45,911	1.05
91	1365	0.04	32	45,942	192	45,751	467.38	45,751	1.05
92	1380	0.04	32	45,782	192	45,590	467.37	45,590	1.05
93	1395	0.04	32	45,622	192	45,430	467.36	45,430	1.04
94	1410	0.04	32	45,462	192	45,270	467.35	45,270	1.04
95	1425	0.04	32	45,302	192	45,110	467.34	45,110	1.04
96	1440	0.04	32	45,142	192	44,950	467.33	44,950	1.03

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 100 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 5		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	1.95		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	4.71		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	2.83		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	950		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	310		
30				
31	ELEVATION OF HEADWATER	471		
32	ELEVATION OF CONCENTRATION POINT	467		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	2.12		
40	6-HOUR	2.78		
41	24-HOUR	4.47		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		463.5	17610	
45		464.5	19400	
46		465.5	21240	
47		466.5	23140	
48		467	24110	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 5
[3] AREA - ACRES	9.490
[4] L-FEET	950
[5] L-MILES	0.180
[6] La-FEET	310.00
[7] La-MILES	0.059
[8] ELEVATION OF HEADWATER	471
[9] ELEVATION OF CONCENTRATION POINT	467
[10] H-FEET	4
[11] S-FEET/MILE	22.2
[12] S^0.5	4.72
[13] L*LCA/S^0.5	0.002
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.05
[16] LAG TIME-MINUTES	2.8
[17] 100% OF LAG-MINUTES	2.8
[18] 200% OF LAG-MINUTES	5.7
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.27

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
2.12	9.490	1.00	2.12	2.78	9.490	1.00	2.78	4.47	9.490	1.00	4.47
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	9.49	SUM [7]	2.12	SUM [9]	9.49	SUM [11]	2.78	SUM [13]	9.49	SUM [15]	4.47
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			2.12				2.78				4.47

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.31	1.30	1.28
FLOOD VOLUME	(cu-ft)	45,222	44,840	44,164
	(acre-ft)	1.04	1.03	1.01
REQUIRED STORAGE	(cu-ft)	41,999	39,086	31,405
	(acre-ft)	0.96	0.90	0.72
PEAK FLOW	(cfs)	17.21	15.14	3.54
MAXIMUM WSEL	(ft)	465.64	465.51	465.13

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	1.95	0.205	0.0107
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	4.71	0.496	0.1071
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	2.83	0.298	0.1551
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		9.49	SUM	0.2729

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.136428767
C= 0.00253

Ft=C(24-(T/60))^1.55 = 0.00253 (24-(T/60))^1.55 + 0.14 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.49
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.83
UNIT TIME-PERCENT OF LAG	176.4
TOTAL ADJUSTED STORM RAIN-INCHES	2.12
CONSTANT LOSS RATE-in/hr	0.27
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.27 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.331	0.27	0.30	0.06	0.55	82.80
2	10	0.17	1.3	0.331	0.27	0.30	0.06	0.55	82.80
3	15	0.25	1.1	0.280	0.27	0.25	0.01	0.07	0.00
4	20	0.33	1.5	0.382	0.27	0.34	0.11	1.03	227.65
5	25	0.42	1.5	0.382	0.27	0.34	0.11	1.03	227.65
6	30	0.50	1.8	0.458	0.27	0.41	0.19	1.76	444.94
7	35	0.58	1.5	0.382	0.27	0.34	0.11	1.03	227.65
8	40	0.67	1.8	0.458	0.27	0.41	0.19	1.76	444.94
9	45	0.75	1.8	0.458	0.27	0.41	0.19	1.76	444.94
10	50	0.83	1.5	0.382	0.27	0.34	0.11	1.03	227.65
11	55	0.92	1.6	0.407	0.27	0.37	0.13	1.27	300.08
12	60	1.00	1.8	0.458	0.27	0.41	0.19	1.76	444.94
13	65	1.08	2.2	0.560	0.27	0.50	0.29	2.72	734.65
14	70	1.17	2.2	0.560	0.27	0.50	0.29	2.72	734.65
15	75	1.25	2.2	0.560	0.27	0.50	0.29	2.72	734.65
16	80	1.33	2.0	0.509	0.27	0.46	0.24	2.24	589.79
17	85	1.42	2.6	0.661	0.27	0.60	0.39	3.69	1024.36
18	90	1.50	2.7	0.687	0.27	0.62	0.41	3.93	1096.79
19	95	1.58	2.4	0.611	0.27	0.55	0.34	3.20	879.50
20	100	1.67	2.7	0.687	0.27	0.62	0.41	3.93	1096.79
21	105	1.75	3.3	0.840	0.27	0.76	0.57	5.38	1531.35
22	110	1.83	3.1	0.789	0.27	0.71	0.52	4.89	1386.50
23	115	1.92	2.9	0.738	0.27	0.66	0.46	4.41	1241.64
24	120	2.00	3.0	0.763	0.27	0.69	0.49	4.65	1314.07
25	125	2.08	3.1	0.789	0.27	0.71	0.52	4.89	1386.50
26	130	2.17	4.2	1.068	0.27	0.96	0.80	7.55	2183.20
27	135	2.25	5.0	1.272	0.27	1.14	1.00	9.48	2762.62
28	140	2.33	3.5	0.890	0.27	0.80	0.62	5.86	1676.21
29	145	2.42	6.8	1.730	0.27	1.56	1.46	13.83	4066.32
30	150	2.50	7.3	1.857	0.27	1.67	1.58	15.03	4428.46
31	155	2.58	8.2	2.086	0.27	1.88	1.81	17.21	5080.31
32	160	2.67	5.9	1.501	0.27	1.35	1.23	11.65	3414.47
33	165	2.75	2.0	0.509	0.27	0.46	0.24	2.24	589.79
34	170	2.83	1.8	0.458	0.27	0.41	0.19	1.76	444.94
35	175	2.92	1.8	0.458	0.27	0.41	0.19	1.76	444.94
36	180	3.00	0.6	0.153	0.27	0.14	0.02	0.14	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.31
FLOOD VOLUME (acft)	1.04
FLOOD VOLUME (cuft)	45221.59
REQUIRED STORAGE (acft)	0.96
REQUIRED STORAGE (cuft)	41998.54
PEAK FLOW RATE (cfs)	17.21

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.49
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.83
UNIT TIME-PERCENT OF LAG	176.4
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.273
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.27 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.167	0.27	0.15	0.02	0.16	0.00
2	10	0.17	0.6	0.200	0.27	0.18	0.02	0.19	0.00
3	15	0.25	0.6	0.200	0.27	0.18	0.02	0.19	0.00
4	20	0.33	0.6	0.200	0.27	0.18	0.02	0.19	0.00
5	25	0.42	0.6	0.200	0.27	0.18	0.02	0.19	0.00
6	30	0.50	0.7	0.234	0.27	0.21	0.02	0.22	0.00
7	35	0.58	0.7	0.234	0.27	0.21	0.02	0.22	0.00
8	40	0.67	0.7	0.234	0.27	0.21	0.02	0.22	0.00
9	45	0.75	0.7	0.234	0.27	0.21	0.02	0.22	0.00
10	50	0.83	0.7	0.234	0.27	0.21	0.02	0.22	0.00
11	55	0.92	0.7	0.234	0.27	0.21	0.02	0.22	0.00
12	60	1.00	0.8	0.267	0.27	0.24	0.03	0.25	0.00
13	65	1.08	0.8	0.267	0.27	0.24	0.03	0.25	0.00
14	70	1.17	0.8	0.267	0.27	0.24	0.03	0.25	0.00
15	75	1.25	0.8	0.267	0.27	0.24	0.03	0.25	0.00
16	80	1.33	0.8	0.267	0.27	0.24	0.03	0.25	0.00
17	85	1.42	0.8	0.267	0.27	0.24	0.03	0.25	0.00
18	90	1.50	0.8	0.267	0.27	0.24	0.03	0.25	0.00
19	95	1.58	0.8	0.267	0.27	0.24	0.03	0.25	0.00
20	100	1.67	0.8	0.267	0.27	0.24	0.03	0.25	0.00
21	105	1.75	0.8	0.267	0.27	0.24	0.03	0.25	0.00
22	110	1.83	0.8	0.267	0.27	0.24	0.03	0.25	0.00
23	115	1.92	0.8	0.267	0.27	0.24	0.03	0.25	0.00
24	120	2.00	0.9	0.300	0.27	0.27	0.03	0.26	0.00
25	125	2.08	0.8	0.267	0.27	0.24	0.03	0.25	0.00
26	130	2.17	0.9	0.300	0.27	0.27	0.03	0.26	0.00
27	135	2.25	0.9	0.300	0.27	0.27	0.03	0.26	0.00
28	140	2.33	0.9	0.300	0.27	0.27	0.03	0.26	0.00
29	145	2.42	0.9	0.300	0.27	0.27	0.03	0.26	0.00
30	150	2.50	0.9	0.300	0.27	0.27	0.03	0.26	0.00
31	155	2.58	0.9	0.300	0.27	0.27	0.03	0.26	0.00
32	160	2.67	0.9	0.300	0.27	0.27	0.03	0.26	0.00
33	165	2.75	1.0	0.334	0.27	0.30	0.06	0.58	91.00
34	170	2.83	1.0	0.334	0.27	0.30	0.06	0.58	91.00
35	175	2.92	1.0	0.334	0.27	0.30	0.06	0.58	91.00
36	180	3.00	1.0	0.334	0.27	0.30	0.06	0.58	91.00
37	185	3.08	1.0	0.334	0.27	0.30	0.06	0.58	91.00
38	190	3.17	1.1	0.367	0.27	0.33	0.09	0.89	185.97
39	195	3.25	1.1	0.367	0.27	0.33	0.09	0.89	185.97
40	200	3.33	1.1	0.367	0.27	0.33	0.09	0.89	185.97
41	205	3.42	1.2	0.400	0.27	0.36	0.13	1.21	280.95
42	210	3.50	1.3	0.434	0.27	0.39	0.16	1.53	375.93
43	215	3.58	1.4	0.467	0.27	0.42	0.19	1.84	470.90
44	220	3.67	1.4	0.467	0.27	0.42	0.19	1.84	470.90
45	225	3.75	1.5	0.500	0.27	0.45	0.23	2.16	565.88
46	230	3.83	1.5	0.500	0.27	0.45	0.23	2.16	565.88
47	235	3.92	1.6	0.534	0.27	0.48	0.26	2.48	660.85
48	240	4.00	1.6	0.534	0.27	0.48	0.26	2.48	660.85
49	245	4.08	1.7	0.567	0.27	0.51	0.29	2.79	755.83
50	250	4.17	1.8	0.600	0.27	0.54	0.33	3.11	850.81
51	255	4.25	1.9	0.634	0.27	0.57	0.36	3.43	945.78
52	260	4.33	2.0	0.667	0.27	0.60	0.39	3.74	1040.76
53	265	4.42	2.1	0.701	0.27	0.63	0.43	4.06	1135.73
54	270	4.50	2.1	0.701	0.27	0.63	0.43	4.06	1135.73
55	275	4.58	2.2	0.734	0.27	0.66	0.46	4.38	1230.71
56	280	4.67	2.3	0.767	0.27	0.69	0.49	4.69	1325.69

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.49
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.83
UNIT TIME-PERCENT OF LAG	176.4
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.273
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.27 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.801	0.27	0.72	0.53	5.01	1420.66
58	290	4.83	2.4	0.801	0.27	0.72	0.53	5.01	1420.66
59	295	4.92	2.5	0.834	0.27	0.75	0.56	5.33	1515.64
60	300	5.00	2.6	0.867	0.27	0.78	0.59	5.64	1610.61
61	305	5.08	3.1	1.034	0.27	0.93	0.76	7.22	2085.49
62	310	5.17	3.6	1.201	0.27	1.08	0.93	8.81	2560.37
63	315	5.25	3.9	1.301	0.27	1.17	1.03	9.76	2845.30
64	320	5.33	4.2	1.401	0.27	1.26	1.13	10.71	3130.23
65	325	5.42	4.7	1.568	0.27	1.41	1.30	12.29	3605.11
66	330	5.50	5.6	1.868	0.27	1.68	1.60	15.14	4459.89
67	335	5.58	1.9	0.634	0.27	0.57	0.36	3.43	945.78
68	340	5.67	0.9	0.300	0.27	0.27	0.03	0.26	0.00
69	345	5.75	0.6	0.200	0.27	0.18	0.02	0.19	0.00
70	350	5.83	0.5	0.167	0.27	0.15	0.02	0.16	0.00
71	355	5.92	0.3	0.100	0.27	0.09	0.01	0.09	0.00
72	360	6.00	0.2	0.067	0.27	0.06	0.01	0.06	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.30
FLOOD VOLUME (acft)	1.03
FLOOD VOLUME (cuft)	44839.99
REQUIRED STORAGE (acft)	0.90
REQUIRED STORAGE (cuft)	39085.84
PEAK FLOW RATE (cfs)	15.14

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.490	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2729
LAG TIME - MINUTES	2.83	MINIMUM LOSS RATE (for var. loss) - in/hr	0.136
UNIT TIME-PERCENT OF LAG	529.1	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00253
		PERCOLATION RATE (cfs)	0.27

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.036	0.482	0.032	0.004	0.03	0.00
2	30	0.50	0.3	0.054	0.476	0.048	0.005	0.05	0.00
3	45	0.75	0.3	0.054	0.471	0.048	0.005	0.05	0.00
4	60	1.00	0.4	0.072	0.465	0.064	0.007	0.07	0.00
5	75	1.25	0.3	0.054	0.460	0.048	0.005	0.05	0.00
6	90	1.50	0.3	0.054	0.454	0.048	0.005	0.05	0.00
7	105	1.75	0.3	0.054	0.449	0.048	0.005	0.05	0.00
8	120	2.00	0.4	0.072	0.443	0.064	0.007	0.07	0.00
9	135	2.25	0.4	0.072	0.438	0.064	0.007	0.07	0.00
10	150	2.50	0.4	0.072	0.433	0.064	0.007	0.07	0.00
11	165	2.75	0.5	0.089	0.427	0.080	0.009	0.08	0.00
12	180	3.00	0.5	0.089	0.422	0.080	0.009	0.08	0.00
13	195	3.25	0.5	0.089	0.417	0.080	0.009	0.08	0.00
14	210	3.50	0.5	0.089	0.412	0.080	0.009	0.08	0.00
15	225	3.75	0.5	0.089	0.407	0.080	0.009	0.08	0.00
16	240	4.00	0.6	0.107	0.401	0.097	0.011	0.10	0.00
17	255	4.25	0.6	0.107	0.396	0.097	0.011	0.10	0.00
18	270	4.50	0.7	0.125	0.391	0.113	0.013	0.12	0.00
19	285	4.75	0.7	0.125	0.386	0.113	0.013	0.12	0.00
20	300	5.00	0.8	0.143	0.381	0.129	0.014	0.14	0.00
21	315	5.25	0.6	0.107	0.376	0.097	0.011	0.10	0.00
22	330	5.50	0.7	0.125	0.371	0.113	0.013	0.12	0.00
23	345	5.75	0.8	0.143	0.367	0.129	0.014	0.14	0.00
24	360	6.00	0.8	0.143	0.362	0.129	0.014	0.14	0.00
25	375	6.25	0.9	0.161	0.357	0.145	0.016	0.15	0.00
26	390	6.50	0.9	0.161	0.352	0.145	0.016	0.15	0.00
27	405	6.75	1.0	0.179	0.347	0.161	0.018	0.17	0.00
28	420	7.00	1.0	0.179	0.343	0.161	0.018	0.17	0.00
29	435	7.25	1.0	0.179	0.338	0.161	0.018	0.17	0.00
30	450	7.50	1.1	0.197	0.334	0.177	0.020	0.19	0.00
31	465	7.75	1.2	0.215	0.329	0.193	0.021	0.20	0.00
32	480	8.00	1.3	0.232	0.324	0.209	0.023	0.22	0.00
33	495	8.25	1.5	0.268	0.320	0.241	0.027	0.25	0.00
34	510	8.50	1.5	0.268	0.315	0.241	0.027	0.25	0.00
35	525	8.75	1.6	0.286	0.311	0.257	0.029	0.27	0.00
36	540	9.00	1.7	0.304	0.307	0.274	0.030	0.29	13.81
37	555	9.25	1.9	0.340	0.302	0.306	0.037	0.35	73.64
38	570	9.50	2.0	0.358	0.298	0.322	0.060	0.57	263.09
39	585	9.75	2.1	0.375	0.294	0.338	0.082	0.78	452.20
40	600	10.00	2.2	0.393	0.290	0.354	0.104	0.99	640.96
41	615	10.25	1.5	0.268	0.285	0.241	0.027	0.25	0.00
42	630	10.50	1.5	0.268	0.281	0.241	0.027	0.25	0.00
43	645	10.75	2.0	0.358	0.277	0.322	0.080	0.76	441.57
44	660	11.00	2.0	0.358	0.273	0.322	0.085	0.80	476.21
45	675	11.25	1.9	0.340	0.269	0.306	0.071	0.67	357.77
46	690	11.50	1.9	0.340	0.265	0.306	0.075	0.71	391.68
47	705	11.75	1.7	0.304	0.261	0.274	0.043	0.41	119.79
48	720	12.00	1.8	0.322	0.257	0.290	0.065	0.61	305.68
49	735	12.25	2.5	0.447	0.253	0.402	0.194	1.84	1407.47
50	750	12.50	2.6	0.465	0.250	0.418	0.215	2.04	1592.60
51	765	12.75	2.8	0.501	0.246	0.451	0.255	2.42	1930.06
52	780	13.00	2.9	0.519	0.242	0.467	0.276	2.62	2114.43
53	795	13.25	3.4	0.608	0.239	0.547	0.369	3.51	2909.26
54	810	13.50	3.4	0.608	0.235	0.547	0.373	3.54	2940.13
55	825	13.75	2.3	0.411	0.231	0.370	0.180	1.71	1290.76
56	840	14.00	2.3	0.411	0.228	0.370	0.183	1.74	1320.84
57	855	14.25	2.7	0.483	0.224	0.434	0.258	2.45	1961.36
58	870	14.50	2.6	0.465	0.221	0.418	0.244	2.32	1837.90
59	885	14.75	2.6	0.465	0.218	0.418	0.247	2.35	1866.75
60	900	15.00	2.5	0.447	0.214	0.402	0.233	2.21	1742.46
61	915	15.25	2.4	0.429	0.211	0.386	0.218	2.07	1617.74
62	930	15.50	2.3	0.411	0.208	0.370	0.204	1.93	1492.59
63	945	15.75	1.9	0.340	0.205	0.306	0.135	1.28	908.87
64	960	16.00	1.9	0.340	0.201	0.306	0.138	1.31	935.56
65	975	16.25	0.4	0.072	0.198	0.064	0.007	0.07	0.00
66	990	16.50	0.4	0.072	0.195	0.064	0.007	0.07	0.00
67	1005	16.75	0.3	0.054	0.192	0.048	0.005	0.05	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
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EFFECTIVE RAIN CALCULATION FORM

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68	1020	17.00	0.3	0.054	0.189	0.048	0.005	0.05	0.00
69	1035	17.25	0.5	0.089	0.187	0.080	0.009	0.08	0.00
70	1050	17.50	0.5	0.089	0.184	0.080	0.009	0.08	0.00
71	1065	17.75	0.5	0.089	0.181	0.080	0.009	0.08	0.00
72	1080	18.00	0.4	0.072	0.178	0.064	0.007	0.07	0.00
73	1095	18.25	0.4	0.072	0.176	0.064	0.007	0.07	0.00
74	1110	18.50	0.4	0.072	0.173	0.064	0.007	0.07	0.00
75	1125	18.75	0.3	0.054	0.171	0.048	0.005	0.05	0.00
76	1140	19.00	0.2	0.036	0.168	0.032	0.004	0.03	0.00
77	1155	19.25	0.3	0.054	0.166	0.048	0.005	0.05	0.00
78	1170	19.50	0.4	0.072	0.164	0.064	0.007	0.07	0.00
79	1185	19.75	0.3	0.054	0.161	0.048	0.005	0.05	0.00
80	1200	20.00	0.2	0.036	0.159	0.032	0.004	0.03	0.00
81	1215	20.25	0.3	0.054	0.157	0.048	0.005	0.05	0.00
82	1230	20.50	0.3	0.054	0.155	0.048	0.005	0.05	0.00
83	1245	20.75	0.3	0.054	0.153	0.048	0.005	0.05	0.00
84	1260	21.00	0.2	0.036	0.151	0.032	0.004	0.03	0.00
85	1275	21.25	0.3	0.054	0.149	0.048	0.005	0.05	0.00
86	1290	21.50	0.2	0.036	0.148	0.032	0.004	0.03	0.00
87	1305	21.75	0.3	0.054	0.146	0.048	0.005	0.05	0.00
88	1320	22.00	0.2	0.036	0.145	0.032	0.004	0.03	0.00
89	1335	22.25	0.3	0.054	0.143	0.048	0.005	0.05	0.00
90	1350	22.50	0.2	0.036	0.142	0.032	0.004	0.03	0.00
91	1365	22.75	0.2	0.036	0.141	0.032	0.004	0.03	0.00
92	1380	23.00	0.2	0.036	0.139	0.032	0.004	0.03	0.00
93	1395	23.25	0.2	0.036	0.138	0.032	0.004	0.03	0.00
94	1410	23.50	0.2	0.036	0.138	0.032	0.004	0.03	0.00
95	1425	23.75	0.2	0.036	0.137	0.032	0.004	0.03	0.00
96	1440	24.00	0.2	0.036	0.137	0.032	0.004	0.03	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.28
FLOOD VOLUME (acft)	1.01
FLOOD VOLUME (cuft)	44164.39
REQUIRED STORAGE (acft)	0.72
REQUIRED STORAGE (cuft)	31405.17
PEAK FLOW (cfs)	3.54

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
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BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
463.5	0	0		17610	0	0	0.00
464.5	1	1	1790	19400	18505	18505	0.42
465.5	1	2	1840	21240	20320	38825	0.89
466.5	1	3	1900	23140	22190	61015	1.40
467	0.5	3.5	970	24110	11813	72828	1.67

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.27 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.27 cfs

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JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.55	165	165	82	83	463.50	83	0.00
2	10	0.55	165	248	82	166	463.51	166	0.00
3	15	0.07	20	185	82	104	463.51	104	0.00
4	20	1.03	310	413	82	331	463.52	331	0.01
5	25	1.03	310	641	82	559	463.53	559	0.01
6	30	1.76	527	1,086	82	1,004	463.55	1,004	0.02
7	35	1.03	310	1,313	82	1,231	463.57	1,231	0.03
8	40	1.76	527	1,758	82	1,676	463.59	1,676	0.04
9	45	1.76	527	2,203	82	2,121	463.61	2,121	0.05
10	50	1.03	310	2,431	82	2,349	463.63	2,349	0.05
11	55	1.27	382	2,731	82	2,649	463.64	2,649	0.06
12	60	1.76	527	3,176	82	3,094	463.67	3,094	0.07
13	65	2.72	817	3,911	82	3,829	463.71	3,829	0.09
14	70	2.72	817	4,645	82	4,563	463.75	4,563	0.10
15	75	2.72	817	5,380	82	5,298	463.79	5,298	0.12
16	80	2.24	672	5,970	82	5,888	463.82	5,888	0.14
17	85	3.69	1,106	6,994	82	6,912	463.87	6,912	0.16
18	90	3.93	1,179	8,091	82	8,009	463.93	8,009	0.18
19	95	3.20	961	8,970	82	8,888	463.98	8,888	0.20
20	100	3.93	1,179	10,067	82	9,985	464.04	9,985	0.23
21	105	5.38	1,613	11,598	82	11,517	464.12	11,517	0.26
22	110	4.89	1,468	12,985	82	12,903	464.20	12,903	0.30
23	115	4.41	1,324	14,227	82	14,145	464.26	14,145	0.32
24	120	4.65	1,396	15,541	82	15,459	464.34	15,459	0.35
25	125	4.89	1,468	16,927	82	16,845	464.41	16,845	0.39
26	130	7.55	2,265	19,110	82	19,028	464.53	19,028	0.44
27	135	9.48	2,845	21,873	82	21,791	464.66	21,791	0.50
28	140	5.86	1,758	23,549	82	23,467	464.74	23,467	0.54
29	145	13.83	4,148	27,616	82	27,534	464.94	27,534	0.63
30	150	15.03	4,510	32,044	82	31,962	465.16	31,962	0.73
31	155	17.21	5,162	37,124	82	37,042	465.41	37,042	0.85
32	160	11.65	3,496	40,539	82	40,457	465.57	40,457	0.93
33	165	2.24	672	41,129	82	41,047	465.60	41,047	0.94
34	170	1.76	527	41,573	82	41,492	465.62	41,492	0.95
35	175	1.76	527	42,018	82	41,936	465.64	41,936	0.96
36	180	0.14	43	41,980	82	41,898	465.64	41,898	0.96

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.16	47	47	82	-	463.50	-	0.00
2	10	0.19	57	57	82	-	463.50	-	0.00
3	15	0.19	57	57	82	-	463.50	-	0.00
4	20	0.19	57	57	82	-	463.50	-	0.00
5	25	0.19	57	57	82	-	463.50	-	0.00
6	30	0.22	66	66	82	-	463.50	-	0.00
7	35	0.22	66	66	82	-	463.50	-	0.00
8	40	0.22	66	66	82	-	463.50	-	0.00
9	45	0.22	66	66	82	-	463.50	-	0.00
10	50	0.22	66	66	82	-	463.50	-	0.00
11	55	0.22	66	66	82	-	463.50	-	0.00
12	60	0.25	76	76	82	-	463.50	-	0.00
13	65	0.25	76	76	82	-	463.50	-	0.00
14	70	0.25	76	76	82	-	463.50	-	0.00
15	75	0.25	76	76	82	-	463.50	-	0.00
16	80	0.25	76	76	82	-	463.50	-	0.00
17	85	0.25	76	76	82	-	463.50	-	0.00
18	90	0.25	76	76	82	-	463.50	-	0.00
19	95	0.25	76	76	82	-	463.50	-	0.00
20	100	0.25	76	76	82	-	463.50	-	0.00
21	105	0.25	76	76	82	-	463.50	-	0.00
22	110	0.25	76	76	82	-	463.50	-	0.00
23	115	0.25	76	76	82	-	463.50	-	0.00
24	120	0.26	78	78	82	-	463.50	-	0.00
25	125	0.25	76	76	82	-	463.50	-	0.00
26	130	0.26	78	78	82	-	463.50	-	0.00
27	135	0.26	78	78	82	-	463.50	-	0.00
28	140	0.26	78	78	82	-	463.50	-	0.00
29	145	0.26	78	78	82	-	463.50	-	0.00
30	150	0.26	78	78	82	-	463.50	-	0.00
31	155	0.26	78	78	82	-	463.50	-	0.00
32	160	0.26	78	78	82	-	463.50	-	0.00
33	165	0.58	173	173	82	91	463.50	91	0.00
34	170	0.58	173	264	82	182	463.51	182	0.00
35	175	0.58	173	355	82	273	463.51	273	0.01
36	180	0.58	173	446	82	364	463.52	364	0.01
37	185	0.58	173	537	82	455	463.52	455	0.01
38	190	0.89	268	723	82	641	463.53	641	0.01
39	195	0.89	268	909	82	827	463.54	827	0.02
40	200	0.89	268	1,095	82	1,013	463.55	1,013	0.02
41	205	1.21	363	1,376	82	1,294	463.57	1,294	0.03
42	210	1.53	458	1,752	82	1,670	463.59	1,670	0.04
43	215	1.84	553	2,223	82	2,141	463.62	2,141	0.05
44	220	1.84	553	2,694	82	2,612	463.64	2,612	0.06
45	225	2.16	648	3,259	82	3,177	463.67	3,177	0.07
46	230	2.16	648	3,825	82	3,743	463.70	3,743	0.09
47	235	2.48	743	4,486	82	4,404	463.74	4,404	0.10
48	240	2.48	743	5,147	82	5,065	463.77	5,065	0.12
49	245	2.79	838	5,903	82	5,821	463.81	5,821	0.13
50	250	3.11	933	6,754	82	6,672	463.86	6,672	0.15
51	255	3.43	1,028	7,699	82	7,617	463.91	7,617	0.17
52	260	3.74	1,123	8,740	82	8,658	463.97	8,658	0.20
53	265	4.06	1,218	9,876	82	9,794	464.03	9,794	0.22
54	270	4.06	1,218	11,012	82	10,930	464.09	10,930	0.25
55	275	4.38	1,313	12,242	82	12,160	464.16	12,160	0.28

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	4.69	1,408	13,568	82	13,486	464.23	13,486	0.31
57	285	5.01	1,503	14,989	82	14,907	464.31	14,907	0.34
58	290	5.01	1,503	16,409	82	16,327	464.38	16,327	0.37
59	295	5.33	1,598	17,925	82	17,843	464.46	17,843	0.41
60	300	5.64	1,693	19,536	82	19,454	464.55	19,454	0.45
61	305	7.22	2,167	21,621	82	21,539	464.65	21,539	0.49
62	310	8.81	2,642	24,181	82	24,100	464.78	24,100	0.55
63	315	9.76	2,927	27,027	82	26,945	464.92	26,945	0.62
64	320	10.71	3,212	30,157	82	30,075	465.07	30,075	0.69
65	325	12.29	3,687	33,762	82	33,680	465.25	33,680	0.77
66	330	15.14	4,542	38,222	82	38,140	465.47	38,140	0.88
67	335	3.43	1,028	39,168	82	39,086	465.51	39,086	0.90
68	340	0.26	78	39,164	82	39,082	465.51	39,082	0.90
69	345	0.19	57	39,139	82	39,057	465.51	39,057	0.90
70	350	0.16	47	39,104	82	39,022	465.51	39,022	0.90
71	355	0.09	28	39,051	82	38,969	465.51	38,969	0.89
72	360	0.06	19	38,988	82	38,906	465.50	38,906	0.89

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.03	31	31	246	-	463.50	-	0.00
2	30	0.05	46	46	246	-	463.50	-	0.00
3	45	0.05	46	46	246	-	463.50	-	0.00
4	60	0.07	61	61	246	-	463.50	-	0.00
5	75	0.05	46	46	246	-	463.50	-	0.00
6	90	0.05	46	46	246	-	463.50	-	0.00
7	105	0.05	46	46	246	-	463.50	-	0.00
8	120	0.07	61	61	246	-	463.50	-	0.00
9	135	0.07	61	61	246	-	463.50	-	0.00
10	150	0.07	61	61	246	-	463.50	-	0.00
11	165	0.08	76	76	246	-	463.50	-	0.00
12	180	0.08	76	76	246	-	463.50	-	0.00
13	195	0.08	76	76	246	-	463.50	-	0.00
14	210	0.08	76	76	246	-	463.50	-	0.00
15	225	0.08	76	76	246	-	463.50	-	0.00
16	240	0.10	92	92	246	-	463.50	-	0.00
17	255	0.10	92	92	246	-	463.50	-	0.00
18	270	0.12	107	107	246	-	463.50	-	0.00
19	285	0.12	107	107	246	-	463.50	-	0.00
20	300	0.14	122	122	246	-	463.50	-	0.00
21	315	0.10	92	92	246	-	463.50	-	0.00
22	330	0.12	107	107	246	-	463.50	-	0.00
23	345	0.14	122	122	246	-	463.50	-	0.00
24	360	0.14	122	122	246	-	463.50	-	0.00
25	375	0.15	137	137	246	-	463.50	-	0.00
26	390	0.15	137	137	246	-	463.50	-	0.00
27	405	0.17	153	153	246	-	463.50	-	0.00
28	420	0.17	153	153	246	-	463.50	-	0.00
29	435	0.17	153	153	246	-	463.50	-	0.00
30	450	0.19	168	168	246	-	463.50	-	0.00
31	465	0.20	183	183	246	-	463.50	-	0.00
32	480	0.22	199	199	246	-	463.50	-	0.00
33	495	0.25	229	229	246	-	463.50	-	0.00
34	510	0.25	229	229	246	-	463.50	-	0.00
35	525	0.27	244	244	246	-	463.50	-	0.00
36	540	0.29	260	260	246	14	463.50	14	0.00
37	555	0.35	319	333	246	87	463.50	87	0.00
38	570	0.57	509	596	246	351	463.52	351	0.01
39	585	0.78	698	1,049	246	803	463.54	803	0.02
40	600	0.99	887	1,689	246	1,444	463.58	1,444	0.03
41	615	0.25	229	1,673	246	1,427	463.58	1,427	0.03
42	630	0.25	229	1,656	246	1,410	463.58	1,410	0.03
43	645	0.76	687	2,098	246	1,852	463.60	1,852	0.04
44	660	0.80	722	2,574	246	2,328	463.63	2,328	0.05
45	675	0.67	604	2,932	246	2,686	463.65	2,686	0.06
46	690	0.71	637	3,323	246	3,077	463.67	3,077	0.07
47	705	0.41	366	3,443	246	3,197	463.67	3,197	0.07
48	720	0.61	551	3,749	246	3,503	463.69	3,503	0.08
49	735	1.84	1,653	5,156	246	4,910	463.77	4,910	0.11
50	750	2.04	1,838	6,749	246	6,503	463.85	6,503	0.15
51	765	2.42	2,176	8,679	246	8,433	463.96	8,433	0.19
52	780	2.62	2,360	10,793	246	10,547	464.07	10,547	0.24
53	795	3.51	3,155	13,703	246	13,457	464.23	13,457	0.31
54	810	3.54	3,186	16,643	246	16,397	464.39	16,397	0.38
55	825	1.71	1,537	17,933	246	17,688	464.46	17,688	0.41
56	840	1.74	1,567	19,254	246	19,008	464.52	19,008	0.44
57	855	2.45	2,207	21,216	246	20,970	464.62	20,970	0.48
58	870	2.32	2,084	23,054	246	22,808	464.71	22,808	0.52

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	2.35	2,113	24,920	246	24,674	464.80	24,674	0.57
60	900	2.21	1,988	26,663	246	26,417	464.89	26,417	0.61
61	915	2.07	1,864	28,280	246	28,035	464.97	28,035	0.64
62	930	1.93	1,738	29,773	246	29,527	465.04	29,527	0.68
63	945	1.28	1,155	30,682	246	30,436	465.09	30,436	0.70
64	960	1.31	1,181	31,618	246	31,372	465.13	31,372	0.72
65	975	0.07	61	31,433	246	31,187	465.12	31,187	0.72
66	990	0.07	61	31,248	246	31,002	465.12	31,002	0.71
67	1005	0.05	46	31,048	246	30,802	465.11	30,802	0.71
68	1020	0.05	46	30,848	246	30,602	465.10	30,602	0.70
69	1035	0.08	76	30,679	246	30,433	465.09	30,433	0.70
70	1050	0.08	76	30,509	246	30,263	465.08	30,263	0.69
71	1065	0.08	76	30,340	246	30,094	465.07	30,094	0.69
72	1080	0.07	61	30,155	246	29,909	465.06	29,909	0.69
73	1095	0.07	61	29,970	246	29,724	465.05	29,724	0.68
74	1110	0.07	61	29,786	246	29,540	465.04	29,540	0.68
75	1125	0.05	46	29,586	246	29,340	465.03	29,340	0.67
76	1140	0.03	31	29,370	246	29,125	465.02	29,125	0.67
77	1155	0.05	46	29,170	246	28,925	465.01	28,925	0.66
78	1170	0.07	61	28,986	246	28,740	465.00	28,740	0.66
79	1185	0.05	46	28,786	246	28,540	464.99	28,540	0.66
80	1200	0.03	31	28,570	246	28,325	464.98	28,325	0.65
81	1215	0.05	46	28,370	246	28,125	464.97	28,125	0.65
82	1230	0.05	46	28,170	246	27,925	464.96	27,925	0.64
83	1245	0.05	46	27,970	246	27,725	464.95	27,725	0.64
84	1260	0.03	31	27,755	246	27,509	464.94	27,509	0.63
85	1275	0.05	46	27,555	246	27,309	464.93	27,309	0.63
86	1290	0.03	31	27,340	246	27,094	464.92	27,094	0.62
87	1305	0.05	46	27,140	246	26,894	464.91	26,894	0.62
88	1320	0.03	31	26,925	246	26,679	464.90	26,679	0.61
89	1335	0.05	46	26,725	246	26,479	464.89	26,479	0.61
90	1350	0.03	31	26,509	246	26,264	464.88	26,264	0.60
91	1365	0.03	31	26,294	246	26,048	464.87	26,048	0.60
92	1380	0.03	31	26,079	246	25,833	464.86	25,833	0.59
93	1395	0.03	31	25,864	246	25,618	464.85	25,618	0.59
94	1410	0.03	31	25,648	246	25,402	464.84	25,402	0.58
95	1425	0.03	31	25,433	246	25,187	464.83	25,187	0.58
96	1440	0.03	31	25,218	246	24,972	464.82	24,972	0.57

IV STREET FLOWRATE CAPACITY

On-site street curb and gutter systems will be designed to convey runoff to the on-site retention basin systems via surface flow. The project site will be designed to ensure that surface runoff generated during the 100 year storm event can be contained within the street right of way per City of Coachella drainage standards

In terms of on-site drainage, the site is divided into 4 separate quadrants, each draining to a separate surface retention basin. Within each quadrant, the maximum tributary area contributing runoff to any single street is 5 acres. Rational method calculations based on the 100 year design storm for 5 acres drainage area are provided in this section to quantify the maximum flowrate (Q) that must be conveyed by any on-site interior street. Manning's equation for open channel flow has then been used to show that the 100 year maximum flowrate (Q) can be contained within the street section right of way.

Q(100) MAX. = 10.92 CFS

MAX. STREET CAPACITY = 13.86 CFS

```
                Riverside County Rational Hydrology Program

     CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version
7.1
          Rational Hydrology Study        Date: 09/25/24
File:CALHOUN100STREET.out
     ---------------------------------------------------------------
------
     CALHOUN 100 YEAR - 5 ACRE STUDY


     ---------------------------------------------------------------
------
      *********   Hydrology Study Control Information **********

      English (in-lb) Units used in input data file

     ---------------------------------------------------------------
------


     Program License Serial Number 6253

     ---------------------------------------------------------------
------
     Rational Method Hydrology Program based on
     Riverside County Flood Control & Water Conservation District
     1978 hydrology manual

     Storm event (year) =  100.00 Antecedent Moisture Condition = 2

     2 year, 1 hour precipitation =  0.350(In.)
     100 year, 1 hour precipitation =  1.330(In.)

     Storm event year = 100.0
     Calculated rainfall intensity data:
     1 hour intensity =  1.330(In/Hr)
     Slope of intensity duration curve = 0.5900




     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
     Process from Point/Station      100.000 to Point/Station
200.000
     **** INITIAL AREA EVALUATION ****
     ____________________________________________________________
____
     Initial area flow distance =  1000.000(Ft.)
     Top (of initial area) elevation =   450.000(Ft.)
     Bottom (of initial area) elevation =   446.500(Ft.)
     Difference in elevation =     3.500(Ft.)
     Slope =    0.00350  s(percent)=       0.35
     TC = k(0.370)*[(length^3)/(elevation change)]^0.2
     Initial area time of concentration =   18.171 min.
     Rainfall intensity =      2.691(In/Hr) for a   100.0 year storm
```

```
CONDOMINIUM subarea type
Runoff Coefficient = 0.812
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =     10.922(CFS)
Total initial stream area =        5.000(Ac.)
Pervious area fraction = 0.350
End of computations, total study area =            5.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.350
Area averaged RI index number =  56.0
```

100 YEAR STREET CAPACITY

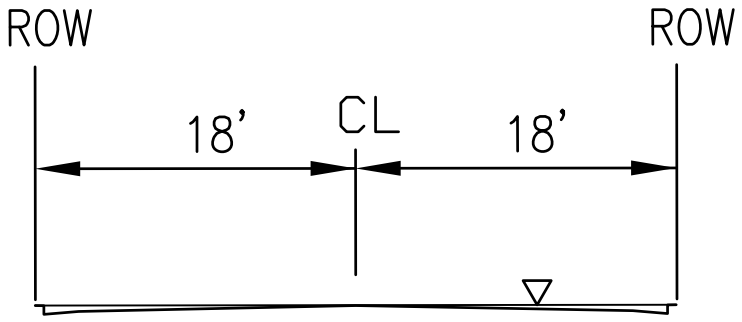
WITHIN PROJECT HALF STREET (NO CURB GUTTER AND SIDEWALK IMPROVEMENTS ON NON-PROJECT SIDE)

n=0.016

S=0.0035

R=A/P= 0.196

$Q=(1.49/n)AR^{2/3}S^{1/2}$ = 13.86cfs



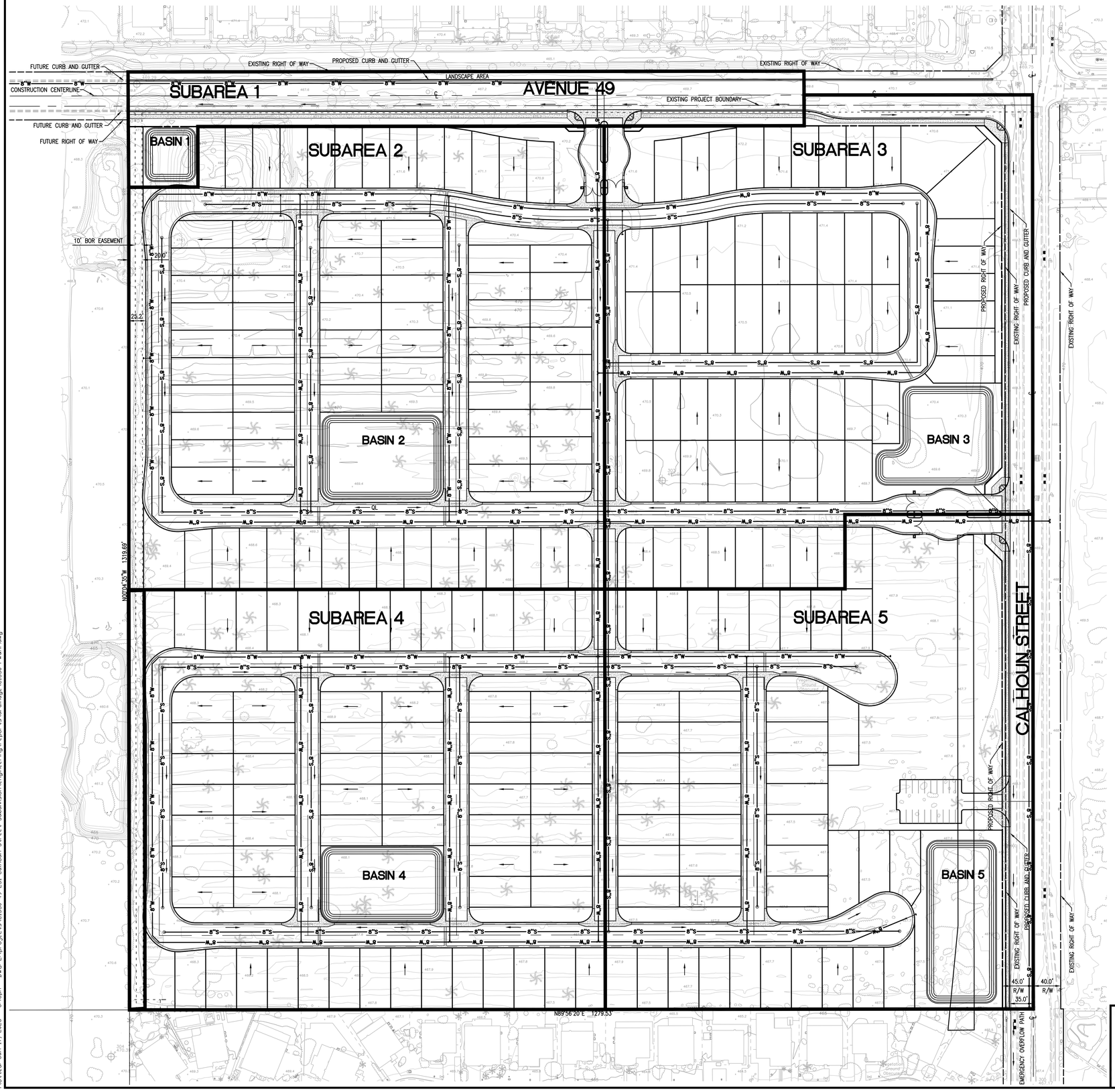
WETTED PERIMETER (P)=38.02

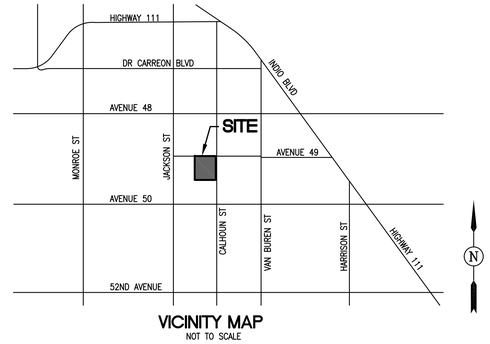
CROSS SECTION AREA (A)=7.46

V APPENDIX

PRELIMINARY HYDROLOGY/WATER QUALITY MANAGEMENT MAP

IN THE CITY OF COACHELLA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA





VICINITY MAP
NOT TO SCALE

LEGEND

SUBAREA BOUNDARY

DIRECTIONAL DRAINAGE ARROWS

NOAA POINT RAINFALL DATA

2 YEAR – 1 HR = 0.35 IN.
10 YEAR – 1 HR = 0.70 IN. 100 YEAR – 1 HR = 1.37 IN.
10 YEAR – 3 HR = 1.04 IN. 100 YEAR – 3 HR = 2.12 IN.
10 YEAR – 6 HR = 1.36 IN. 100 YEAR – 6 HR = 2.78 IN.
10 YEAR – 24 HR = 2.23 IN. 100 YEAR – 24 HR = 4.47 IN.

INFILTRATION RATE

DESIGN INFILTRATION RATE = 0.67 IN/HR

HYDROLOGIC SOIL GROUP

HYDROLOGIC SOIL GROUP "B"

SITE DATA

PROJECT SITE AREA: 38.8 AC.
PROJECT SITE & OFFSITE IMPROVEMENT AREA: 42.50 AC.

SUBAREA 1

AREA: 2.01 AC.

EXISTING IMPERVIOUS AREA: 0.0 AC. = 0.0%
EXISTING PERVIOUS AREA: 2.01 AC. = 100%

PROPOSED IMPERVIOUS AREA: 1.18 AC. = 59%
PROPOSED PERVIOUS AREA: 0.83 AC. = 41%

RETENTION VOLUME REQUIRED = 9,580 C.F.
RETENTION VOLUME PROVIDED = 12,250 C.F.

100 YR STORED W.S. DEPTH = 2.45'
10 YR STORED W.S. DEPTH = 0.72'

SUBAREA 2

AREA: 10.57 AC.

EXISTING IMPERVIOUS AREA: 0.0 AC. = 0.0%
EXISTING PERVIOUS AREA: 9.36 AC. = 100%

PROPOSED IMPERVIOUS AREA: 7.36 AC. = 70%
PROPOSED PERVIOUS AREA: 3.21 AC. = 30%

RETENTION VOLUME REQUIRED = 57,661 C.F.
RETENTION VOLUME PROVIDED = 64,193 C.F.

100 YR STORED W.S. DEPTH = 3.19'
10 YR STORED W.S. DEPTH = 0.99'

SUBAREA 3

AREA: 9.36 AC.

EXISTING IMPERVIOUS AREA: 0.34 AC. = 4%
EXISTING PERVIOUS AREA: 9.02 AC. = 96%

PROPOSED IMPERVIOUS AREA: 6.88 AC. = 74%
PROPOSED PERVIOUS AREA: 2.48 AC. = 26%

RETENTION VOLUME REQUIRED = 53,709 C.F.
RETENTION VOLUME PROVIDED = 62,528 C.F.

100 YR STORED W.S. DEPTH = 3.07'
10 YR STORED W.S. DEPTH = 0.94'

SUBAREA 4

AREA: 9.79 AC.

EXISTING IMPERVIOUS AREA: 0.0 AC. = 0.0%
EXISTING PERVIOUS AREA: 9.79 AC. = 100%

PROPOSED IMPERVIOUS AREA: 6.59 AC. = 67%
PROPOSED PERVIOUS AREA: 3.20 AC. = 33%

RETENTION VOLUME REQUIRED = 51,654 C.F.
RETENTION VOLUME PROVIDED = 57,236 C.F.

100 YR STORED W.S. DEPTH = 3.20'
10 YR STORED W.S. DEPTH = 0.99'

SUBAREA 5

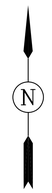
AREA: 9.49 AC.

EXISTING IMPERVIOUS AREA: 0.53 AC. = 6%
EXISTING PERVIOUS AREA: 8.96 AC. = 94%

PROPOSED IMPERVIOUS AREA: 5.01 AC. = 53%
PROPOSED PERVIOUS AREA: 4.48 AC. = 47%

RETENTION VOLUME REQUIRED = 41,999 C.F.
RETENTION VOLUME PROVIDED = 72,828 C.F.

100 YR STORED W.S. DEPTH = 2.14'
10 YR STORED W.S. DEPTH = 0.54'



GRAPHIC SCALE
SCALE 1"=60'
0 30 60 120 180 240

PREPARED BY:
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ENGINEERING | PLANNING | SURVEY | ENVIRONMENTAL

CITY OF COACHELLA, CALIFORNIA

PRELIMINARY HYDROLOGY/
WATER QUALITY MANAGEMENT PLAN

FOR: CALHOUN STREET SUBDIVISION

SHEET NO.

Plotted: Jan 17, 2025 - 3:43pm DWG: L:\projects\C1530 49-251 Calhoun Street Subdivision\engineering\reports\drainage\C1530 PWQMP.dwg

NOAA Atlas 14, Volume 6, Version 2
Location name: Coachella, California, USA*
Latitude: 33.6909°, Longitude: -116.2099°
Elevation: -31 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.064** (0.053-0.077)	**0.100** (0.083-0.121)	**0.152** (0.126-0.184)	**0.198** (0.163-0.242)	**0.266** (0.212-0.338)	**0.325** (0.253-0.421)	**0.390** (0.297-0.518)	**0.464** (0.343-0.634)	**0.576** (0.408-0.821)	**0.674** (0.461-0.997)
10-min	**0.092** (0.076-0.111)	**0.143** (0.119-0.173)	**0.217** (0.181-0.264)	**0.283** (0.233-0.347)	**0.382** (0.304-0.484)	**0.466** (0.363-0.604)	**0.559** (0.425-0.743)	**0.665** (0.491-0.909)	**0.825** (0.584-1.18)	**0.967** (0.661-1.43)
15-min	**0.111** (0.092-0.134)	**0.173** (0.144-0.210)	**0.263** (0.218-0.319)	**0.343** (0.282-0.420)	**0.462** (0.368-0.586)	**0.564** (0.439-0.730)	**0.676** (0.514-0.899)	**0.804** (0.594-1.10)	**0.998** (0.706-1.42)	**1.17** (0.799-1.73)
30-min	**0.160** (0.134-0.194)	**0.251** (0.209-0.304)	**0.381** (0.316-0.463)	**0.496** (0.409-0.608)	**0.669** (0.533-0.848)	**0.816** (0.636-1.06)	**0.979** (0.745-1.30)	**1.16** (0.860-1.59)	**1.44** (1.02-2.06)	**1.69** (1.16-2.50)
60-min	**0.225** (0.188-0.272)	**0.352** (0.293-0.426)	**0.534** (0.444-0.649)	**0.696** (0.573-0.853)	**0.938** (0.747-1.19)	**1.14** (0.892-1.48)	**1.37** (1.04-1.83)	**1.63** (1.21-2.23)	**2.03** (1.44-2.89)	**2.38** (1.62-3.51)
2-hr	**0.311** (0.260-0.377)	**0.462** (0.385-0.560)	**0.687** (0.571-0.835)	**0.891** (0.734-1.09)	**1.21** (0.961-1.53)	**1.48** (1.15-1.92)	**1.79** (1.36-2.38)	**2.14** (1.58-2.93)	**2.69** (1.90-3.83)	**3.17** (2.17-4.68)
3-hr	**0.375** (0.313-0.454)	**0.547** (0.456-0.663)	**0.806** (0.669-0.979)	**1.04** (0.861-1.28)	**1.42** (1.13-1.80)	**1.74** (1.36-2.26)	**2.12** (1.61-2.82)	**2.55** (1.88-3.49)	**3.22** (2.28-4.60)	**3.82** (2.61-5.65)
6-hr	**0.495** (0.413-0.599)	**0.715** (0.596-0.866)	**1.05** (0.871-1.27)	**1.36** (1.12-1.66)	**1.84** (1.47-2.34)	**2.28** (1.78-2.95)	**2.78** (2.11-3.69)	**3.36** (2.48-4.59)	**4.27** (3.02-6.08)	**5.08** (3.47-7.51)
12-hr	**0.598** (0.499-0.724)	**0.883** (0.736-1.07)	**1.31** (1.09-1.59)	**1.70** (1.40-2.09)	**2.31** (1.84-2.93)	**2.85** (2.22-3.69)	**3.46** (2.63-4.60)	**4.17** (3.08-5.70)	**5.27** (3.73-7.52)	**6.25** (4.27-9.23)
24-hr	**0.751** (0.665-0.866)	**1.14** (1.01-1.32)	**1.72** (1.51-1.98)	**2.23** (1.95-2.60)	**3.02** (2.56-3.64)	**3.71** (3.08-4.56)	**4.47** (3.63-5.63)	**5.34** (4.22-6.91)	**6.67** (5.06-8.97)	**7.83** (5.75-10.9)
2-day	**0.871** (0.770-1.00)	**1.34** (1.18-1.55)	**2.02** (1.78-2.34)	**2.63** (2.30-3.06)	**3.53** (2.99-4.26)	**4.30** (3.57-5.29)	**5.15** (4.18-6.48)	**6.10** (4.82-7.89)	**7.53** (5.71-10.1)	**8.74** (6.42-12.2)
3-day	**0.933** (0.825-1.08)	**1.44** (1.28-1.67)	**2.18** (1.92-2.52)	**2.82** (2.47-3.30)	**3.79** (3.21-4.56)	**4.60** (3.82-5.65)	**5.49** (4.46-6.91)	**6.49** (5.12-8.38)	**7.96** (6.04-10.7)	**9.21** (6.76-12.8)
4-day	**0.983** (0.870-1.13)	**1.52** (1.34-1.76)	**2.29** (2.02-2.65)	**2.97** (2.60-3.47)	**3.98** (3.37-4.79)	**4.82** (4.01-5.93)	**5.75** (4.66-7.23)	**6.78** (5.35-8.75)	**8.29** (6.29-11.2)	**9.58** (7.03-13.3)
7-day	**1.04** (0.923-1.20)	**1.61** (1.42-1.86)	**2.41** (2.12-2.79)	**3.12** (2.73-3.64)	**4.16** (3.52-5.01)	**5.03** (4.18-6.18)	**5.98** (4.85-7.52)	**7.03** (5.55-9.08)	**8.57** (6.50-11.5)	**9.88** (7.25-13.7)
10-day	**1.08** (0.955-1.24)	**1.66** (1.47-1.92)	**2.48** (2.19-2.87)	**3.21** (2.80-3.74)	**4.27** (3.62-5.14)	**5.16** (4.29-6.34)	**6.13** (4.97-7.71)	**7.19** (5.68-9.30)	**8.76** (6.65-11.8)	**10.1** (7.40-14.0)
20-day	**1.15** (1.02-1.33)	**1.78** (1.58-2.06)	**2.68** (2.36-3.10)	**3.46** (3.03-4.04)	**4.61** (3.91-5.55)	**5.56** (4.62-6.84)	**6.60** (5.35-8.30)	**7.73** (6.10-9.99)	**9.38** (7.12-12.6)	**10.8** (7.90-15.0)
30-day	**1.20** (1.06-1.38)	**1.88** (1.66-2.17)	**2.86** (2.52-3.31)	**3.71** (3.25-4.33)	**4.97** (4.21-5.98)	**6.00** (4.98-7.38)	**7.12** (5.77-8.95)	**8.33** (6.58-10.8)	**10.1** (7.66-13.6)	**11.5** (8.47-16.0)
45-day	**1.30** (1.15-1.49)	**2.07** (1.83-2.39)	**3.18** (2.80-3.68)	**4.14** (3.62-4.83)	**5.56** (4.72-6.70)	**6.74** (5.60-8.28)	**8.00** (6.49-10.1)	**9.36** (7.39-12.1)	**11.3** (8.59-15.2)	**12.9** (9.50-18.0)
60-day	**1.36** (1.21-1.57)	**2.21** (1.95-2.55)	**3.42** (3.01-3.96)	**4.48** (3.92-5.22)	**6.03** (5.11-7.26)	**7.31** (6.07-8.98)	**8.68** (7.04-10.9)	**10.2** (8.03-13.1)	**12.3** (9.33-16.5)	**14.0** (10.3-19.5)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

Appendix E
Calhoun Street Housing Development Preliminary Water Quality Management Plan

Project Specific
Preliminary Water Quality Management Plan

Calhoun Street Subdivision
49-251 Calhoun Street Subdivision

DEVELOPMENT NO. **ASSESSOR'S PARCEL NO. 612-260-010**
DESIGN REVIEW NO. **CUP #**

Prepared for:

Rod Vandenburg
43-584 Via Magellan Drive
Palm Desert, CA 92201
Telephone: (760) 799-8227

Prepared by:

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1/17/26

James Bazua
RCE 58394

Date
Exp. 12/31/26

REGISTERED PROFESSIONAL ENGINEER
JAMES RON BAZUA
No 58394
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA

Original Date Prepared: January 17, 2025

Revision Date(s):

OWNER'S CERTIFICATION

This project-specific Preliminary Water Quality Management Plan (WQMP) has been prepared for:

Rod Vandenburg by **The Altum Group** for the project known as **Calhoun Street Subdivision** at **49-251 Calhoun Street, Coachella, CA 92236.**

.

This Preliminary WQMP is intended to comply with the requirements of The City of Coachella for **ASSESSOR'S PARCEL NUMBERS: 612-260-010** which includes the requirement for the preparation and implementation of a project-specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation of the WQMP and will ensure that the WQMP is amended as appropriate to reflect up-to-date conditions on the site. This Preliminary WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of the WQMP. At least one copy of the Final WQMP will be maintained at the project site or project office in perpetuity.

The undersigned is authorized to certify and to approve implementation of the Final WQMP. The undersigned is aware that implementation of the WQMP is enforceable under The City of Coachella Water Quality Ordinance (City of Coachella Ordinance 1057, Section 5 Chapter 13.6).

If the undersigned transfers its interest in the subject property/project, the undersigned shall notify the successor in interest of its responsibility to implement the WQMP.

"I, the undersigned, certify under penalty of law that I am the owner of the property that is the subject of the WQMP, and that the provisions of the WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

_____
Owner's Signature

_____
Owner's Printed Name

Owner
Rod Vandenburg
Owner's Title/Position

_____
Date

43-584 Via Magellan Drive
Palm Desert, CA 92201
(760) 799-8227

ATTEST

_____
Notary Signature

_____
Printed Name

_____
Title/Position

_____
Date

THIS FORM SHALL BE NOTARIZED BEFORE ACCEPTANCE OF THE FINAL PROJECT SPECIFIC WQMP

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APPENDICES

A. Conditions of Approval
B. Vicinity Map, WQMP Site Plan, and Receiving Waters Map
C. Supporting Detail Related to Hydrologic Conditions of Concern (If Applicable)
D. Educational Materials
E. Soils Report (if applicable)
F. Structural BMP and/or Retention Facility Sizing Calculations and Design Details
G. Agreements – CC&Rs, Covenant and Agreements, BMP Maintenance Agreements and/or Other Mechanisms for ensuring ongoing Operation, Maintenance, Funding and Transfer of Requirements for this project-specific WQMP
H. Phase 1 Environmental Site Assessment – Summary of Site Remediation Conducted and Use Restrictions
I. Project-Specific WQMP Summary Data Form

I. Project Description

Project Owner: **Pacific Coast Properties**
43-584 Via Magellan Drive
Palm Desert, CA 92201
Telephone: **(760) 799-8227**
Ron Vandenburg - Owner

WQMP Preparer:

James R. Bazua, PE

44-600 Village Court Suite 100
Palm Desert, CA 92260
Telephone: (760) 346 – 4750
james.bazua@thealtumgroup.com

_____

James Bazua — Date

RCE 58394 — Exp. 12/31/26

Project Site Address:	**49-251 Calhoun Street** **Coachella, CA 92236**
Planning Area/ Community Name/ Development Name:	**General Neighborhood**
APN Number(s):	**612-260-010**
Latitude & Longitude:	**33.6915, -116.2099**
Receiving Water:	**Coachella Valley Stormwater Channel**
Project Site Size:	**39.98 acres**

Standard Industrial Classification (SIC) Code: **6552 Land Subdividers and Developers**

Formation of Home Owners' Association (HOA) or Property Owners Association (POA): Y ☐ N ☒

Additional Permits/Approvals required for the Project:

AGENCY	Permit required
State Department of Fish and Wildlife, Fish and Game Code §1602 Streambed Alteration Agreement	Y ☐ N☒
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Certification	Y ☐ N☒
US Army Corps of Engineers, CWA Section 404 permit	Y ☐ N☒
US Fish and Wildlife, Endangered Species Act Section 7 biological opinion	Y ☐ N☒
Statewide Construction General Permit Coverage	Y ☒ N☐
Statewide Industrial General Permit Coverage	Y ☐ N☒
South Coast Air Quality Management District – PM10 Approval to comply with Rule 403	Y ☒ N☐
Other: City of Coachella Grading Permit and Building Permit	Y ☒ N☐

Project Description

The proposed Calhoun Street Subdivision (Project) is located at 49-251 Calhoun Street, at Calhoun Street & Avenue 49, Coachella, CA 92236. The Accessor's Parcel Number is 612-260-010. The total Project area is 39.98 acres and is vacant under the existing condition. Proposed improvements will consist of the construction of a 257-lot residential subdivision that will disturb 100% of the existing vacant land. Included in project construction activities are clearing and grubbing, rough and precise grading, construction of roadways, buildings for each lot, landscaping areas, and a 1.96 acre park on the east side of the project along Calhoun Street.

Under post development conditions, storm runoff generated on-site will surface flow via local surface streets toward on-site retention basin collection systems. The on-site retention basin systems are designed to store 100% of runoff generated during the worst case 100-year design storm event.

Flows exceeding the storage capacity of the on-site retention basin systems in an emergency overflow condition will exit the project and flow onto Calhoun Street, then follow a northerly direction, toward Avenue 48, where it will continue east until entering the existing MS4 storm drain inlet facility on Van Buren Street, then continues underground toward the east (approximately 1 mile) until it empties into the Coachella Valley Storm Channel.

Appendix A of the project-specific Final WQMP will include a complete copy of the Conditions of Approval. Appendix B of this project-specific Preliminary WQMP includes:

a. A Vicinity Map identifying the project site and surrounding planning areas in sufficient detail; and

b. A Site Plan for the project. The Site Plan included as part of Appendix B depicts the following project features:

- Location and identification of all structural BMPs, including Source Control, LID/Site Design and Treatment Control BMPs.
- Landscaped areas.
- Paved areas and intended uses (i.e., parking, outdoor work area, outdoor material storage area, sidewalks, patios, tennis courts, etc.).
- Number and type of structures and intended uses (i.e., buildings, tenant spaces, dwelling units, community facilities such as pools, recreation facilities, tot lots, etc.).
- Infrastructure (i.e., streets, storm drains, etc.) that will revert to public agency ownership and operation.
- Location of existing and proposed public and private storm drainage facilities (i.e., storm drains, channels, basins, etc.), including catch basins and other inlets/outlet structures. Existing and proposed drainage facilities should be clearly differentiated.
- Location(s) of Receiving Waters to which the project directly or indirectly discharges.
- Location of points where onsite (or tributary offsite) flows exit the property/project site.
- Delineation of proposed drainage area boundaries, including tributary offsite areas, for each location where flows exit the project site and existing site (where existing site flows are required to be addressed). Each tributary area should be clearly denoted.

- Pre- and post-project topography.

Appendix I is a one-page form that summarizes pertinent information relative to the project-specific WQMP.

II. Site Characterization

Land Use Designation or Zoning: **General Neighborhood**

Current Property Use: **Vacant Land**

Proposed Property Use: **General Neighborhood – Residential Subdivision**

Availability of Soils Report: Y ☐ N ☒ *Note: A soils report is required if infiltration BMPs are utilized. Report will be included with Final WQMP Appendix E.*

Phase 1 Site Assessment: Y ☒ N ☐ *Note: If prepared, attached remediation summary and use restrictions in Appendix H.*

Receiving Waters for Urban Runoff from Site

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use Designated Receiving Waters
Coachella Valley Stormwater Channel	DDT, Dieldrin, Pathogens, Toxaphene, Toxicity, Total Ammonia	FRSH, REC 1, REC 2, WARM, WILD, RARE	Designated as RARE (18.0 miles)

III. Pollutants of Concern

Table 1. Pollutant of Concern Summary

Pollutant Category	Potential for Project and/or Existing Site	Causing Receiving Water Impairment
Bacteria/Virus	YES	YES
Heavy Metals	YES	NO
Nutrients	YES	NO
Toxic Organic Compounds	YES	YES
Sediment/Turbidity	YES	NO
Trash & Debris	YES	NO
Oil & Grease	YES	NO
Toxaphene	NO	YES

1) Pathogens are disease causing virus or bacteria. Pathogens are an impairment in the Coachella Valley Storm Water Channel from Dillon Road to the Salton Sea.

2) Toxaphene is an insecticide which was banned from use in the United States in 1990. Therefore, it is not a potential for the project but is currently a receiving water impairment.

3) Petroleum hydrocarbons are one of the most common organic compounds associated with street and parking lots and is a potential pollutant for the site. See Section V.2 for a description of appropriate Source Control BMPs.

4) Oil and Grease associated with landscaping and onsite operations are potential pollutants for the development. See Section V.2 for a description of appropriate Source Control BMP's.

5) PCBs, Dieldrin, and DDT are banned substances in the US.

IV. Hydrologic Conditions of Concern

Local Jurisdiction Requires On-Site Retention of Urban Runoff:

Yes ☒ The project will be required to retain urban runoff onsite in conformance with local ordinance (See Table 6 of the WQMP Guidance document, "Local Land use Authorities Requiring Onsite Retention of Stormwater"). This section does not need to be completed; however, retention facility design details and sizing calculations must be included in Appendix F.

No ☐ This section must be completed.

This Project meets the following condition:

☐ **Condition A**: 1) Runoff from the Project is discharged directly to a publicly-owned, operated and maintained MS4 or engineered and maintained channel, 2) the discharge is in full compliance with local land use authority requirements for connections and discharges to the MS4 (including both quality and quantity requirements), 3) the discharge would not significantly impact stream habitat in proximate Receiving Waters, **and** 4) the discharge is authorized by the local land use authority.

☐ **Condition B**: The project disturbs less than 1 acre and is not part of a larger common plan of development that exceeds 1 acre of disturbance. The disturbed area calculation must include all disturbances associated with larger plans of development.

☐ **Condition C**: The project's runoff flow rate, volume, velocity and duration for the post-development condition do not exceed the pre-development condition for the 2-year, 24-hour and 10-year 24-hour rainfall events. This condition can be achieved by, where applicable, complying with the local land use authority's on-site retention ordinance, or minimizing impervious area on a site and incorporating other Site-Design BMP concepts and LID/Site Design BMPs that assure non-exceedance of pre-development conditions. This condition must be substantiated by hydrologic modeling methods acceptable to the local land use authority.

☐ **None:** Refer to Section 3.4 of the Whitewater River Region WQMP Guidance document for additional requirements.

Supporting engineering studies, calculations, and reports are included in Appendix C.

	2 year – 24 hour		10 year – 24 hour	
	Precondition	**Post-condition**	**Precondition**	**Post-condition**
Discharge (cfs)				
Velocity (fps)				
Volume (cubic feet)				
Duration (minutes)				

V. Best Management Practices

This project implements Best Management Practices (BMPs) to address the Pollutants of Concern that may potentially be generated from the use of the project site. These BMPs have been selected and implemented to comply with Section 3.5 of the WQMP Guidance document, and consist of Site Design BMP concepts, Source Control, LID/Site Design and, if/where necessary, Treatment Control BMPs as described herein.

V.1 Site Design BMP Concepts, LID/Site Design and Treatment Control BMPs

Local Jurisdiction Requires On-Site Retention of Urban Runoff:

Yes ☒ The project will be required to retain Urban Runoff onsite in conformance with local ordinance (See Table 6 of the WQMP Guidance document, "Local Land use Authorities Requiring Onsite Retention of Stormwater). **The LID/Site Design measurable goal has thus been met (100%), and Sections V.1.A and V.1.B do not need to be completed**; however, retention facility design details and sizing calculations must be included in Appendix F, and '100%' should be entered into Column 3 of Table 6 below.

No ☐ Section V.1 must be completed.

This section of the Project-Specific WQMP documents the LID/Site Design BMPs and, if/where necessary, the Treatment Control BMPs that will be implemented on the project to meet the requirements detailed within Section 3.5.1 of the WQMP Guidance document. Section 3.5.1 includes requirements to implement Site Design Concepts and BMPs, and includes requirements to address Pollutants of Concern with BMPs. Further, sub-section 3.5.1.1 specifically requires that Pollutants of Concern be addressed with LID/Site Design BMPs to the extent feasible.

LID/Site Design BMPs are those BMPs listed within Table 2 below which promote retention and/or feature a natural treatment mechanism; off-site and regionally-based BMPs are also LID/Site Design BMPs, and therefore count towards the measurable goal, if they fit these criteria. This project incorporates LID/Site Design BMPs to fully address the Treatment Control BMP requirement where and to the extent feasible. If and where it has been acceptably demonstrated to the local land use authority that it is infeasible to fully meet this requirement with LID/Site Design BMPs, Section V.1.B (below) includes a description of the conventional Treatment Control BMPs that will be substituted to meet the same requirements.

In addressing Pollutants of Concern, BMPs are selected using Table 2 below.

Table 2. BMP Selection Matrix Based Upon Pollutant of Concern Removal Efficiency (1)

(Sources: Riverside County Flood Control & Water Conservation District Design Handbook for Low Impact Development Best Management Practices, dated September 2011, the Orange County Technical Guidance Document for Water Quality Management Plans, dated May 19, 2011, and the Caltrans Treatment BMP Technology Report, dated April 2010 and April 2008)

Pollutant of Concern	Landscape Swale[2, 3]	Landscape Strip[2, 3]	Biofiltration (with underdrain)[2, 3]	Extended Detention Basin[2]	Sand Filter Basin[2]	Infiltration Basin[2]	Infiltration Trench[2]	Permeable Pavement[2]	Bioretention (w/o underdrain)[2, 3]	Other BMPs Including Proprietary BMPs[4, 6]
Sediment & Turbidity	M	M	H	M	H	H	H	H	H	Varies by Product[5]
Nutrients	L/M	L/M	M	L/M	L/M	H	H	H	H	
Toxic Organic Compounds	M/H	M/H	M/H	L	L/M	H	H	H	H	
Trash & Debris	L	L	H	H	H	H	H	L	H	
Bacteria & Viruses (also: Pathogens)	L	M	H	L	M	H	H	H	H	
Oil & Grease	M	M	H	M	H	H	H	H	H	
Heavy Metals	M	M/H	M/H	L/M	M	H	H	H	H	

Abbreviations:

L: Low removal efficiency M: Medium removal efficiency H: High removal efficiency

Notes:

(1) Periodic performance assessment and updating of the guidance provided by this table may be necessary.

(2) Expected performance when designed in accordance with the most current edition of the document, "Riverside County, Whitewater River Region Stormwater Quality Best Management Practice Design Handbook".

(3) Performance dependent upon design which includes implementation of thick vegetative cover. Local water conservation and/or landscaping requirements should be considered; approval is based on the discretion of the local land use authority.

(4) Includes proprietary stormwater treatment devices as listed in the CASQA Stormwater Best Management Practices Handbooks, other stormwater treatment BMPs not specifically listed in this WQMP (including proprietary filters, hydrodynamic separators, inserts, etc.), or newly developed/emerging stormwater treatment technologies.

(5) Expected performance should be based on evaluation of unit processes provided by BMP and available testing data. Approval is based on the discretion of the local land use authority.

(6) When used for primary treatment as opposed to pre-treatment, requires site-specific approval by the local land use authority.

V.1.A SITE DESIGN BMP CONCEPTS AND LID/SITE DESIGN BMPS

This section documents the Site Design BMP concepts and LID/Site Design BMPs that will be implemented on this project to comply with the requirements detailed in Section 3.5.1 of the WQMP Guidance document.

- Table 3 herein documents the implementation of the Site Design BMP Concepts described in sub-sections 3.5.1.3 and 3.5.1.4.
- Table 4 herein documents the extent to which this project has implemented the LID/Site Design goals described in sub-section 3.5.1.1.

Table 3. Implementation of Site Design BMP Concepts

Design Concept	Technique	Specific BMP	Included			Brief Reason for BMPs Indicated as No or N/A
			Yes	No	N/A	
Site Design BMP Concept 1	**Minimize Urban Runoff, Minimize Impervious Footprint, and Conserve Natural Areas** **(See WQMP Section 3.5.1.3)**	Conserve natural areas by concentrating or clustering development on the least environmentally sensitive portions of a site while leaving the remaining land in a natural, undisturbed condition.	☐	☐	☐	
		Conserve natural areas by incorporating the goals of the Multi-Species Habitat Conservation Plan or other natural resource plans.	☐	☐	☐	
		Preserve natural drainage features and natural depressional storage areas on the site.	☐	☐	☐	
		Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs.	☐	☐	☐	
		Use natural drainage systems.	☐	☐	☐	
		Where applicable, incorporate Self-Treating Areas	☐	☐	☐	
		Where applicable, incorporate Self-Retaining Areas	☐	☐	☐	
		Increase the building floor to area ratio (i.e., number of stories above or below ground).	☐	☐	☐	
		Construct streets, sidewalks and parking lot aisles to minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised.	☐	☐	☐	
		Reduce widths of streets where off-street parking is available.	☐	☐	☐	
		Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design.	☐	☐	☐	
		Other comparable and equally effective Site Design BMP concept(s) as approved by the local land use authority (Note: Additional narrative required to describe BMP and how it addresses site design concept).	☐	☐	☐	

Table 3. Site Design BMP Concepts (continued)

Design Concept	Technique	Specific BMP	Included: Yes	Included: No	Included: N/A	Brief Reason for Each BMP Indicated as No or N/A
Site Design BMP Concept 2	**Minimize Directly Connected Impervious Area (See WQMP Section 3.5.1.4)**	Design residential and commercial sites to contain and infiltrate roof runoff, or direct roof runoff to landscaped swales or buffer areas.	☐	☐	☐	
		Drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping.	☐	☐	☐	
		Incorporate landscaped buffer areas between sidewalks and streets.	☐	☐	☐	
		Use natural or landscaped drainage swales in lieu of underground piping or imperviously lined swales.	☐	☐	☐	
		Where soil conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration.	☐	☐	☐	
		Maximize the permeable area by constructing walkways, trails, patios, overflow parking, alleys, driveways, low-traffic streets, and other low-traffic areas with open-jointed paving materials or permeable surfaces such as pervious concrete, porous asphalt, unit pavers, and granular materials.	☐	☐	☐	
		Use one or more of the following:				
		Rural swale system: street sheet flows to landscaped swale or gravel shoulder, curbs used at street corners, and culverts used under driveways and street crossings.	☐	☐	☐	
		Urban curb/swale system: street slopes to curb; periodic swale inlets drain to landscaped swale or biofilter.	☐	☐	☐	
		Dual drainage system: first flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder; high flows connect directly to MS4s.	☐	☐	☐	
		Other comparable and equally effective Site Design BMP concept(s) as approved by the local land use authority (Note: Additional narrative required to describe BMP and how it addresses site design concept).	☐	☐	☐	
		Use one or more of the following for design of driveways and private residential parking areas:				
		Design driveways with shared access, flared (single lane at street), or wheel strips (paving only under the tires).	☐	☐	☐	
		Uncovered temporary or guest parking on residential lots paved with a permeable surface, or designed to drain into landscaping.	☐	☐	☐	

Table 3. Site Design BMP Concepts (continued)

Design Concept	Technique	Specific BMP	Included: Yes	Included: No	Included: N/A	Brief Reason for Each BMP Indicated as No or N/A
Site Design BMP Concept 2 (cont'd)	**Minimize Directly Connected Impervious Area** **(See WQMP Section 3.5.1.4)**	Other comparable and equally effective Site Design BMP concept(s) as approved by the local land use authority (Note: Additional narrative required to describe BMP and how it addresses site design concept).	☐	☐	☐	
		Use one or more of the following for design of parking areas:				
		Where landscaping is proposed in parking areas, incorporate parking area landscaping into the drainage design.	☐	☐	☐	
		Overflow parking (parking stalls provided in excess of the Permittee's minimum parking requirements) may be constructed with permeable pavement.	☐	☐	☐	
		Other comparable and equally effective Site Design BMP (or BMPs) as approved by the local land use authority (Note: Additional narrative required describing BMP and how it addresses site design concept).	☐	☐	☐	

Project Site Design BMP Concepts:

The site design BMPs will include a Infiltration Basin system BMP designed to capture 100% of the 100 year storm event per City of Coachella standards.

Alternative Project Site Design BMP Concepts:

N/A

Table 4. LID/Site Design BMPs Meeting the LID/Site Design Measurable Goal

(1) DRAINAGE SUB-AREA ID OR NO.	(2) LID/SITE DESIGN BMP TYPE* (See Table 2)	(3) POTENTIAL POLLUTANTS OF CONCERN WITHIN DRAINAGE SUB-AREA (Refer to Table 1)	(4) POTENTIAL POLLUTANTS WITHIN SUB-AREA CAUSING RECEIVING WATER IMPAIRMENTS (Refer to Table 1)	(5) EFFECTIVENESS OF LID/SITE DESIGN BMP AT ADDRESSING IDENTIFIED POTENTIAL POLLUTANTS (U, L, M, H/M, H; see Table 2)	(6) BMP MEETS WHICH DESIGN CRITERIA? (Identify as V_{BMP} OR Q_{BMP})	(7) TOTAL AREA WITHIN DRAINAGE SUB-AREA (Nearest 0.1 acre)
TOTAL PROJECT AREA TREATED WITH LID/SITE DESIGN BMPs (NEAREST 0.1 ACRE)						**39.98**

*** LID/Site Design BMPs listed in this table are those that <u>completely</u> address the 'Treatment Control BMP requirement' for their drainage sub-area.**

Justification of infeasibility for sub-areas not addressed with LID/Site Design BMPs

Not applicable; Treatment Control & Site Design BMP's are addressed by the Infiltration Basin design system.

V.1.B TREATMENT CONTROL BMPS

Conventional Treatment Control BMPs shall be implemented to address the project's Pollutants of Concern as required in WQMP Section 3.5.1 where, and to the extent that, Section V.1.A has demonstrated that it is infeasible to meet these requirements through implementation of LID/Site Design BMPs.

☒ The LID/Site Design BMPs described in Section V.1.A of this project-specific WQMP completely address the 'Treatment Control BMP requirement' for the entire project site (and where applicable, entire existing site) as required in Section 3.5.1.1 of the WQMP Guidance document. Supporting documentation for the sizing of these LID/Site Design BMPs is included in Appendix F. ***Section V.1.B does not need to be completed**.

☐ The LID/Site Design BMPs described in Section V.1.A of this project-specific WQMP do **NOT** completely address the 'Treatment Control BMP requirement' for the entire project site (or where applicable, entire existing site) as required in Section 3.5.1.1 of the WQMP. ***Section V.1.B must be completed.**

The Treatment Control BMPs identified in this section are selected, sized and implemented to treat the design criteria of V_{BMP} and/or Q_{BMP} for all project (and if required, existing site) drainage sub-areas which were not fully addressed using LID/Site Design BMPs. Supporting documentation for the sizing of these Treatment Control BMPs is included in Appendix F.

Table 5: Treatment Control BMP Summary

(1) DRAINAGE SUB-AREA ID OR NO.	(2) TREATMENT CONTROL BMP TYPE* (See Table 2)	(3) POTENTIAL POLLUTANTS OF CONCERN WITHIN DRAINAGE SUB-AREA (Refer to Table 1)	(4) POTENTIAL POLLUTANTS WITHIN SUB-AREA CAUSING RECEIVING WATER IMPAIRMENTS (Refer to Table 1)	(5) EFFECTIVENESS OF TREATMENT CONTROL BMP AT ADDRESSING IDENTIFIED POTENTIAL POLLUTANTS (U, L, M, H/M, H; see Table 2)	(6) BMP MEETS WHICH DESIGN CRITERIA? (Identify as V_{BMP} OR Q_{BMP})	(7) TOTAL AREA WITHIN DRAINAGE SUB-AREA (Nearest 0.1 acre)
	TOTAL PROJECT AREA TREATED WITH TREATMENT CONTROL BMPs (NEAREST 0.1 ACRE)					0.0

V.1.C MEASURABLE GOAL SUMMARY

This section documents the extent to which this project has met the measurable goal described in WQMP Section 3.5.1.1 of addressing 100% of the project's 'Treatment Control BMP requirement' with LID/Site Design BMPs. Projects required to retain Urban Runoff onsite in conformance with local ordinance are considered to have met the measurable goal; for these instances, '100%' is entered into Column 3 of the Table.

Table 6: Measurable Goal Summary

(1) **Total Area Treated with LID/Site Design BMPs** **(Last row of Table 4)**	(2) **Total Area Treated with Treatment Control BMPs** **(Last row of Table 5)**	(3) **% of Treatment Control BMP Requirement addressed with LID/Site Design BMPs**
39.98 ac	0.0 ac	100%

V.2 SOURCE CONTROL BMPS

This section identifies and describes the Source Control BMPs applicable and implemented on this project.

Table 7. Source Control BMPs

BMP Name	Check One		If not applicable, state brief reason
	Included	Not Applicable	
Non-Structural Source Control BMPs			
Education for Property Owners, Operators, Tenants, Occupants, or Employees	☒	☐	
Activity Restrictions	☒	☐	
Irrigation System and Landscape Maintenance	☒	☐	
Common Area Litter Control	☒	☐	
Street Sweeping Private Streets and Parking Lots	☒	☐	
Drainage Facility Inspection and Maintenance	☒	☐	
Structural Source Control BMPs			
Storm Drain Inlet Stenciling and Signage	☐	☒	
Landscape and Irrigation System Design	☒	☐	
Protect Slopes and Channels	☒	☐	
Provide Community Car Wash Racks	☐	☒	Not part of the project design.
Properly Design*:			
Fueling Areas	☐	☒	
Air/Water Supply Area Drainage	☐	☒	No facilities.
Trash Storage Areas	☒	☐	
Loading Docks	☐	☒	No facilities.
Maintenance Bays	☐	☒	No facilities.
Vehicle and Equipment Wash Areas	☐	☒	No facilities.
Outdoor Material Storage Areas	☐	☒	No facilities.
Outdoor Work Areas or Processing Areas	☐	☒	No facilities.
Provide Wash Water Controls for Food Preparation Areas	☐	☒	No facilities.

*Details demonstrating proper design must be included in Appendix F.

5.2.1 Non-Structural Source Control BMPs

5.2.1.1 Education

Yes

The owner, as responsible party for implementing the Final WQMP, will ensure that owner's employees, operators, and managers are properly trained and attend continuing education classes.

5.2.1.2 Activity Restrictions

Yes

Certain activities within the project area may be restricted to enable the owner/operator to meet the City's water quality requirements. For example, maintenance of vehicles (which contributes to storm water contamination by oil and grease) is not authorized in this area.

5.2.1.3 Irrigation System and Landscape Maintenance

Yes

Owner shall ensure that the irrigation systems within the project site are operating properly. Owner shall also ensure that the ground's landscaping is maintained regularly so that the project site is in compliance with all City water quality requirements.

5.2.1.4 Common Area Litter Control

Yes

Owner shall ensure that employees regularly patrol the site in an effort to keep it free of litter so that the project site is in compliance with all City water quality requirements.

5.2.1.5 Street Sweeping

Yes

Owner shall ensure that the streets is regularly swept so that the project site is in compliance with all City water quality requirements. Streets/driveways and parking lots shall be swept at least quarterly, including just prior to start of the rainy season (October 1st). The frequency shall be no less than the frequency of street sweeping by the Co-Permittee on public streets.

5.2.1.6 Drainage Facility Inspection and Maintenance

Yes

Owner shall ensure that drainage facilities within the project area are regularly inspected (at least annually) and maintained properly so that the project site is in compliance with all City water quality requirements. At a minimum, routine maintenance of drainage facilities should take place in the late summer or early fall prior to the start of the rainy season (October 1st).

5.2.2 Structural Source Control BMPs

5.2.2.1 MS4 Stenciling and Signage

No

The existing site does not drain directly to MS4 facilities as the redevelopment area will

include a retention basin infiltration facility (BMP) which will intercept a 100% of the post-development storm flow. Also, no curb inlets are proposed on-site.

5.2.2.2 Landscape and Irrigation System Design

Yes

The project will be designed to include native, drought-tolerant plants. These plants use less water, and help reduce the use of fertilizers and pesticides. The irrigation system will be programmable and utilize drip emitters, limiting excess irrigation runoff. The landscape and irrigation system will be designed in accordance with the City's water quality requirements.

5.2.2.3 Protect Slopes and Channels

Yes

Project plans shall include Source Control BMPs to decrease the potential for erosion of slopes. The following design principles shall be considered, and incorporated and implemented where determined applicable and feasible by the local land use authority:

- Convey runoff safely from the tops of slopes.
- Plant slopes with native or drought tolerant vegetation.

5.2.2.4 Provide Community Car Wash Racks

No

The project site will not include community car wash racks as part of the project design.

5.2.2.5 Fueling Areas

No

Project development does not include the construction of fueling areas.

5.2.2.6 Air/Water Supply Area Drainage

No

The project site will not include air/water supply areas.

5.2.2.7 Trash Storage Areas

Yes

The project site will include trash storage areas. Trash storage (or trash enclosures) will be located on-site. Also, trash dumpsters will have attached covers and shall be leak proof. The entire trash storage surface area will be concrete.

5.2.2.8 Loading Docks

No

The project site will not include loading docks.

5.2.2.9 Maintenance Bays

No

The project site will not include maintenance bays.

5.2.2.10 Vehicle and Equipment Wash Areas

No

The project site will not include vehicle and equipment wash areas.

5.2.2.11 Outdoor Material Storage Areas

No

The project site will not Outdoor Material Storage Areas

5.2.2.12 Outdoor Work Areas or Processing Areas

No

The project site will not include outdoor work areas or processing areas.

5.2.2.13 Wash Water Areas for Food Preparation Areas

No

The project site will not include outdoor work areas or processing areas.

Appendix D includes copies of the educational materials (described in Section 3.5.2.1 of the WQMP Guidance document) that will be used in implementing the project-specific WQMP.

V.3 EQUIVALENT TREATMENT CONTROL BMP ALTERNATIVES

The project site will not include any other treatment control alternatives.

V.4 REGIONALLY-BASED BMPS

100% of the runoff generated on-site during 100 year design frequency storm will be retained on-site in an infiltration type retention basin.

VI. Operation and Maintenance Responsibility for BMPs

Appendix G of the project-specific WQMP will include copies of CC&Rs, Covenant and Agreements, BMP Maintenance Agreement and/or other mechanisms used to ensure the ongoing operation, maintenance, funding, transfer and implementation of the project-specific WQMP requirements.

Operations and maintenance (O&M) will be performed, as necessary, by Pacific Coast Properties, their agents, and/or their assignees. The BMPs for the project are a infiltration type retention basins designed with a capacity to store the runoff generated during the 100-year storm event.

Maintenance of the site and on-site storm drain and retention basin system consists primarily of the removal of trash and debris, repair and removal/reinstallation of facilities if damaged or saturated by native material (due to wind and water erosion) or sediment and organic material from human activity. Any removed material must be hauled away to an approved disposal facility. See Appendix D for a recommended “Infiltration System Maintenance Plan”.

Routine inspection and required maintenance of all BMPs and the site should begin immediately upon completion of construction and continue throughout the life of the project. Records of all inspection and repair/modifications shall be kept by the owner. The following persons shall be responsible for all O&M and inspections, until such time as another staff member is designated:

Rod Vandenburg
Pacific Coast Properties
43-584 Via Magellan Drive
Coachella, CA 92201
Telephone: (760) 403- 6647

(1) ALL BMPS REQUIRING MAINTENANCE	(2) DESCRIPTION OF O&M ACTIVITIES	(3) START DATE	(4) O&M FREQUENCY	(5) PARTY RESPONSIBLE FOR O&M	(6) SELF INSPECTION AND RECORD KEEPING REQUIREMENTS
EDUCATION FOR PROPERTY OWNERS OPERATORS, OR EMPLOYEES	MATERIALS WILL BE AVAILABLE TO EMPLOYEES, MAINTENANCE CREWS AND CONTRACTORS. PROVIDE EDUCATIONAL MATERIALS ON AN ANNUAL BASIS AND UPON HIRING OF EMPLOYEES.	AT PROJECT COMPLETION	ANNUALLY	PACIFIC COAST PROPERTIES	SEE ATTCHED EXAMPLE OF TRAINING / EDUCATION LOG. RECORD TRAINING OF EMPLOYEES
ACTIVITY RESTRICTIONS	PROVIDE ACCESS TO WQMP FOR ALL EMPLOYEES AND CONTRACTORS THAT PERFORM MAINTENANCE WORK.	AT PROJECT COMPLETION	ANNUALLY	PACIFIC COAST PROPERTIES	SEE ATTACHED EXAMPLE OF BMP OPERATION AND MAINTENANCE LOG
IRRIGATION SYSTEM AND LANDSCAPE MANAGEMENT	INSPECT ALL COMMON LANDSCAPE AREAS AND REPLACE DEAD VEGETATION. INSPECT, ADJUST AND REPAIR IRRIGATION SYSTEM.	UPON COMPLETION OF LANDSCAPED AREAS	WEEKLY DURING REGULAR MAINTENANCE	PACIFIC COAST PROPERTIES	SEE ATTACHED EXAMPLE OF BMP OPERATION AND MAINTENANCE LOG
COMMON AREA LITTER CONTROL	INSPECT AND REMOVE ALL LITTER AND DEBRIS LOCATED IN ALL COMMON AREAS, INCLUDING STREETS, PARKWAYS AND SIDEWALKS	AT PROJECT COMPLETION	AS NEEDED	PACIFIC COAST PROPERTIES	SEE ATTACHED EXAMPLE OF BMP OPERATION AND MAINTENANCE LOG
STREET SWEEPING	INSPECT FOR SEDIMENT DURING ROUTINE MAINTENANCE ADJUST FREQUENCY OF SWEEPING OPERATIONS	PROJECT COMPLETION	BI-MONTHLY AND AS NEEDED	PACIFIC COAST PROPERTIES	SEE ATTACHED EXAMPLE OF BMP OPERATION AND MAINTENANCE LOG

DRAINAGE FACILITY PROTECTION	INSPECT ALL CATCH BASINS AND STORM DRAIN PIPES, REMOVE LITTER DEBRIS AND ANY LIQUIDS	UPON INSTALLATION OF STORM DRAIN SYSTEM ADDITIONS	QUARTERLY AND AFTER A QUALIFYING RAIN EVENT OF 0.5" /24HRS	PACIFIC COAST PROPERTIES	SEE ATTACHED EXAMPLE OF BMP OPERATION AND MAINTENANCE LOG
LANDSCAPE AND IRRIGATION SYSTEM DESIGN	INSPECT AND REPAIR LANDSCAPE IRRIGATION TIMERS. INSPECT AND REPAIR ALL SPRINKLER HEADS AS NEEDED,	UPON COMPLETION OF LANDSCAPED AREAS	WEEKLY	PACIFIC COAST PROPERTIES	SEE ATTACHED EXAMPLE OF BMP OPERATION AND MAINTENANCE LOG
TRASH STORAGE AREA	INSPECT INTEGRITY OF STRUCTURAL ELEMENTS REPLACE CONTAINERS WHEN NEEDED	AT PROJECT COMPLETION	MONTHLY AND AS NEEDED	PACIFIC COAST PROPERTIES	SEE ATTACHED EXAMPLE OF BMP OPERATION AND MAINTENANCE LOG
RETENTION BASIN	INSPECT AND REMOVE LITTER AND DEBRIS, MAINTAIN LANDSCAPE, REMOVE DEAD VEGETATION	AT PROJECT COMPLETION	QUARTERLY DURING DRY SEASON, MONTHLY DURING RAINY SEASON	PACIFIC COAST PROPERTIES	SEE ATTACHED EXAMPLE OF BMP OPERATION AND MAINTENANCE LOG

VII. Funding

Source funding and long term funding of operations and maintenance of the project BMP will be provided by Pacific Coast Properties (Owner), their agents, and/or assignees. Funding will be addressed in a covenant agreement entered into between City of Coachella and the Owner before approval of the Final WQMP.

Appendix A

Conditions of Approval

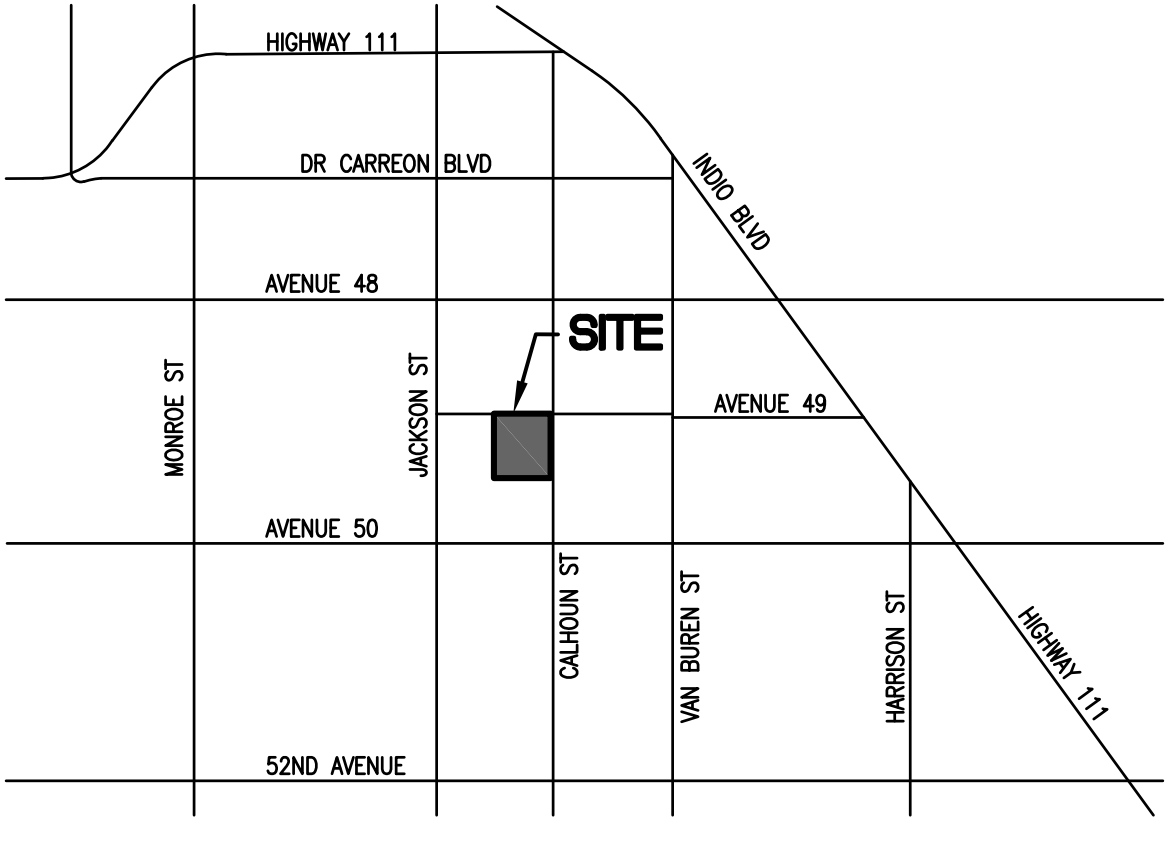
N/A

Planning Commission Resolution _____

Dated _____

Appendix B

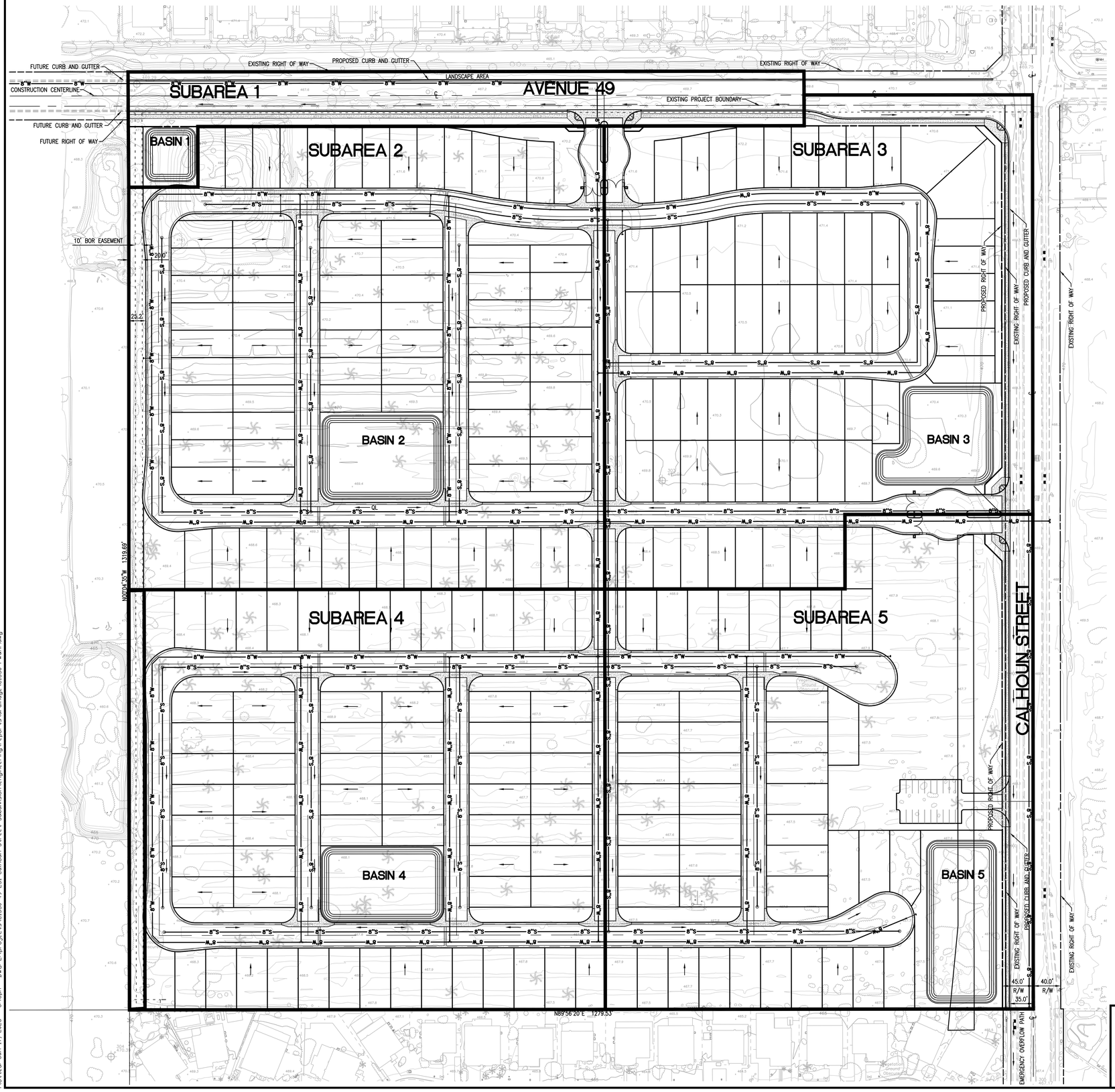
Vicinity Map, WQMP Site Plan, and Receiving Waters Map

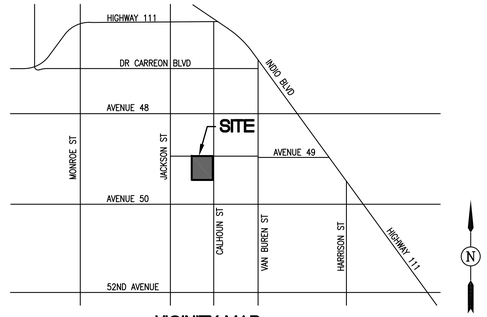


VICINITY MAP
NOT TO SCALE

PRELIMINARY HYDROLOGY/WATER QUALITY MANAGEMENT MAP

IN THE CITY OF COACHELLA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA





VICINITY MAP
NOT TO SCALE

LEGEND

SUBAREA BOUNDARY

DIRECTIONAL DRAINAGE ARROWS

NOAA POINT RAINFALL DATA

2 YEAR – 1 HR = 0.35 IN.
10 YEAR – 1 HR = 0.70 IN. 100 YEAR – 1 HR = 1.37 IN.
10 YEAR – 3 HR = 1.04 IN. 100 YEAR – 3 HR = 2.12 IN.
10 YEAR – 6 HR = 1.36 IN. 100 YEAR – 6 HR = 2.78 IN.
10 YEAR – 24 HR = 2.23 IN. 100 YEAR – 24 HR = 4.47 IN.

INFILTRATION RATE

DESIGN INFILTRATION RATE = 0.67 IN/HR

HYDROLOGIC SOIL GROUP

HYDROLOGIC SOIL GROUP "B"

SITE DATA

PROJECT SITE AREA: 38.8 AC.
PROJECT SITE & OFFSITE IMPROVEMENT AREA: 42.50 AC.

SUBAREA 1

AREA: 2.01 AC.

EXISTING IMPERVIOUS AREA: 0.0 AC. = 0.0%
EXISTING PERVIOUS AREA: 2.01 AC. = 100%

PROPOSED IMPERVIOUS AREA: 1.18 AC. = 59%
PROPOSED PERVIOUS AREA: 0.83 AC. = 41%

RETENTION VOLUME REQUIRED = 9,580 C.F.
RETENTION VOLUME PROVIDED = 12,250 C.F.

100 YR STORED W.S. DEPTH = 2.45'
10 YR STORED W.S. DEPTH = 0.72'

SUBAREA 2

AREA: 10.57 AC.

EXISTING IMPERVIOUS AREA: 0.0 AC. = 0.0%
EXISTING PERVIOUS AREA: 9.36 AC. = 100%

PROPOSED IMPERVIOUS AREA: 7.36 AC. = 70%
PROPOSED PERVIOUS AREA: 3.21 AC. = 30%

RETENTION VOLUME REQUIRED = 57,661 C.F.
RETENTION VOLUME PROVIDED = 64,193 C.F.

100 YR STORED W.S. DEPTH = 3.19'
10 YR STORED W.S. DEPTH = 0.99'

SUBAREA 3

AREA: 9.36 AC.

EXISTING IMPERVIOUS AREA: 0.34 AC. = 4%
EXISTING PERVIOUS AREA: 9.02 AC. = 96%

PROPOSED IMPERVIOUS AREA: 6.88 AC. = 74%
PROPOSED PERVIOUS AREA: 2.48 AC. = 26%

RETENTION VOLUME REQUIRED = 53,709 C.F.
RETENTION VOLUME PROVIDED = 62,528 C.F.

100 YR STORED W.S. DEPTH = 3.07'
10 YR STORED W.S. DEPTH = 0.94'

SUBAREA 4

AREA: 9.79 AC.

EXISTING IMPERVIOUS AREA: 0.0 AC. = 0.0%
EXISTING PERVIOUS AREA: 9.79 AC. = 100%

PROPOSED IMPERVIOUS AREA: 6.59 AC. = 67%
PROPOSED PERVIOUS AREA: 3.20 AC. = 33%

RETENTION VOLUME REQUIRED = 51,654 C.F.
RETENTION VOLUME PROVIDED = 57,236 C.F.

100 YR STORED W.S. DEPTH = 3.20'
10 YR STORED W.S. DEPTH = 0.99'

SUBAREA 5

AREA: 9.49 AC.

EXISTING IMPERVIOUS AREA: 0.53 AC. = 6%
EXISTING PERVIOUS AREA: 8.96 AC. = 94%

PROPOSED IMPERVIOUS AREA: 5.01 AC. = 53%
PROPOSED PERVIOUS AREA: 4.48 AC. = 47%

RETENTION VOLUME REQUIRED = 41,999 C.F.
RETENTION VOLUME PROVIDED = 72,828 C.F.

100 YR STORED W.S. DEPTH = 2.14'
10 YR STORED W.S. DEPTH = 0.54'

N

GRAPHIC SCALE
SCALE 1"=60'
0 30 60 120 180 240

PREPARED BY:
The Altum Group
44-600 Village Court, Suite 100
Palm Desert, CA 92260
t.760.346.4750 f. 760.340.0089
TheAltumGroup.com
ENGINEERING | PLANNING | SURVEY | ENVIRONMENTAL

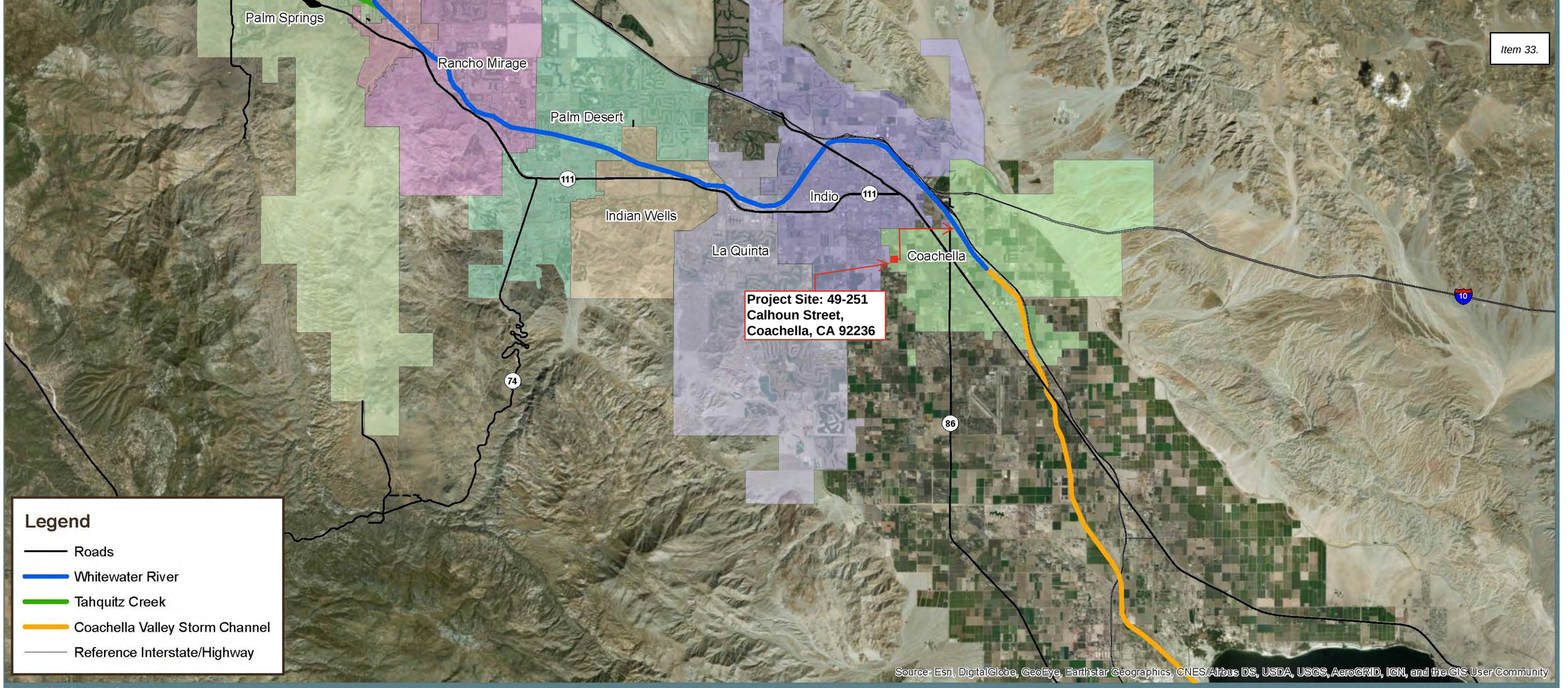
CITY OF COACHELLA, CALIFORNIA

PRELIMINARY HYDROLOGY/
WATER QUALITY MANAGEMENT PLAN

FOR: CALHOUN STREET SUBDIVISION

SHEET NO.

Plotted: Jan 17, 2025 - 3:43pm DWG: L:\projects\C1530 49-251 Calhoun Street Subdivision\engineering\reports\drainage\C1530 PWQMP.dwg



Geographic Information Systems

Cartographic Design By: Randee Martin

TheAltumGroup
Strive Higher
44-600 Village Ct Suite 100, Palm Desert, CA 92260
Phone: (760) 346 - 4750 TheAltumGroup.com

1 inch = 2.755735 miles

Receiving Water Exhibit

N

Appendix C

Supporting Detail Related to Hydrologic Conditions of Concern

N/A

Appendix D

Educational Materials

Item 33.

Printed on Recycled Paper
Process Chlorine Free
Recycled With Vegetable Based Inks
http://www.epa.gov/owm/postconsumer.htm

January 2003

EPA 833-B-03-002

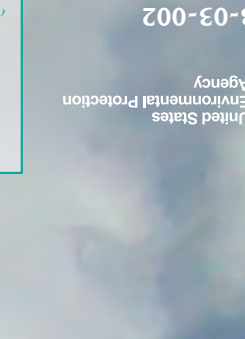
United States Environmental Protection Agency
EPA

THE YEAR OF CLEAN WATER
Clean Water Environment

A Citizen's Guide to Understanding Stormwater



After the Storm



What is stormwater runoff?



Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Why is stormwater runoff a problem?



Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

The effects of pollution



Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.



- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.



For more information contact:

or visit
www.epa.gov/npdes/stormwater
www.epa.gov/nps

Stormwater Pollution Solutions



Residential



Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

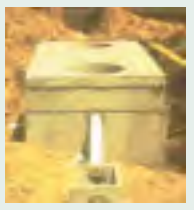
Lawn care



Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

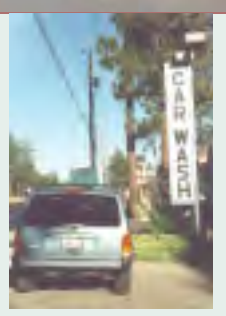
Septic systems



Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Auto care



Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Pet waste



Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.



Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.



Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.



Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

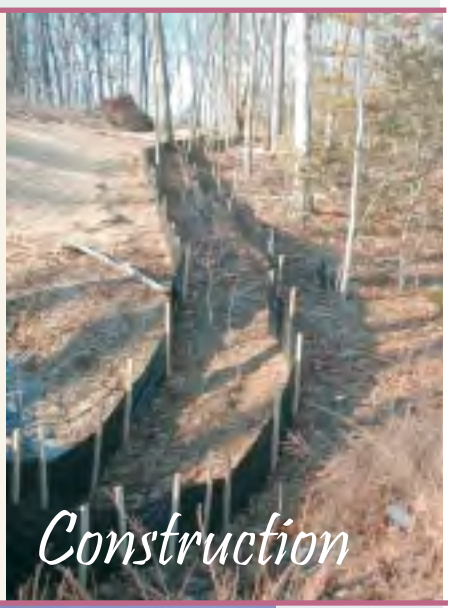


Commercial

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

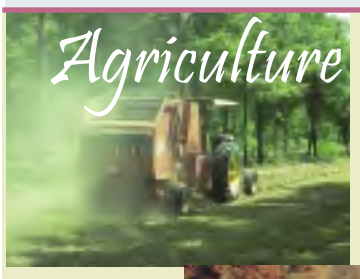
Construction



Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.

Agriculture



Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.



- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.

Forestry



Improperly managed logging operations can result in erosion and sedimentation.

- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of clear

Automotive Facilities



Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.



RIVERSIDE COUNTY
ANIMAL SERVICES LOCATIONS:

www.rcdas.org

BLYTHE
16450 West Hobson Way
Blythe, CA 92225
760-921-7857

COACHELLA VALLEY ANIMAL CAMPUS
72-050 Petland Place
Thousand Palms, CA 92276
760-343-3644

RIVERSIDE COUNTY ANIMAL SERVICES
6851 Van Buren Blvd.
Riverside, CA 92509
951-688-4340

OTHER ANIMAL SHELTERS:

ANIMAL CARE CENTER OF INDIO
45-355 Van Buren
Indio, CA 92201
760-391-4138

ANIMAL FRIENDS OF THE VALLEYS
29001 Bastron Avenue
Lake Elsinore, CA 92530
951-674-0618
(Serving incorporated Temecula, Wildomar, Lake Elsinore, Murrieta and Canyon Lake)

MARY S. ROBERTS PET ADOPTION CENTER
6185 Industrial Avenue
Riverside, CA 92504
951-688-4340

RAMONA HUMANE SOCIETY
690 Humane Way
San Jacinto 92586
951-654-8002
(Serving Sun City, Menifee, Romoland and Homeland)

Looking to adopt a pet?
This website is linked to many animal shelters.
www.petfinder.com

To report illegal storm drain disposal, call
1-800-506-2555

Or visit our website at www.rcflood.org

E-mail fcnpdes@rcflood.org

What's the Scoop?



Tips for a Healthy Pet and a Healthier Environment

CREATE A HEALTHY ENVIRONMENT in and around your home by following these simple pet practices. Your pet, family and neighbors will appreciate their clean comfortable su[illegible]s.

HOUSEHOLD PETS

We all love our pets, but pet waste is a subject everyone likes to avoid. Pet waste left on trails, sidewalks, streets and grassy areas can be washed into the nearest waterway when it rains. Even if you can't see streams or lakes near you, rainfall (stormwater) or sprinkler runoff can wash pet waste into the storm drains that carry runoff to the nearest streams or lakes untreated. The risk of stormwater contamination increases if pet waste is allowed to accumulate in outdoor animal pen areas or left on sidewalks, streets or driveways.



Pet waste contains nutrients and bacteria. Nutrients can promote the growth of algae in streams and lakes. Algae can cause fish kills and other environmental damage if it is fed too many nutrients. Pet Waste also contains e. Coli and fecal bacteria, which can cause disease in other animals and humans that come in contact with it when swimming or splashing in streams and lakes. Dogs also carry salmonella and giardia, which can make people sick.

Pet waste that is not picked up and properly disposed can also increase vector problems. Flies and other insects are not only attracted to and feed on pet waste, but can also be infected with diseases and spread those diseases to humans and other animals.

WHAT CAN YOU DO?

- SCOOP up pet waste and flush it down the toilet or place in trash can.
- NEVER DUMP pet waste into a storm drain or catch basin.
- USE the complimentary bags or mutt mitts offered in dispensers at local parks.
- CARRY EXTRA BAGS when walking your dog and make them available to other pet owners who are without.
- TEACH CHILDREN how to properly clean up after a pet.
- TELL FRIENDS AND NEIGHBORS about the ill effects of animal waste on the environment. Encourage them to clean up after pets.

Call 1-800-506-2555 TOLL FREE to report illegal dumping to the storm drain, find the dates and times of [illegible]cal Household Hazardous Waste Collection Events, obtain additional information on stormwater [illegible]oblems and solutions, request presentations about stormwater pollution in your child's classroom, or learn about free grasscycling and composting workshops.

SCOOP THE POOP



Many communities have "Scoop the Poop" laws that govern pet waste cleanup. Some of these laws specifically require anyone who walks an animal off their property to carry a bag, shovel, or scooper. Any waste left by the animal must be cleaned up immediately. CALL YOUR LOCAL CODE ENFORCEMENT OFFICE to find out more about pet waste regulations.

OTHER WAYS TO PROTECT YOUR PETS AND THE ENVIRONMENT

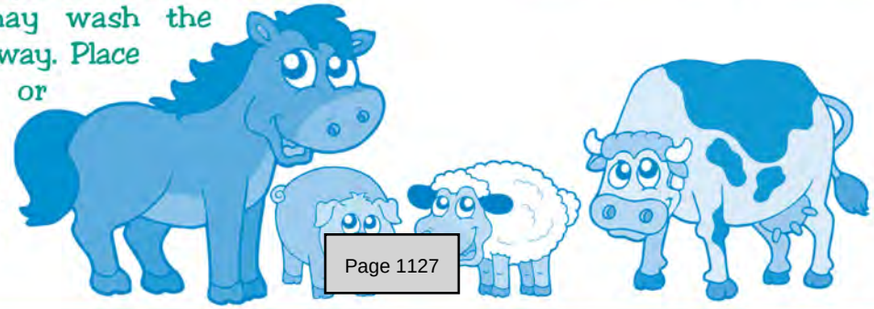
Pets are only one of many sources that contribute to water pollution. However, these other sources of water pollution cannot only harm the environment but also harm your pet. Improperly used or stored lawn fertilizers, pesticides, soaps, grease and vehicle fluids cannot only be washed into local streams and lakes, these chemicals can also harm your pet if they ingest or touch these chemicals. Call 1-800-506-2555 for information regarding how to properly dispose of household hazardous wastes such as these. You can also keep your pets and our environment healthy by properly maintaining your vehicles, and limiting use of pesticides and fertilizers to only the amount that is absolutely needed.

Make sure to not only protect your pets, but to also protect your neighbors pets. NEVER HOSE VEHICLE FLUIDS into the street or gutter. USE ABSORBENT MATERIALS such as cat litter to clean-up spills. SWEEP UP used absorbent materials and place it in the trash.

HORSES AND LIVESTOCK

Fortunate enough to own a horse or livestock? You, too, can play a part in protecting and cleaning up our water resources. The following are a few simple Best Management Practices (BMPs) specifically designed for horses and livestock.

- STORE your manure properly. Do not store unprotected piles of manure in places where stormwater runoff may wash the manure away. Place a cover or tarp over the pile to keep rainwater out.



- BUILD a manure storage facility to protect your pets, property and the environment. These structures usually consist of a concrete pad to protect groundwater and a short wall on one or two sides to make manure handling easier.
- READ the Only Rain Down the Storm Drain brochure titled "Tips for Horse Care" for additional guidance and recommendations. This brochure should be available from your local city office or for download at www.rcflood.org/stormwater.
- KEEP animals out of streams - Horses and livestock can deficate in streams causing stormwater pollution. Livestock and horses in streams can also disturb sensitive habitat and vegetation, causing additional environmental damage. Keep livestock and horses away from streams and use designated stream crossings whenever possible.
- MATERIAL STORAGE SAFETY TIPS Many of the chemicals found in barns require careful handling and proper disposal. When using these chemicals, be certain to follow these common sense guidelines:
  - Buy only what you need.
  - Treat spills of hoof oils like a fuel spill. Use kitty litter to soak up the oil and dispose of it in a tightly sealed plastic bag.
  - Store pesticides in a locked, dry, well-ventilated area.
  - Protect stored fertilizer and pesticides from rain and surface water.

RESOURCE CONSERVATION DISTRICTS CAN HELP

Call 1-800-506-2555 for assistance with locating a local conservation district that can help you properly manage your manure, re-establish healthy pastures, control weeds, or identify appropriate grasses for your soils.



Thank you for doing your part to protect your watershed, the environment, your pets and your community!

Helpful telephone numbers and links:

Riverside County Stormwater Protection Partners

Flood Control District	(951) 955-1200
County of Riverside	(951) 955-1000
City of Banning	(951) 922-3105
City of Beaumont	(951) 769-8520
City of Calimesa	(909) 795-9801
City of Canyon Lake	(951) 244-2955
Cathedral City	(760) 770-0327
City of Coachella	(760) 398-4978
City of Corona	(951) 736-2447
City of Desert Hot Springs	(760) 329-6411
City of Eastvale	(951) 361-0900
City of Hemet	(951) 765-2300
City of Indian Wells	(760) 346-2489
City of Indio	(760) 391-4000
City of Lake Elsinore	(951) 674-3124
City of La Quinta	(760) 777-7000
City of Menifee	(951) 672-6777
City of Moreno Valley	(951) 413-3000
City of Murrieta	(951) 304-2489
City of Norco	(951) 270-5607
City of Palm Desert	(760) 346-0611
City of Palm Springs	(760) 323-8299
City of Perris	(951) 943-6100
City of Rancho Mirage	(760) 324-4511
City of Riverside	(951) 361-0900
City of San Jacinto	(951) 654-7337
City of Temecula	(951) 694-6444
City of Wildomar	(951) 677-7751

REPORT ILLEGAL STORM DRAIN DISPOSAL
1-800-506-2555 or e-mail us at
fcnpdes@rcflood.org

- Riverside County Flood Control and Water Conservation District
  www.rcflood.org

Online resources include:

- California Storm Water Quality Association
  www.casqa.org
- State Water Resources Control Board
  www.waterboards.ca.gov
- Power Washers of North America
  www.thepwna.org

Stormwater Pollution

What you should know for...

Outdoor Cleaning Activities and Professional Mobile Service Providers



Storm drain pollution prevention information for:

- Car Washing / Mobile Detailers
- Window and Carpet Cleaners
- Power Washers
- Waterproofers / Street Sweepers
- Equipment cleaners or degreasers and all mobile service providers

Do you know where street flows actually go?

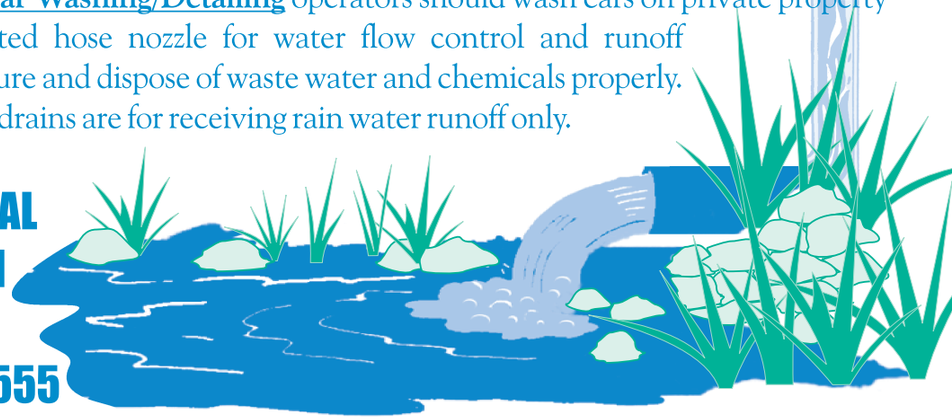
Storm drains are NOT connected to sanitary sewer systems and treatment plants!



The primary purpose of storm drains is to carry *rain* water away from developed areas to prevent flooding. Pollutants discharged to storm drains are transported directly into rivers, lakes and streams. Soaps, degreasers, automotive fluids, litter and a host of materials are washed off buildings, sidewalks, plazas and parking areas. Vehicles and equipment must be properly managed to prevent the pollution of local waterways.

Unintentional spills by mobile service operators can flow into storm drains and pollute our waterways. **Avoid mishaps.** *Always* have a **Spill Response Kit** on hand to clean up unintentional spills. Only emergency **Mechanical** repairs should be done in City streets, using drip pans for spills. **Plumbing** should be done on private property. Always store chemicals in a leak-proof container and keep covered when not in use. **Window/Power Washing** waste water shouldn't be released into the streets, but should be disposed of in a sanitary sewer, landscaped area or in the soil. Soiled **Carpet Cleaning** wash water should be filtered before being discharged into the sanitary sewer. Dispose of all filter debris properly. **Car Washing/Detailing** operators should wash cars on private property and use a regulated hose nozzle for water flow control and runoff prevention. Capture and dispose of waste water and chemicals properly. Remember, storm drains are for receiving rain water runoff only.

REPORT ILLEGAL STORM DRAIN DISPOSAL
1-800-506-2555



Help Protect Our Waterways!

Use these guidelines for Outdoor Cleaning Activities and Wash Water Disposal

Did you know that disposing of pollutants into the street, gutter, storm drain or body of water is *PROHIBITED* by law and can result in stiff penalties?

Best Management Practices

Waste wash water from Mechanics, Plumbers, Window/Power Washers, Carpet Cleaners, Car Washing and Mobile Detailing activities may contain significant quantities of motor oil, grease, chemicals, dirt, detergents, brake pad dust, litter and other materials.

Best Management Practices, or BMPs as they are known, are guides to prevent pollutants from entering the storm drains. ***Each of us*** can do our part to keep stormwater clean by using the suggested BMPs below:

Simple solutions for both light and heavy duty jobs:

Do...consider dry cleaning methods first such as a mop, broom, rag or wire brush. Always keep a spill response kit on site.

Do...prepare the work area before power cleaning by using sand bags, rubber mats, vacuum booms, containment pads or temporary berms to keep wash water away from the gutters and storm drains.

Do...use vacuums or other machines to remove and collect loose debris or litter before applying water.

Do...obtain the property owner's permission to dispose of ***small amounts*** of power washing waste water on to landscaped, gravel or unpaved surfaces.

Do...check your local sanitary sewer agency's policies on wash water disposal regulations before disposing of wash water into the sewer. (See list on reverse side)

Do...be aware that if discharging to landscape areas, soapy wash water may damage landscaping. Residual wash water may remain on paved surfaces to evaporate. Sweep up solid residuals and dispose of properly. Vacuum booms are another option for capturing and collecting wash water.

Do...check to see if local ordinances prevent certain activities.

Do not let...wash or waste water from sidewalk, plaza or building cleaning go into a street or storm drain.



Report illegal storm drain disposal
Call Toll Free
1-800-506-2555

Using Cleaning Agents

Try using biodegradable/phosphate-free products. They are easier on the environment, but don't confuse them with being toxic free. Soapy water entering the storm drain system can impact the delicate aquatic environment.



When cleaning surfaces with a ***high-pressure washer*** or ***steam cleaner***, additional precautions should be taken to prevent the discharge of pollutants into the storm drain system. These two methods of surface cleaning can loosen additional material that can contaminate local waterways.

Think Water Conservation

Minimize water use by using high pressure, low volume nozzles. Be sure to check all hoses for leaks. Water is a precious resource, don't let it flow freely and be sure to shut it off in between uses.

Screening Wash Water

Conduct thorough dry cleanup before washing exterior surfaces, such as buildings and decks ***with loose paint***, sidewalks or plaza areas. Keep debris from entering the storm drain after cleaning by first passing the wash water through a "20 mesh" or finer screen to catch the solid materials, then dispose of the mesh in a refuse container. Do not let the remaining wash water enter a street, gutter or storm drain.

Drain Inlet Protection & Collection of Wash Water

- Prior to any washing, block all storm drains with an impervious barrier such as sandbags or berms, or seal the storm drain with plugs or other appropriate materials.
- Create a containment area with berms and traps or take advantage of a low spot to keep wash water contained.
- Wash vehicles and equipment on grassy or gravel areas so that the wash water can seep into the ground.
- Pump or vacuum up all wash water in the contained area.

Concrete/Coring/Saw Cutting and Drilling Projects

Protect any down-gradient inlets by using dry activity techniques whenever possible. If water is used, minimize the amount of water used during the coring/drilling or saw cutting process. Place a barrier of sandbags and/or absorbent berms to protect the storm drain inlet or watercourse. Use a shovel or wet vacuum to remove the residue from the pavement. Do not wash residue or particulate matter into a storm drain inlet or watercourse.

Saltwater Pools

- Salt water pools, although different from regular pools, are in fact, sanitized using chlorine. A salt-chlorine generator separates the chlorine and sodium molecules in salt and reintroduces them into the pool water. The same harmful effects of chlorine still apply.
- A salt water pool is still maintained with chemicals such as Muriatic acid, soda ash and sodium carbonate to help keep a proper pH, total Alkalinity, Calcium Hardness and Stabilizer levels.



- It may be illegal to discharge salt water to land. The salt may kill plants and the build-up of salt in soil puts animals, plants, and groundwater at risk. Consult your city representatives to determine local requirements regarding salt water drainage.

NEVER put unused chemicals into the trash, onto the ground or down a storm drain.

IMPORTANT: The discharge of pollutants into the street, gutter, storm drain system or waterways - without a permit or waiver - is strictly prohibited by local ordinances, state and federal law. Violations may result in monetary fines and enforcement actions.

Helpful telephone numbers and links

Riverside County Water Agencies:

City of Banning	(951) 922-3130
City of Beaumont/Cherry Valley	(951) 845-9581
City of Blythe	(760) 922-6161
City of Coachella	(760) 398-3502
City of Corona	(951) 736-2263
City of Hemet	(951) 765-3710
City of Norco	(951) 270 5607
City of Riverside Public Works	(951) 351-6140
City of San Jacinto	(951) 654-4041
Coachella Valley Water District	(760) 398-2651
Desert Water Agency (Palm Springs)	(760) 323-4971
Eastern Municipal Water District	(951) 928-3777
Elsinore Valley Municipal Water District	(951) 674 3146
Elsinore Water District	(951) 674-2168
Farm Mutual Water Company	(951) 244-4198
Idyllwild Water District	(951) 659-2143
Indio Water Authority	(760) 391-4129
Jurupa Community Services District	(951) 685-7434
Lee Lake Water	(951) 658-3241
Mission Springs Water	(760) 329-6448
Rancho California Water District	(951) 296-6900
Ripley, CSA #62	(760) 922-4951
Riverside Co. Service Area #51	(760) 227-3203
Rubidoux Community Services District	(951) 684-7580
Valley Sanitary District	(760) 347-2356
Western Municipal Water District	(951) 789-5000
Yucaipa Valley Water District	(909) 797-5117

CALL 1-800-506-2555 to:

- Report clogged storm drains or illegal storm drain disposal from residential, industrial, construction and commercial sites into public streets, storm drains and/or water bodies.
- Find out about our various storm drain pollution prevention materials.
- Locate the dates and times of Household Hazardous Waste (HHW) Collection Events.
- Request adult, neighborhood, or classroom presentations.
- Locate other County environmental services.
- Receive grasscycling information and composting workshop information.

Or visit our
Riverside County Flood Control and Water Conservation District
website at: www.rcflood.org

Other links to additional storm drain pollution information:

- County of Riverside Environmental Health: www.rivcoeh.org
- State Water Resources Control Board: www.waterboards.ca.gov
- California Stormwater Quality Association: www.casqa.org
- United States Environmental Protection Agency (EPA): www.epa.gov/compliance/assistance (compliance assistance information)



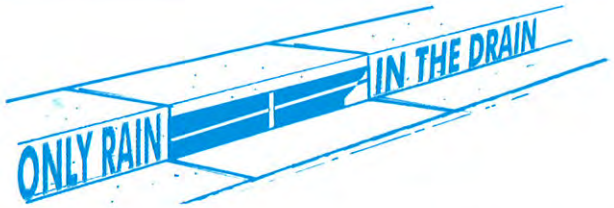
Riverside County's, "Only Rain Dow... llution Prevention Program gratefully acknowledges the Bay Area Stormw... ncies Association and the Cleaning Equipment Trade Association for information provided in this brochure.

Guidelines for Maintaining your...



Swimming Pool, Jacuzzi and Garden Fountain

Where does the water go?



Pool, Jacuzzi and Fountain wastewater and rain water runoff (also called stormwater) that reach streets can enter the storm drain and be conveyed directly into local streams, rivers and lakes.



A storm drain's purpose is to prevent flooding by carrying rain water away from developed areas. Storm drains are not connected to sanitary sewers systems and treatment plants!

Wastewater, from residential swimming pools, Jacuzzis, fishponds and fountains, often contains chemicals used for sanitizing or cleansing purposes. Toxic chemicals (such as chlorine or copper-based algaecides) may pollute the environment when discharged into a storm drain system.

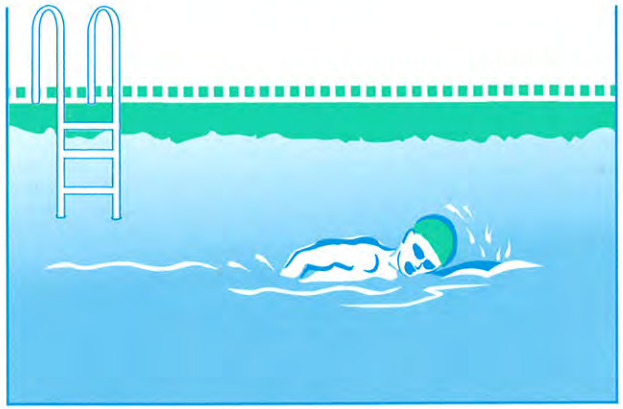
The Cities and County of Riverside have adopted ordinances that prohibit the discharge of wastewater to the street and storm drain system.



Discharge Regulations

Regulatory requirements for discharging wastewater from your pool may differ from city to city. Chlorinated water should not be discharged into the street, storm drain or surface waters. Check with your water agency to see if disposal to the sanitary sewer line is allowed for pool discharges (see reverse for Riverside County sewer agencies).

If allowed, a hose can be run from the pool Jacuzzi, or fountain to the private sewer cleanout, washing machine drain or a sink or bathtub.



If you cannot discharge to the sewer, you may drain your fountain, pool, or jacuzzi to your landscaping by following these guidelines:

First, reduce or eliminate solids (e.g. debris, leaves or dirt) in the pool water and allow the chemicals in the pool water to dissipate before draining the pool (this could take up to 7 days, verify using a home pool test kit).

Second, slowly drain to a landscaped area away from buildings or structures. Control the flow to prevent soil erosion; it may take more than one day to empty. Do not allow sediment to enter the street, gutter or storm drain.

Maintenance & Chemicals

Item 33.



Cleaning Filters

Filter rinse water and backwash must be discharged to the sanitary sewer, on-site septic tank and drain field system (if properly designed and adequately sized), or a seepage pit. Alternatively, rinse water or backwash may be diverted to landscaped or dirt areas. Filter media and other non-hazardous solids should be picked up and disposed of in the trash.

Algaecides

Avoid using copper-based algaecides unless absolutely necessary. Control algae with chlorine, organic polymers or other alternatives to copper-based pool chemicals. Copper is a heavy metal that can be toxic to aquatic life when you drain your pool.

Chemical Storage and Handling

- Use only the amount indicated on product labels
- Store chlorine and other chemicals in a covered area to prevent runoff. Keep out of reach of children and pets.
- Chlorine kits, available at retail swimming pool equipment and supply stores, should be used to monitor the chlorine and pH levels before draining your pool.
- Chlorine and other pool chemicals should never be allowed to flow into the gutter or storm drain system.

Take unwanted chemicals to a Household Hazardous Waste (HHW) Collection Event. There's no cost for taking HHW items to collection events – it's FREE! Call **1-800-506-2555** for a schedule of HHW events in your community.



Infiltration System
Inspection and Maintenance Checklist

Property Address: _____ Property Owner: _____

Treatment Measure No.: _____ Date of Inspection: _____ Type of Inspection: ☐ Monthly ☐ Pre-Wet Season ☐ After heavy runoff (1" or greater) ☐ End of Wet Season ☐ Other: _____

Inspector(s): _____

Defect	Conditions When Maintenance Is Needed	Maintenance Needed? (Yes/No)	Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)	Results Expected When Maintenance Is Performed
1. Standing Water	When water stands in the infiltration system between storms and does not drain within 3 days after rainfall.			There should be no areas of standing water once inflow has ceased. Any of the following may apply: sediment or trash blockages removed, improved grade from head to foot of infiltration system.
2. Trash and Debris Accumulation	Trash and debris accumulated in the infiltration system.			Trash and debris removed from infiltration system and disposed of properly.
3. Sediment	Evidence of sedimentation in system.			Material removed and disposed of properly so that there is no clogging or blockage.
4. Inlet/Outlet	Inlet/outlet areas clogged with sediment or debris, and/or eroded.			Material removed and disposed of properly so that there is no clogging or blockage in the inlet and outlet areas.
5. Overflow Spillway	Clogged with sediment or debris, and/or eroded.			Material removed and disposed of properly so that there is no clogging or blockage, and system is restored to design condition.
6. Miscellaneous	Any condition not covered above that needs attention in order for the infiltration system to function as designed.			Meet the design specifications.

SAMPLE

Infiltration System Maintenance Plan
for

Routine Maintenance Activities

The principal maintenance objective is to prevent sediment buildup and clogging, which reduces pollutant removal efficiency and may lead to system failure. Routine maintenance activities, and the frequency at which they will be conducted, are shown in Table 1.

Table 1
Routine Maintenance Activities for Infiltration Systems

No.	Maintenance Task	Frequency of Task
1	Remove obstructions, debris and trash from infiltration system and dispose of properly. Drywells may cleaned by vacuuming the upper chamber with a vacuum truck.	Monthly, or as needed after storm events
2	Inspect system to ensure that it drains between storms, and within 3 days after rainfall. Check drywell/observation well 2-3 days after storm to confirm drainage.	Monthly during wet season, or as needed after storm events
3	For drywells, replace filter material (and screen if it is damaged) in accordance with City of Rancho Mirage Standard Detail No. 306 (see attached).	Monthly, or as needed after storm events
4	Monitor drywell/observation well to confirm that system has drained during dry season.	Annually, during dry season
5	Remove any trash, grass clippings and other debris in the streets, gutters or parking area (see BMP SC-43) and near the system perimeter. Dispose of properly.	As needed
6	Inspect infiltration system using the inspection checklist.	Monthly, or after storm events 1” or greater, and after removal of accumulated debris or material

Mosquito Abatement

Standing water shall not remain in the treatment measures for more than three days, to prevent mosquito generation.

Inspections

The Infiltration System Inspection and Maintenance Checklist provided shall be used to conduct inspections monthly (or as needed), identify needed maintenance, and record maintenance that is conducted.

10. PUBLIC EDUCATION AND OUTREACH

WATERSHED SPECIFIC EDUCATIONAL ACTIVITIES CONDUCTED DURING THE REPORTING PERIOD

This section provides an overview of watershed specific education activities conducted by the Permittees. During the reporting period **Appendix E** contains images of most public education materials that are described in this section.

Program Overview

The Riverside County NPDES Permittees have established an ongoing watershed based public education and outreach program known as the "**Only Rain Down the Storm Drain"** pollution prevention program. The specific objectives of the public education program include:

- Fostering a broad public awareness of water pollution concerns;
- Increasing public acceptance of pollution prevention activities to curtail everyday human behaviors that contribute to water quality problems;
- Educating/informing the general public, regulators and key local government and state decision makers on Urban Runoff conditions in Riverside County; and
- Promoting stewardship of local water resources.

The "Only Rain Down the Storm Drain" program implements the public awareness objectives by focusing on three areas of pollutant reduction/prevention:

- Public Behavior;
- Proper Management of Pollutants; and
- Business Specific Education Outreach.

In addition, when attempting to make use of the finite resources available to the Public Education Program, the Permittees use these management goals to ensure that resources are used effectively:

- Focusing on pollutants of concern specific to each watershed region;
- Coordinating public education efforts with adjacent storm water management programs and other related education programs to share resources, coordinate outreach efforts, and avoid costly duplication of effort; and
- Adapt public education programs and objectives, based on effectiveness analysis, to address changing MS4 programs and objectives.

Program Highlights

The public education program continues to develop changes for the better. Highlights include:

- The public education program has developed surveys in both English and Spanish. The purpose of these surveys is to evaluate the effectiveness of the public education program and are distributed to the public at community events. The results of these surveys are contained in **Appendix E**. Two surveys were also developed for the K-3 and 4 through 6 grades education outreach programs.

- The public education web page continues to be revamped and improved.
- The program continues to update brochures and develop outreach programs specific to the needs of the MS4.
- As part of the on-going effectiveness evaluation for the municipal training programs, testing has been incorporated into the training for evaluation of its efficiency. In addition, the overall training program was evaluated and is included in the Assessment and Enhancement Analysis of the NPDES Traning Program, August 2006 in **Appendix E.**
- Each month, the County hosts a New Employee Orientation to an average of forty new employees. All the attendees receive "Only Rain Down the Storm Drain" materials and promotionals. The Toll Free 800 Number the message to call to report illegal storm drain disposal is incorporated into all materials.

Santa Ana Pollutants of Concern

Based on monitoring data collected to date, the current 303(d) list and discussions among the Co-Permittees, and stakeholders, the following preventative pollutants of concern were established for this watershed. More discussion on the selection of preventative pollutants of concern can be found in the monitoring section of this report. After each identified pollutant, specific BMP outreach activities are identified to address the pollutant:

- Sedimentation associated with Urban Development and Land Uses
    - Specific section on construction, municipal, industrial/commercial and new development training focusing on the need to address sedimentation within the watershed;
    - Distribution of dust pans at public education outreach events to promote dry cleaning of drive ways and impervious surfaces;
    - Construction BMP Poster;
    - School/Student program incorporates education on controlling soil erosion;
    - The "After the Storm" and Storm Water Pollution, what you should know brochures
    - General Construction Activities & Outdoor Activities brochure

- Nutrients and pathogens associated with Urban Development and Land Uses
    - Specific section on construction, municipal, industrial/commercial and new development training focusing on the need to address increased nutrients within the watershed;
    - Pet Waste "What's the Scoop" brochure;
    - Partnership with SGA Advertising to place pet waste information in pet stores, veterinarian clinics, kennels and pet grooming facilities;
    - Coordination with Riverside County Animal Control Department to distribute "What's the Scoop" and "After the Storm" brochures to families adopting pets;
    - The Agricultural Commissioner assist in educating on water conservation, fertilizer management and integrated pest management practices. In conjunction with County Waste Management's Composting Workshop, the "After the Storm" brochure and

Household Hazardous Waste flyer is included in the adult informational packet.
- o "Keep Our Water Clean" video to cover proper use of fertilizers as well as excess runoff from sprinklers;
- o Earth Day mailing inserts were developed to inform residents about the problem of storm water pollution and provide simple pollution prevention activities in gardening;
- o Adult presentations conducted by RCRCD discussing the effects of fertilizers and pesticides on local waterways;
- o The "After the Storm" brochure; and
- o Construction BMP Activities brochure and poster.

In addition, the District has developed other outreach materials to focus on other pollutants and pollutant causing activities/businesses commonly associated with urban runoff. Outreach methods can be combined to focus on specific pollutants that may exist within the watershed.

24-hour Watershed-Wide Outreach Portals

The Permittees maintain three 24-hour/7 days per week watershed wide portals to receive and distribute information regarding the "Only Rain Down the Storm Drain" program. These portals include a website, 1-800 number, and an e-mail address.

Storm Water Protection Program Website

The District operates a website that provides information on how to report illegal dumping, clogged storm drains, facility signage and worn or missing curb markers, as well as provide information on upcoming activities, opportunities for public participation in program development and general information about Urban Runoff pollution prevention techniques. The website is located at:

http://www.floodcontrol.co.riverside.ca.us/stormwater/

Almost all of the District's outreach materials have been scanned into an electronic .pdf format and are available for download. Online Order forms and phone numbers are also available to assist in obtaining information that might not be available online.

The website contains pages specific to the following target audiences:
- General Public/Residents
- Businesses
- Developers
- Contractors
- Schools and Teachers
- Kids Page

In addition the website contains links to:

- Assist viewers in locating their watershed
- An online media library
- Materials order form
- 1-800 information to report storm drain pollution

The District tracks the number of hits to its public education website. The website was completely revamped during the previous reporting period and the web-page counter replaced this reporting period. Results of the webpage counter report are included in **Appendix E.**

Storm Water toll free 1-800 Hotline

On October 1994, a Toll Free "800" telephone number for reporting suspected Urban Runoff pollution and obtaining pollution prevention information was established.

1. This call line offers easy to understand instructions for connecting to County Environmental Health or Waste Management to obtain grasscycling, composting, or household hazardous waste collection dates and locations.
2. The 24-hour Hotline also allows callers to report clogged catch basin inlets, illegal dumping and other illicit discharge violations.
3. Finally, the hotline allows people to order public education materials and/or request storm water presentations for schools or community groups. The Permittees advertise the hotline in all appropriate County telephone directories, public education outreach materials, and in other appropriate venues and locations. Callers to the hotline are given options to seek emergency services if the spill is of a suspicious origin or a safety issue.

The 1-800 line diverts callers to appropriate Permittee departments based on caller selections. Callers requesting information on pollution collection activities are diverted to either County Environmental Health or Waste Management depending on their specific selection. Callers reporting illicit discharges are directed to County Code Enforcement, who accepts the calls and then re-directs them to appropriate Permittee Code Enforcement Departments. Calls for public education materials or presentations are directed to the district's front desk and then to the District's Public Education Staff. School presentation inquiries are directed to the Riverside County Conservation District office, who have been contracted to provide education to elementary schools in the Santa Ana Region. The specific text to the hotline is included as **Exhibit A**.

The provider of the 1-800 line, Riverside County Communication, tracks the number of incoming calls to the line. This tracking mechanism was discontinued during past reporting period but restored this reporting period.

Exhibit A
"ONLY RAIN DOWN THE STORM DRAIN" POLLUTION PREVENTION PROGRAM

TOLL FREE 1-800 LINE DIALOGUE

Thank you for calling the "Only Rain Down the Storm Drain" Pollution Prevention Program. To better serve the needs of our County communities, please listen carefully to the following options:

If this is an emergency, or you wish to report a significant release or threatened releases of hazardous material into the storm drain or elsewhere in the environment, please hang up and immediately Dial 911.

(Si esta llamada es una emergencia o decea reportar desechos de contaminantes peligrosos en las alcantarillas o en el medio ambiente, por favor cuelge y llame 911.)

For water service connection, disconnection, or any other water utility information, call your local water service provider.

To report illegal dumping at residential, commercial, industrial or construction sites, please call Environmental Health at 951.955.8982, or press #1 to be directly connected.

For information regarding Household Hazardous Waste Collection Events, please Press #2.

To report clogged storm drains, please call your local municipal public works department. To report faded or missing "Only Rain Down the Storm Drain" storm drain markers, please press #3.

For General or specific business pollution prevention information or to receive other pollution prevention information please press #3.

(Drop Off Dialogue)

Thank you for your interest in obtaining information on storm drain pollution protection. Basic, construction, industrial, commercial and children's storm water protection outreach packets are available. For a quick response to your request, please slowly and clearly leave your name, address, city and zip code. Also state the type and quantity of the materials you are interested in receiving. Should you need additional assistance, provide your area code and phone number and someone will contact you as soon as possible.

To inquire about our free storm water classroom presentations, workshops, youth group activities and other outreach programs, please press #4.

(Drop Off Dialogue)

The "Only Rain Down the Storm Drain" public education program offers classroom presentations, workshops, youth group activities, special event opportunities and other programs. For inquiries for the Temecula or Murrieta area, please press #1 (Drops to Mission Resource Conservation District)

For inquiries in all other Riverside County areas, press 2 (drops to Riverside/Corona Resource Conservation District).

For Grasscycling and composting information or workshops, please PRESS #5. (to 951.486.3200)

For additional assistance regarding our storm drain pollution prevention program during regular business office hours, Monday through Thursday from 7:30 am to 5:30 pm and on Friday from 7:30 am to 4:30 pm

E-mail

The Permittees also maintain an e-mail address that can be used to report illicit discharges or request storm water related public information. The e-mail address is:

Flood.fcnpdes@co.riverside.ca.us

E-mails are received by the District's Public Information Specialist and are responded to, in most cases, within 2 business days.

Program Coordination with other Stakeholders

The "Only Rain Down the Storm Drain" program has used partnerships to leverage and increase available resources. The Permittees utilize every opportunity to work with Co-permittees, local environmental groups, and other public, private and business organizations to maximize use of existing distribution outlets, events, programs and materials. Impressions, attendance, and other measures of effectiveness relative to these programs are included in **Appendix E** (Public Education) of this Watershed Annual Report.

To facilitate statewide awareness of storm water public education, educate local and state decision makers, and assist in the development of more effective public education outreach programs, the District participates in the following public education committees:

- Public Information Public Participation Committee (PIPP) – A subcommittee of the California Storm Water Quality Association, and
- Western Regional Pollution Prevention Network (WRPPN)

To leverage education outreach resources and coordinate public education activities with other environmental programs, the Permittees closely coordinate and/or have existing partnerships with the following entities/organizations:

- Household Hazardous Waste Information Exchange (HHWIE); This is an eGroup that provides household hazardous waste affiliates the ability to better communicate, share ideas and the latest in legislative rulings.
- Riverside-Corona Resource Conservation District (RCRCD);
- Partnership to provide student education outreach in the Santa Ana and Whitewater Watersheds
- Partnership to provide adult education outreach activities in the Santa Ana and Whitewater Watersheds
- Partnership to provide support services for public education outreach activities at community events
- Mission Resource Conservation District (RCRCD);
- Partnership to provide student education outreach in the Santa Ana and Santa Margarita Watersheds
- Partnership to provide adult education outreach activities in the Santa Ana and Santa Margarita Watersheds

  - Partnership to provide support services for public education outreach activities at community events

- California Regional Environmental Education Community Network (CREEC)
  - A network whose mission is to develop a communication network which provides educators with access to high quality environmental education resources to enhance the environmental literacy of California students.

- Santa Ana River Watershed Clean Up Stakeholders Group in coordination with Riverside Corona Conservation District, Keep Riverside Clean and Beautiful and the California Coastal Commission's Coast. This collaboration of environmental partners support and encourage volunteers, allies and groups to gather for a day to remove trash and debris from the Santa Ana River that might otherwise flow downstream, through the river to the ocean.

- In addition the "Only Rain Down the Storm Drain" program also coordinates with the following City/County departments to distribute appropriate storm water education outreach materials:

  - City/County/District Front Counters
  - County Waste Management
  - County Public Health Department
  - Agriculture Department
  - County Executive Offices
  - Code Enforcement
  - County Parks
  - Animal Control;
  - Economic Development Agency
  - County Assessor/Recorders Office
  - Bio-terrorism
  - Fleet Services
  - Human Resources
  - Library System
  - Central Mail
    - Stamp on every piece of mail sent by the County that identifies the 1-800 Number and requests that citizens call it to report storm drain pollution.
  - County Safety
  - County DPSS
  - Transportation and Land Management

In general, brochures and promotional items are provided to these departments for distribution in public lobbies, training sessions, through customer interactions and new employee orientations.

Finally, the "Only Drain Down the Storm Drain" Program also coordinates with the following state and/or local government or business entities to distribute public education information:

- Western Riverside Council of Governments
- Santa Ana Regional Water Quality Control Board
- Orange County Watershed & Coastal Resources Division
- Santa Ana Watershed Association
- South Coast Air Quality Management District
- Santa Rosa Plateau
- Bureau of Reclamation
- Elsinore Valley Municipal Water District
- Metropolitan Water District
- Lake Elsinore/San Jacinto Watershed Authority
- Eastern Municipal Water District
- The Water Education Center
- Rancho California Water District
- Valley Greeters
- Department of Water Resources Southern District
- Western Municipal Water District
- Business Industrial Association (BIA)
- Caltrans

Outreach Tools to Change Public Behavior

The "Only Rain Down the Storm Drain" program conducts a wide range of outreach activities to residents, students, community groups, new home owners, homeowner associations; informing them of how their "everyday activities" may contribute to the pollution of Receiving Waters, and encouraging them to adopt alternatives that will lessen or eliminate pollution-causing behaviors. Program efforts include providing information on pollution prevention techniques and informing residents about the proper disposal of household hazardous wastes, construction materials, used motor oil, pet waste and litter. Public education materials and media emphasize the theme that all citizens have a role to play in reducing and preventing the polluting of Receiving Waters. The goal is to present a clear and consistent message that explains the simple connections between people's everyday activities and their impacts upon Receiving Water quality.

As the public education and outreach program continues to be implemented and enhanced, the Permittees hope to broaden public awareness of Urban Runoff quality problems, promote proper disposal of household hazardous waste and motor oil, encourage illegal discharge reporting, foster good stewardship of Receiving Waters, and take personal responsibility for their actions in preventing pollution.

While public education outreach at events indicates that most people are willing to act in an environmentally responsible manner if given simple ways to change their behavior to avoid polluting our water bodies; most are unaware of the sources of pollution from everyday urban land use. The "Only Rain Down the Storm Drain" pollution prevention program using various media forms educates the County's population about modified behaviors to prevent storm water pollution by focusing on residents, general public, students, home gardeners, do-it-yourselfers, mobile businesses, etc.

Direct Outreach Methods

The "Only Rain Down the Storm Drain" program interfaces directly via program staff, or through contracts and partnerships, to the public through attendance at community events, school education programs, adult education programs and/or by providing classroom based training. Specific outreach activities, segregated by target audiences, are described below.

General Community Outreach

The "Only Rain Down the Storm Drain" program participates in various community events to ensure that our message is delivered to the largest possible municipal audience. At these community events, surveys, to assess overall program effectiveness, have been used.

In addition, the "Only Rain Down the Storm Drain" program has partnered with County Environmental Health to ensure that a storm drain pollution prevention material is available and distributed at all Household Hazardous Waste and Antifreeze, Batteries, Oil and Paint Collection Centers and/or Events throughout each of the Watershed Region's within Riverside County. These events provide free disposal sites for receiving common pollutants that can impair Receiving Waters.

Elementary School Outreach

Elementary (K-6)

The Riverside County Resource Conservation District (RCRCD) continues to provide a variety of K-6 education programs for the "Only Rain Down the Storm Drain" Program. The K-6 education program includes materials such as the Storm Water Pollution Prevention Patrol workbook, the Fancy Fin hands-on classroom presentation and accompanying coloring book, various word match and crossword activity sheets and videos. A second story line featuring Fancy Fin and her friend Phinnious J. Green (a Pacific Tree Frog) educate students about point and non-point pollution and their effects on the environment and other creatures in the watershed. School materials are offered to all public and provide schools in the Santa Ana Watershed Region, as well as to youth groups such as the boy and girl scouts.

Secondary Schools

A video entitled "How to Conduct an Environmentally Friendly Car Wash and Make Money Too" was developed for the "Car Wash Challenge" program. An accompanying flyer is also used which informs students/groups of the potential storm water problems generated from car wash runoff, and provides practical BMPs to minimize or eliminate contaminated runoff. The original focus of the program was high school clubs. However, after contacting several high schools, it was discovered that car washing fundraisers are relatively rare and revenue deficient in comparison with other high

school fund raising activities. Nevertheless, church groups, scout troops and other organizations do conduct car wash fundraisers. Thus, the scope of the Car Wash Challenge program has been expanded to include these additional fundraising organizations.

Adult Outreach

Valley Greeters is a "Welcoming Wagon" business taking discount coupons, product samples and general vicinity information door to door to new residents and homeowners to the Temecula, Murrieta and Lake Elsinore area. For the past four years, Valley Greeters has included our MS4 materials, (After the Storm; What's the Scoop; Pool, Spa and Fountain Maintenance and HHW Collection Schedule). This information is accompanied with a handy full size dustpan, shop cloth and vehicle air freshener. Every material and promotional is clearly imprinted with the 1-800 Toll Free number for reporting illegal discharges into the storm drain. Young family members receive a copy of Fancy Finn and box of crayons. This business is solely dependent on the status of the construction economy and by January, 07 experienced a considerable slowdown.

The "Only Rain Down the Storm Drain" program contracts with the Riverside/Corona Resource Conservation District for public outreach. Storm Water Pollution Prevention presentations are given to community groups who call and request such services.

Steve Groner & Associates has been retained to prepare and present workshops at major home improvement stores throughout Riverside County. The workshops include passing out reading material regarding targeted BMPs to the public through established corporate partnerships (paint, hardware, home show coordinators, home improvement, garden centers, nurseries and pet stores). All commercial employees are informed about storm water impacts that could occur from the improper application of all types of home and garden hazardous chemicals. In turn, the employees are then able to share with customers on the proper use and disposal of products that are potential storm drain pollutants. Attendees at the workshop receive "Only Rain Down the Storm Drain" promotionals to help emphasize the storm water pollution prevention message. Fixed advertising tools such as counter displays, tear sheets have been placed throughout to attract attention.

Brochures

Residential: After the Storm; Storm Water Pollution and the Solutions, Household Hazardous Waste Collection Schedule, Outdoor Activities; Swimming Pool, Jacuzzi and Fountain Maintenance; and What's the Scoop (Pet waste).

Outreach Materials

In addition to the brochures mentioned above, the program utilizes other effective outreach materials such as, magnets, a billboard ad, videos, newspaper supplements, flyers, door knob hangers, calendars, promotionals items, workbooks, curriculum, shop rags, shelf talkers, tear sheets, posters and print ads to cultivate interest in the program.

A door hanger is also being utilized to help address problem discharges that are commonly observed in residential settings. The door hanger notifies the recipient that a problem discharge was observed flowing in to the street and offering help by following recommended pollution prevention activities. The door hanger is provided to all cities and is used by various County departments and the NPDES staff when conducting field or site activities/inspections.

Mailing Inserts/Slugs

The "Only Rain Down the Storm Drain" Pollution Prevention Program encourages advertising the County's Household Hazardous Waste Collection events via the use of mail inserts. The inserts are included in various utility bills and special notice mass mailings.

In addition, the "Only Rain Down the Storm Drain" program has coordinated with the County Mail Department to have the postage meter carry the "Only Rain Down the Storm Drain" message and the 1-800 Toll Free number to report an illegal storm drain disposal or spill. In 05/06, over 5,000,000 pieces of outgoing County mail were stamped with the message. In November of 06, the postage system was replaced with more sophisticated postage meter units but the cost of the ink in the new system far exceeded the costs and benefits from other media options and therefore this media venue was dissolved.

Media Outreach

The "Only Rain Down the Storm Drain" Program continues to utilize various mass media to reach the public and promote the storm water pollution prevention. Special newspaper inserts, fliers, and advertisements help increase public awareness of storm water pollution and environmental protection.

- Our Sixth Edition of a four-page insert called the National Pollution Prevention or P-2, (National Pollution Prevention Week recognization), was distributed Countywide through the PennySaver. The insert included topics on proper disposal of pet waste, pesticide alternatives, motor oil recycling, grass-cycling, pool and spa best management practices, storm drain marking program, storm water school presentations, general storm drain pollution protection, business storm water pollution information, household hazardous waste (HHW) collection events, syringe disposal program, composting workshops and motor oil specific recycling locations. The insert is released to over 650,500 Riverside County homes generating an increase of calls to the 800 Toll Free Hotline and District IC/ID investigations.

Cooperative Used Oil Program

The Western Riverside Council of Governments (WRCOG) is responsible for administering the Used Oil Block Cycle Grant on behalf of ten cities within WRCOG's boundaries. These cities include: Banning, Beaumont, Canyon Lake, Lake Elsinore, Murrieta, Norco, Perris, Riverside, San Jacinto and Temecula.

The objective of the Used Oil Block Grant is to make it convenient for Do-It-Yourselfers (DIYers) to recycle their used oil and to make it easy for them to find a Certified Center accepting used oil. In order for these centers to be certified, they need to apply for certification with the California Integrated Waste Management Board (CIWMB). As a grant recipient, WRCOG contacts non-certified centers in the jurisdiction to interest them in becoming certified used motor oil collection center. The goal is to see a significant decrease in the amount of illegally dumped motor oil by adding more oil collection centers within close proximity to users.

Through the same grant funding source, WRCOG also provides used oil containers for distribution to DIYers who need proper containers for automotive fluids. Through WRCOG efforts, all certified centers in the County are in compliance to state and local mandates.

The Storm Drain Pollution Prevention Program assists WRCOG's efforts by making available our MS4 information and supporting promotionals for distributions to their targeted groups.

At various venues, WRCOG staff obtain participant responses to a ten question survey. The survey examines the public's understanding on:

- used oil recycling,
- used oil drop-off locations,
- curbside programs, and other local recycling programs.

The program also maintains an English and Spanish 800 hotline that can be used to get answers to any recycling question a resident may have regarding, "where the nearest Certified Center is located?" and "where can I find a used oil container?". The phone number is printed on all distributed materials including the oil containers.

Cleanest County in the West Program

Through another grant funding source, WRCOG created the "Cleanest County in the West" program to address issues relating to litter and illegal dumping. The program was designed to assist jurisdictions in meeting the 50% diversion goals mandated by Assembly Bill 939. AB 939 was a state mandate signed in 1989 that required cities to reduce their waste by 50% by the Year 2000.

The core of the program is the elementary school assembly. WRCOG partners with Radio Disney AM 1290 to present an interactive and informational presentation for children in grades K-6th. This program continually reinforces the responsibility of everyone to recycle and pick up litter.

WRCOG at the end of the assembly gives the school two recycling containers for the collection of cans and bottles. During the 06/07 school year, over 18,000 students and 600 teachers have experienced the assembly. Each student receives an environmental activity book and an application to join the Riverside County Kids Recycle Club where they will receive a quarterly newspaper. This club has over 200 members.

Like the "Only Rain Down the Storm Drain" Program which promotes litter reduction and recycling throughout the Santa Ana Region, WRCOG also participates in events to promote litter reduction and beverage container recycling. These events gives staff an opportunity to assess how informed the local community is regarding recycling and also allows us to distribute brochures and informational flyers that will assist people in finding the nearest recycling center. During these events promotional items made from recycled content are also given out to show examples on how used items such as money can be recycled into new things such as a pencil, a promotional product first used by the "Only Rain Down the Storm Drain" Program. This particular promotional item especially increases the interest of the people visiting out booth and demonstrates how almost anything can be recycled and reused.

Outreach tools specific to Business Specific

The "Only Rain Down the Storm Drain" Program conducts a wide range of outreach activities to businesses; informing them of how their "everyday activities" may contribute to the pollution of Receiving Waters, and encouraging them to adopt alternatives that will lessen or eliminate polluting-causing activities. Program efforts include providing information on pollution prevention techniques and informing businesses about the proper disposal of wastes. Public education materials and media emphasize the theme that all businesses have a role to play in reducing and preventing the polluting of Receiving waters. The goal is to present a clear and consistent message that explains the simple connections between a business' everyday activities and their impacts upon Receiving Water quality.

Originally, the business education program mainly consisted of the development and distribution of formal BMP guidance and outreach to business associations. The program has now expanded to include direct outreach to businesses through classroom formats, advertising in business trade papers and providing exhibits at various business specific symposiums.

Discussion of the current Business Specific Outreach tools implemented by the Permittees are discussed below.

Direct Business Outreach Activities

The "Only Rain Down the Storm Drain" Program partners with various entities to provide training and education. Currently, the District has allowed AEI-CASC Engineering, a consultant who provides the Permittees internal education programs to train developers and consultants regarding the new WQMP/SUSMP requirements for Riverside County. The District has partnered with Riverside/Corona Resource Conservation District, to develop a Water Quality Design class that focuses on sub-regional solutions and low impact development. This class was offered for the first time through UCR extension in October 2005. Additionally, the District presented at Construction Storm Water Compliance Workshop hosted by the Building Industry Association of Southern California (BIA/SC) on March 22, 2006. The workshop focused on state and municipal construction requirements for contractors, developers, and consultants.

Through the Compliance Assistance Program (CAP), a partnership with County Environmental Health restaurants and businesses that handle hazardous wastes are reviewed for potential storm water impacts from their activities. Each business is provided with storm drain pollution prevention public education outreach information specific to their activities.

Steve Groner Associates has been retained to prepare and present workshops at major home improvement stores throughout Riverside County. The workshops include a handout educating the store's employees about storm water impacts that could occur from improper application of paint, pesticides or fertilizers. Attendees at the workshop also receive "Only Rain Down the Storm Drain" information and promotionals to help highlight the storm water protection message. Employees are then able to share with customers the proper use and disposal of products that are potential storm drain pollutants. Point of purchase displays, tearsheets, and counter displays have been installed at strategic locations to educate the public directly.

Each new business trade in Riverside County that is listed in the Inland Business Press newspaper is provided with an "Only Rain Down the Storm Drain" Pollution Prevention packet.

Brochures

Commercial*:* After the Storm; Food Facilities; Outdoor Cleaning Activities and Non-Point Source Discharges; Automotive Maintenance & Car Care. Note: (Staff is revising the Outdoor Activity brochure to include broader examples of urban pollution causing activities such as, power washers and mobile vehicle maintenance operators).

Industrial*:* After the Storm; Outdoor Cleaning Activities and Non-Point Source Discharges; and Your Facility May Need a Storm Water Permit.

Construction*:* After the Storm; Outdoor Cleaning Activities and Non-Point Source Discharges; General Construction & Site Supervision The revision to the construction brochure is pending the finalization of the construction permit.

Posters

BMP posters for automotive, food service establishments (available in Spanish) and construction employees are available. The posters address activities associated with the automotive repair industry, and the food/restaurant industry that may pose a threat to water quality. There are also two new posters for the Fueling Stations and Service Bay Service centers. All the posters recommend storm water BMPs and are designed to serve as informative and attractive visual reminders for employees.

Media Outreach

In March, 07, a full-page ad was placed in the Inland Business Press newspaper to draw the attention of Inland Empire businesses whose urban runoff activities might be threatening local

water quality. The ad also provided links to the District's and CASQA's website for more detailed BMP information.

Supplemental Environmental Projects (SEP)

In an effort to change the behaviors of large storm drain pollution prevention offenders in the County, Environmental Health established a Supplemental Environmental Project (S.E.P.). The S.E.P. requires from the violator a monetary fine and/or the violator's cooperation for the development of a public education tool on the effects of polluted urban run off. S.E.P.'s to date include:

- A Downs Energy SEP project resulted in the development of a billboard ad that has been greeting commuters traveling Westbound on the 60 Freeway lanes.

Outreach tools specific to Pollutants

"Only Rain Down the Storm Drain" Pollution Prevention Program conducts a wide range of outreach activities focusing on reduction of certain pollutants in the receiving waters. These outreach activities focus on sources of those pollutants whether it is residential, business, municipal or some other state or federal source. Education materials explain how "everyday activities" of potential sources may contribute to the pollution of receiving waters, and encourage the sources to adopt alternative approaches to pollutant management that will lessen or eliminate polluting-causing activities. Program efforts include providing information on pollution prevention techniques and informing sources about the proper disposal of pollutants. Public education materials and media emphasize the theme that all citizens/businesses have a role to play in reducing and preventing the polluting of receiving waters. The goal is to present a clear and consistent message that explains the simple connections between a business' everyday activities and their impacts upon receiving water quality.

Each subsection that follows identifies how existing outreach materials previously described address specific potential pollutant sources in the watershed.

Use of pesticides, fertilizers, and herbicides

A. The Riverside County Agricultural Commissioner's Pesticide Applicator's License renewal information package includes materials on the proper use of pesticides and offers information on training workshops. The license renewal process requires continuing education of applicants and detailed record keeping of pesticide applications. Municipal employees that are responsible for the application of pesticides are encouraged to obtain and maintain credentials as Certified Applicators and/or licensed Pest Control Advisors.

B. The "Home Garden Care" materials are being revised to draw and attract the interest of the general public and amateur gardener. The new materials will include Integrated Pest Management and plant selection and materials from the State Water Resource Control Board, Central Contra Costa IPM Outreach Program, University of California and The

Orange County Storm Water Program are being used. All the materials selected offer alternatives to using chemically based pesticides, herbicides and fertilizers.

C. The "Keep Our Water Clean" video covers proper use of pesticides, fertilizers and herbicides as well as excess runoff from sprinklers.

D. The September annual “Only Rain Down The Storm Drain’s” participation in the National Pollution Prevention Week insert informs residents about the problem of storm water pollution and provides simple pollution prevention activities in gardening.

E. The “Only Rain Down The Storm Drain” adult presentations conducted by RCRCD discusses the effects of pesticides and fertilizers on local waterways. The materials distributed following the presentation promote alternatives to pesticide use in the yard and garden.

F. The 2006 Environmental Calendar included a wide array of storm water protection information. It is designed to attract the adult audience by listing best management practices, scheduled special events, household hazardous waste collection sites, used oil collection sites, composting workshops, citywide clean ups, and each of the watersheds along with geographical information. Throughout the calendar the main message is “Only Rain Down The Storm Drain” and the hotline number to call for additional home garden care information.

G. Steve Groner Associates has been retained to prepare and present employee workshops at major home improvement stores throughout Riverside County. This information is then passed on to the public via the shelf talkers accessible to the public or when an employee is addressed with a question. The workshops include information on BMPs the public should be aware of for pesticide and fertilizer application, use, and storage.

Appendix E

Soils Report

Appendix F

Structural BMP and/or Retention Facility Sizing Calculations and Design Details

SW CORNER – CALHOUN ATREET AT 49TH AVENUE SUBDIVISION

COACHELLA, CA

PRELIMINARY HYDROLOGY REPORT

PREPARED FOR:
PACIFIC COAST PROPERTIES
43-584 VIA MAGELLAN DRIVE
PALM DESERT, CA 92211
(760) 799-8227

PREPARED BY:
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January 17, 2025

Prepared Under the Supervision of:

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R.C.E. 58394
Expiration Date: December 31, 2026



SW CORNER – CALHOUN ATREET AT 49TH AVENUE SUBDIVISION

PRELIMINARY HYDROLOGY REPORT

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I. PURPOSE AND SCOPE

This report was prepared in support of the Calhoun Street at 49th Avenue Subdivision entitlement package submittal. The purpose of this preliminary report is to analyze the existing and proposed drainage patterns, discuss the on-site drainage design and size the proposed on-site drainage facilities to meet the City of Coachella drainage ordinance requirements.

The existing project site is an undeveloped lot at the southwesterly corner of the intersection of Calhoun Street and 49th Avenue in Coachella, CA. The proposed project improvements include the addition of residential lots with an interior access drive serving the lots on a 38.76 acre parcel. The site is bound to the north and east with fully improved public streets, to the east by a residential subdivision under development and to the south by an existing residential subdivision. The project proposes to obtain access to the site from Calhoun Street to the east, and from 49th Avenue to the north. The site will be drain via street surface flow to a series of on-site retention basins designed to capture and and store the storm run off generated during the 100 year design storm event. In general, the existing site is not subject to offsite storm flows.

II. DESIGN METHODOLOGY AND CALCULATIONS

The Calhoun Street project will provide five (5) on-site storm drain infiltration retention basin systems designed to capture and store the runoff generated from the "worst case" 100 year design storm based on City of Coachella requirements. The five retention basins have a combined volume capacity designed to store the runoff generated on-site during the 100 year design storm as well as runoff from the Calhoun Street half street project frontage and the 49 Avenue full width street frontage within the public right of way. The low point on the existing project site occurs on the project's easterly frontage. Runoff that exceeds the capacity of the on-site retention basin storage systems in an emergency overflow condition is designed to overflow onto interior surface streets and exit via surface flow onto Calhoun Street following the historical drainage pattern toward the south.

Riverside County Flood Control District Synthetic Unit Hydrograph methods are used to quantify the runoff volume generated and stored on-site during the 100 year "worst case" design storm return period. The program data and results prepared for this project are included in the Appendix of this report. The program model typically accounts for the volume of runoff lost due to infiltration in the basins and the allowable design retention basin infiltration rate of 10 gal./s.f./day (0.67 in/hr) established by City of Coachella will be applied over the surface area of the basin bottoms. The combined capacity of all five on-site basins will be compared to the total design runoff volume calculated for the Calhoun Street project to show that runoff generated during the 100 year design storm can be stored within the basins at a depth not to exceed 3ft and the runoff generated during the 10 year storm event can be stored within the on-site basins at a depth not to exceed 1.5 feet in accordance with City of Coachella retention basin criteria.

City of Coachella requires that runoff water stored on-site must be evacuated completely via infiltration within a period of 72 hours in order to comply with vector control concerns. In order to help facilitate this requirement, City of Coachella has limited the maximum depth of

stored runoff within any basin to 1.5' during the 10 year storm event and the maximum depth of any on-site retention basin must not exceed 3.5 feet.

On-site street curb and gutter systems will be designed to convey runoff to the on-site retention basin systems via surface flow. The project site will be designed to ensure that surface runoff generated during the 10 year storm is contained below the top of the proposed street curbs and runoff generated during the 100 year storm event is contained within street right of way. Street flowrates (Q) will be calculated by applying the Rational Method using CivilD software.

DESIGN CRITERIA

The following Riverside County Flood Control District (RCFCD) parameters were used in the preparation of the analyses:

- 2 year – 1 hour Precipitation 0.35" (NOAA)
- 10 year – 1 hour Precipitation 0.70" (NOAA)
- 10 year – 3 hour Precipitation 1.04" (NOAA)
- 10 year – 6 hour Precipitation 1.36" (NOAA)
- 10 year – 24 hour Precipitation 1.04" (NOAA)
- 100 year – 1 hour Precipitation 1.37" (NOAA)
- 100 year – 3 hour Precipitation 2.12" (NOAA)
- 100 year – 6 hour Precipitation 2.78" (NOAA)
- 100 year – 24 hour Precipitation 4.47" (NOAA)
- Hydrologic Soil Type "B" US Dept. of Agriculture, SCS
- Runoff Index Number 56 (RCFC&WCD Plate E-6.1)
- Assumed Design Percolation Rate 0.67 in/hr
- Slope Intensity Duration Curve 0.59 (RCFC&WCD Plate D-4.6)

III RCFCD SYNTHETIC UNIT HYDROGRAPH CALCULATED RETENTION VOLUMES

SUBAREA	100 YR. VOLUME REQUIRED (CU.FT.)	BASIN VOLUME PROVIDED (CU.FT.)	100 YR. BASIN STORAGE DEPTH	10 YR. BASIN STORAGE DEPTH
1	9,580	12,250	2.45	0.72
2	57,661	64,193	3.19’	0.99’
3	53,709	62,528	3.07’	0.94’
4	51,654	57,236	3.20	0.99
5	41,999	72,828	2.14’	0.54

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 10 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 1		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	1.18		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS			
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	0.83		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	1000		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	15		
30				
31	ELEVATION OF HEADWATER	471.5		
32	ELEVATION OF CONCENTRATION POINT	468.8		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	1.04		
40	6-HOUR	1.36		
41	24-HOUR	2.23		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		465	3025	
45		466	3700	
46		467	4430	
47		468	5215	
48		468.5	5630	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 1
[3] AREA - ACRES	2.010
[4] L-FEET	1000
[5] L-MILES	0.189
[6] La-FEET	15.00
[7] La-MILES	0.003
[8] ELEVATION OF HEADWATER	471.5
[9] ELEVATION OF CONCENTRATION POINT	468.8
[10] H-FEET	2.7
[11] S-FEET/MILE	14.3
[12] S^0.5	3.78
[13] L*LCA/S^0.5	0.000
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.02
[16] LAG TIME-MINUTES	1.0
[17] 100% OF LAG-MINUTES	1.0
[18] 200% OF LAG-MINUTES	2.0
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.05

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
1.04	2.010	1.00	1.04	1.36	2.010	1.00	1.36	2.23	2.010	1.00	2.23
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	2.01	SUM [7]	1.04	SUM [9]	2.01	SUM [11]	1.36	SUM [13]	2.01	SUM [15]	2.23
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			1.04				1.36				2.23

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	0.40	0.39	0.26
FLOOD VOLUME	(cu-ft)	2,906	2,880	1,903
	(acre-ft)	0.07	0.07	0.04
REQUIRED STORAGE	(cu-ft)	2,439	2,140	370
	(acre-ft)	0.06	0.05	0.01
PEAK FLOW	(cfs)	1.56	1.34	0.19
MAXIMUM WSEL	(ft)	465.72	465.64	465.10

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	1.18	0.587	0.0305
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	0.00	0.000	0.0000
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	0.83	0.413	0.2147
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		2.01	SUM	0.2453

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.122626866
C= 0.00227

Ft=C(24-(T/60))^1.55 = 0.00227 (24-(T/60))^1.55 + 0.12 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.01
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.00
UNIT TIME-PERCENT OF LAG	502.5
TOTAL ADJUSTED STORM RAIN-INCHES	1.04
CONSTANT LOSS RATE-in/hr	0.25
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.05 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.162	0.25	0.15	0.02	0.03	0.00
2	10	0.17	1.3	0.162	0.25	0.15	0.02	0.03	0.00
3	15	0.25	1.1	0.137	0.25	0.12	0.01	0.03	0.00
4	20	0.33	1.5	0.187	0.25	0.17	0.02	0.04	0.00
5	25	0.42	1.5	0.187	0.25	0.17	0.02	0.04	0.00
6	30	0.50	1.8	0.225	0.25	0.20	0.02	0.05	0.00
7	35	0.58	1.5	0.187	0.25	0.17	0.02	0.04	0.00
8	40	0.67	1.8	0.225	0.25	0.20	0.02	0.05	0.00
9	45	0.75	1.8	0.225	0.25	0.20	0.02	0.05	0.00
10	50	0.83	1.5	0.187	0.25	0.17	0.02	0.04	0.00
11	55	0.92	1.6	0.200	0.25	0.18	0.02	0.04	0.00
12	60	1.00	1.8	0.225	0.25	0.20	0.02	0.05	0.00
13	65	1.08	2.2	0.275	0.25	0.25	0.03	0.06	3.60
14	70	1.17	2.2	0.275	0.25	0.25	0.03	0.06	3.60
15	75	1.25	2.2	0.275	0.25	0.25	0.03	0.06	3.60
16	80	1.33	2.0	0.250	0.25	0.22	0.00	0.01	0.00
17	85	1.42	2.6	0.324	0.25	0.29	0.08	0.16	33.70
18	90	1.50	2.7	0.337	0.25	0.30	0.09	0.18	41.22
19	95	1.58	2.4	0.300	0.25	0.27	0.05	0.11	18.65
20	100	1.67	2.7	0.337	0.25	0.30	0.09	0.18	41.22
21	105	1.75	3.3	0.412	0.25	0.37	0.17	0.33	86.38
22	110	1.83	3.1	0.387	0.25	0.35	0.14	0.28	71.33
23	115	1.92	2.9	0.362	0.25	0.33	0.12	0.23	56.28
24	120	2.00	3.0	0.374	0.25	0.34	0.13	0.26	63.80
25	125	2.08	3.1	0.387	0.25	0.35	0.14	0.28	71.33
26	130	2.17	4.2	0.524	0.25	0.47	0.28	0.56	154.11
27	135	2.25	5.0	0.624	0.25	0.56	0.38	0.76	214.31
28	140	2.33	3.5	0.437	0.25	0.39	0.19	0.39	101.43
29	145	2.42	6.8	0.849	0.25	0.76	0.60	1.21	349.77
30	150	2.50	7.3	0.911	0.25	0.82	0.67	1.34	387.39
31	155	2.58	8.2	1.023	0.25	0.92	0.78	1.56	455.12
32	160	2.67	5.9	0.736	0.25	0.66	0.49	0.99	282.04
33	165	2.75	2.0	0.250	0.25	0.22	0.00	0.01	0.00
34	170	2.83	1.8	0.225	0.25	0.20	0.02	0.05	0.00
35	175	2.92	1.8	0.225	0.25	0.20	0.02	0.05	0.00
36	180	3.00	0.6	0.075	0.25	0.07	0.01	0.02	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.40
FLOOD VOLUME (acft)	0.07
FLOOD VOLUME (cuft)	2906.38
REQUIRED STORAGE (acft)	0.06
REQUIRED STORAGE (cuft)	2438.86
PEAK FLOW RATE (cfs)	1.56

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.01
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.00
UNIT TIME-PERCENT OF LAG	502.5
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.245
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.05 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.082	0.25	0.07	0.01	0.02	0.00
2	10	0.17	0.6	0.098	0.25	0.09	0.01	0.02	0.00
3	15	0.25	0.6	0.098	0.25	0.09	0.01	0.02	0.00
4	20	0.33	0.6	0.098	0.25	0.09	0.01	0.02	0.00
5	25	0.42	0.6	0.098	0.25	0.09	0.01	0.02	0.00
6	30	0.50	0.7	0.114	0.25	0.10	0.01	0.02	0.00
7	35	0.58	0.7	0.114	0.25	0.10	0.01	0.02	0.00
8	40	0.67	0.7	0.114	0.25	0.10	0.01	0.02	0.00
9	45	0.75	0.7	0.114	0.25	0.10	0.01	0.02	0.00
10	50	0.83	0.7	0.114	0.25	0.10	0.01	0.02	0.00
11	55	0.92	0.7	0.114	0.25	0.10	0.01	0.02	0.00
12	60	1.00	0.8	0.131	0.25	0.12	0.01	0.03	0.00
13	65	1.08	0.8	0.131	0.25	0.12	0.01	0.03	0.00
14	70	1.17	0.8	0.131	0.25	0.12	0.01	0.03	0.00
15	75	1.25	0.8	0.131	0.25	0.12	0.01	0.03	0.00
16	80	1.33	0.8	0.131	0.25	0.12	0.01	0.03	0.00
17	85	1.42	0.8	0.131	0.25	0.12	0.01	0.03	0.00
18	90	1.50	0.8	0.131	0.25	0.12	0.01	0.03	0.00
19	95	1.58	0.8	0.131	0.25	0.12	0.01	0.03	0.00
20	100	1.67	0.8	0.131	0.25	0.12	0.01	0.03	0.00
21	105	1.75	0.8	0.131	0.25	0.12	0.01	0.03	0.00
22	110	1.83	0.8	0.131	0.25	0.12	0.01	0.03	0.00
23	115	1.92	0.8	0.131	0.25	0.12	0.01	0.03	0.00
24	120	2.00	0.9	0.147	0.25	0.13	0.01	0.03	0.00
25	125	2.08	0.8	0.131	0.25	0.12	0.01	0.03	0.00
26	130	2.17	0.9	0.147	0.25	0.13	0.01	0.03	0.00
27	135	2.25	0.9	0.147	0.25	0.13	0.01	0.03	0.00
28	140	2.33	0.9	0.147	0.25	0.13	0.01	0.03	0.00
29	145	2.42	0.9	0.147	0.25	0.13	0.01	0.03	0.00
30	150	2.50	0.9	0.147	0.25	0.13	0.01	0.03	0.00
31	155	2.58	0.9	0.147	0.25	0.13	0.01	0.03	0.00
32	160	2.67	0.9	0.147	0.25	0.13	0.01	0.03	0.00
33	165	2.75	1.0	0.163	0.25	0.15	0.02	0.03	0.00
34	170	2.83	1.0	0.163	0.25	0.15	0.02	0.03	0.00
35	175	2.92	1.0	0.163	0.25	0.15	0.02	0.03	0.00
36	180	3.00	1.0	0.163	0.25	0.15	0.02	0.03	0.00
37	185	3.08	1.0	0.163	0.25	0.15	0.02	0.03	0.00
38	190	3.17	1.1	0.180	0.25	0.16	0.02	0.04	0.00
39	195	3.25	1.1	0.180	0.25	0.16	0.02	0.04	0.00
40	200	3.33	1.1	0.180	0.25	0.16	0.02	0.04	0.00
41	205	3.42	1.2	0.196	0.25	0.18	0.02	0.04	0.00
42	210	3.50	1.3	0.212	0.25	0.19	0.02	0.04	0.00
43	215	3.58	1.4	0.228	0.25	0.21	0.02	0.05	0.00
44	220	3.67	1.4	0.228	0.25	0.21	0.02	0.05	0.00
45	225	3.75	1.5	0.245	0.25	0.22	0.02	0.05	0.69
46	230	3.83	1.5	0.245	0.25	0.22	0.02	0.05	0.69
47	235	3.92	1.6	0.261	0.25	0.24	0.02	0.03	0.00
48	240	4.00	1.6	0.261	0.25	0.24	0.02	0.03	0.00
49	245	4.08	1.7	0.277	0.25	0.25	0.03	0.06	5.33
50	250	4.17	1.8	0.294	0.25	0.26	0.05	0.10	15.17
51	255	4.25	1.9	0.310	0.25	0.28	0.06	0.13	25.02
52	260	4.33	2.0	0.326	0.25	0.29	0.08	0.16	34.86
53	265	4.42	2.1	0.343	0.25	0.31	0.10	0.20	44.70
54	270	4.50	2.1	0.343	0.25	0.31	0.10	0.20	44.70
55	275	4.58	2.2	0.359	0.25	0.32	0.11	0.23	54.54
56	280	4.67	2.3	0.375	0.25	0.34	0.13	0.26	64.38

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.01
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.00
UNIT TIME-PERCENT OF LAG	502.5
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.245
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.05 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.392	0.25	0.35	0.15	0.29	74.22
58	290	4.83	2.4	0.392	0.25	0.35	0.15	0.29	74.22
59	295	4.92	2.5	0.408	0.25	0.37	0.16	0.33	84.06
60	300	5.00	2.6	0.424	0.25	0.38	0.18	0.36	93.90
61	305	5.08	3.1	0.506	0.25	0.46	0.26	0.52	143.11
62	310	5.17	3.6	0.588	0.25	0.53	0.34	0.69	192.31
63	315	5.25	3.9	0.636	0.25	0.57	0.39	0.79	221.83
64	320	5.33	4.2	0.685	0.25	0.62	0.44	0.88	251.36
65	325	5.42	4.7	0.767	0.25	0.69	0.52	1.05	300.56
66	330	5.50	5.6	0.914	0.25	0.82	0.67	1.34	389.13
67	335	5.58	1.9	0.310	0.25	0.28	0.06	0.13	25.02
68	340	5.67	0.9	0.147	0.25	0.13	0.01	0.03	0.00
69	345	5.75	0.6	0.098	0.25	0.09	0.01	0.02	0.00
70	350	5.83	0.5	0.082	0.25	0.07	0.01	0.02	0.00
71	355	5.92	0.3	0.049	0.25	0.04	0.00	0.01	0.00
72	360	6.00	0.2	0.033	0.25	0.03	0.00	0.01	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.39
FLOOD VOLUME (acft)	0.07
FLOOD VOLUME (cuft)	2879.82
REQUIRED STORAGE (acft)	0.05
REQUIRED STORAGE (cuft)	2139.79
PEAK FLOW RATE (cfs)	1.34

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.010	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2453
LAG TIME - MINUTES	1.00	MINIMUM LOSS RATE (for var. loss) - in/hr	0.123
UNIT TIME-PERCENT OF LAG	1507.5	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00227
		PERCOLATION RATE (cfs)	0.05

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.018	0.433	0.016	0.002	0.00	0.00
2	30	0.50	0.3	0.027	0.428	0.024	0.003	0.01	0.00
3	45	0.75	0.3	0.027	0.423	0.024	0.003	0.01	0.00
4	60	1.00	0.4	0.036	0.418	0.032	0.004	0.01	0.00
5	75	1.25	0.3	0.027	0.413	0.024	0.003	0.01	0.00
6	90	1.50	0.3	0.027	0.408	0.024	0.003	0.01	0.00
7	105	1.75	0.3	0.027	0.403	0.024	0.003	0.01	0.00
8	120	2.00	0.4	0.036	0.399	0.032	0.004	0.01	0.00
9	135	2.25	0.4	0.036	0.394	0.032	0.004	0.01	0.00
10	150	2.50	0.4	0.036	0.389	0.032	0.004	0.01	0.00
11	165	2.75	0.5	0.045	0.384	0.040	0.004	0.01	0.00
12	180	3.00	0.5	0.045	0.379	0.040	0.004	0.01	0.00
13	195	3.25	0.5	0.045	0.375	0.040	0.004	0.01	0.00
14	210	3.50	0.5	0.045	0.370	0.040	0.004	0.01	0.00
15	225	3.75	0.5	0.045	0.365	0.040	0.004	0.01	0.00
16	240	4.00	0.6	0.054	0.361	0.048	0.005	0.01	0.00
17	255	4.25	0.6	0.054	0.356	0.048	0.005	0.01	0.00
18	270	4.50	0.7	0.062	0.352	0.056	0.006	0.01	0.00
19	285	4.75	0.7	0.062	0.347	0.056	0.006	0.01	0.00
20	300	5.00	0.8	0.071	0.343	0.064	0.007	0.01	0.00
21	315	5.25	0.6	0.054	0.338	0.048	0.005	0.01	0.00
22	330	5.50	0.7	0.062	0.334	0.056	0.006	0.01	0.00
23	345	5.75	0.8	0.071	0.330	0.064	0.007	0.01	0.00
24	360	6.00	0.8	0.071	0.325	0.064	0.007	0.01	0.00
25	375	6.25	0.9	0.080	0.321	0.072	0.008	0.02	0.00
26	390	6.50	0.9	0.080	0.317	0.072	0.008	0.02	0.00
27	405	6.75	1.0	0.089	0.312	0.080	0.009	0.02	0.00
28	420	7.00	1.0	0.089	0.308	0.080	0.009	0.02	0.00
29	435	7.25	1.0	0.089	0.304	0.080	0.009	0.02	0.00
30	450	7.50	1.1	0.098	0.300	0.088	0.010	0.02	0.00
31	465	7.75	1.2	0.107	0.296	0.096	0.011	0.02	0.00
32	480	8.00	1.3	0.116	0.292	0.104	0.012	0.02	0.00
33	495	8.25	1.5	0.134	0.288	0.120	0.013	0.03	0.00
34	510	8.50	1.5	0.134	0.284	0.120	0.013	0.03	0.00
35	525	8.75	1.6	0.143	0.280	0.128	0.014	0.03	0.00
36	540	9.00	1.7	0.152	0.276	0.136	0.015	0.03	0.00
37	555	9.25	1.9	0.169	0.272	0.153	0.017	0.03	0.00
38	570	9.50	2.0	0.178	0.268	0.161	0.018	0.04	0.00
39	585	9.75	2.1	0.187	0.264	0.169	0.019	0.04	0.00
40	600	10.00	2.2	0.196	0.260	0.177	0.020	0.04	0.00
41	615	10.25	1.5	0.134	0.256	0.120	0.013	0.03	0.00
42	630	10.50	1.5	0.134	0.253	0.120	0.013	0.03	0.00
43	645	10.75	2.0	0.178	0.249	0.161	0.018	0.04	0.00
44	660	11.00	2.0	0.178	0.245	0.161	0.018	0.04	0.00
45	675	11.25	1.9	0.169	0.242	0.153	0.017	0.03	0.00
46	690	11.50	1.9	0.169	0.238	0.153	0.017	0.03	0.00
47	705	11.75	1.7	0.152	0.235	0.136	0.015	0.03	0.00
48	720	12.00	1.8	0.161	0.231	0.145	0.016	0.03	0.00
49	735	12.25	2.5	0.223	0.228	0.201	0.022	0.04	0.00
50	750	12.50	2.6	0.232	0.224	0.209	0.008	0.02	0.00
51	765	12.75	2.8	0.250	0.221	0.225	0.029	0.06	9.79
52	780	13.00	2.9	0.259	0.218	0.233	0.041	0.08	31.95
53	795	13.25	3.4	0.303	0.214	0.273	0.089	0.18	118.58
54	810	13.50	3.4	0.303	0.211	0.273	0.092	0.19	124.46
55	825	13.75	2.3	0.205	0.208	0.185	0.021	0.04	0.00
56	840	14.00	2.3	0.205	0.205	0.185	0.000	0.00	0.00
57	855	14.25	2.7	0.241	0.202	0.217	0.039	0.08	28.68
58	870	14.50	2.6	0.232	0.199	0.209	0.033	0.07	18.11
59	885	14.75	2.6	0.232	0.196	0.209	0.036	0.07	23.61
60	900	15.00	2.5	0.223	0.193	0.201	0.030	0.06	12.88
61	915	15.25	2.4	0.214	0.190	0.193	0.024	0.05	2.07

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

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UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2453
LAG TIME - MINUTES	1.00	MINIMUM LOSS RATE (for var. loss) - in/hr	0.123
UNIT TIME-PERCENT OF LAG	1507.5	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00227
		PERCOLATION RATE (cfs)	0.05

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62	930	15.50	2.3	0.205	0.187	0.185	0.018	0.04	0.00
63	945	15.75	1.9	0.169	0.184	0.153	0.017	0.03	0.00
64	960	16.00	1.9	0.169	0.181	0.153	0.017	0.03	0.00
65	975	16.25	0.4	0.036	0.178	0.032	0.004	0.01	0.00
66	990	16.50	0.4	0.036	0.176	0.032	0.004	0.01	0.00
67	1005	16.75	0.3	0.027	0.173	0.024	0.003	0.01	0.00
68	1020	17.00	0.3	0.027	0.170	0.024	0.003	0.01	0.00
69	1035	17.25	0.5	0.045	0.168	0.040	0.004	0.01	0.00
70	1050	17.50	0.5	0.045	0.165	0.040	0.004	0.01	0.00
71	1065	17.75	0.5	0.045	0.163	0.040	0.004	0.01	0.00
72	1080	18.00	0.4	0.036	0.160	0.032	0.004	0.01	0.00
73	1095	18.25	0.4	0.036	0.158	0.032	0.004	0.01	0.00
74	1110	18.50	0.4	0.036	0.156	0.032	0.004	0.01	0.00
75	1125	18.75	0.3	0.027	0.153	0.024	0.003	0.01	0.00
76	1140	19.00	0.2	0.018	0.151	0.016	0.002	0.00	0.00
77	1155	19.25	0.3	0.027	0.149	0.024	0.003	0.01	0.00
78	1170	19.50	0.4	0.036	0.147	0.032	0.004	0.01	0.00
79	1185	19.75	0.3	0.027	0.145	0.024	0.003	0.01	0.00
80	1200	20.00	0.2	0.018	0.143	0.016	0.002	0.00	0.00
81	1215	20.25	0.3	0.027	0.141	0.024	0.003	0.01	0.00
82	1230	20.50	0.3	0.027	0.139	0.024	0.003	0.01	0.00
83	1245	20.75	0.3	0.027	0.138	0.024	0.003	0.01	0.00
84	1260	21.00	0.2	0.018	0.136	0.016	0.002	0.00	0.00
85	1275	21.25	0.3	0.027	0.134	0.024	0.003	0.01	0.00
86	1290	21.50	0.2	0.018	0.133	0.016	0.002	0.00	0.00
87	1305	21.75	0.3	0.027	0.131	0.024	0.003	0.01	0.00
88	1320	22.00	0.2	0.018	0.130	0.016	0.002	0.00	0.00
89	1335	22.25	0.3	0.027	0.129	0.024	0.003	0.01	0.00
90	1350	22.50	0.2	0.018	0.127	0.016	0.002	0.00	0.00
91	1365	22.75	0.2	0.018	0.126	0.016	0.002	0.00	0.00
92	1380	23.00	0.2	0.018	0.125	0.016	0.002	0.00	0.00
93	1395	23.25	0.2	0.018	0.124	0.016	0.002	0.00	0.00
94	1410	23.50	0.2	0.018	0.124	0.016	0.002	0.00	0.00
95	1425	23.75	0.2	0.018	0.123	0.016	0.002	0.00	0.00
96	1440	24.00	0.2	0.018	0.123	0.016	0.002	0.00	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.26
FLOOD VOLUME (acft)	0.04
FLOOD VOLUME (cuft)	1902.84
REQUIRED STORAGE (acft)	0.01
REQUIRED STORAGE (cuft)	370.13
PEAK FLOW (cfs)	0.19

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
465	0	0		3025	0	0	0.00
466	1	1	675	3700	3363	3363	0.08
467	1	2	730	4430	4065	7428	0.17
468	1	3	785	5215	4823	12250	0.28
468.5	0.5	3.5	415	5630	2711	14961	0.34

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.05 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.05 cfs

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JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.03	10	10	14	-	465.00	-	0.00
2	10	0.03	10	10	14	-	465.00	-	0.00
3	15	0.03	8	8	14	-	465.00	-	0.00
4	20	0.04	11	11	14	-	465.00	-	0.00
5	25	0.04	11	11	14	-	465.00	-	0.00
6	30	0.05	14	14	14	-	465.00	-	0.00
7	35	0.04	11	11	14	-	465.00	-	0.00
8	40	0.05	14	14	14	-	465.00	-	0.00
9	45	0.05	14	14	14	-	465.00	-	0.00
10	50	0.04	11	11	14	-	465.00	-	0.00
11	55	0.04	12	12	14	-	465.00	-	0.00
12	60	0.05	14	14	14	-	465.00	-	0.00
13	65	0.06	18	18	14	4	465.00	4	0.00
14	70	0.06	18	21	14	7	465.00	7	0.00
15	75	0.06	18	25	14	11	465.00	11	0.00
16	80	0.01	3	13	14	-	465.00	-	0.00
17	85	0.16	48	48	14	34	465.01	34	0.00
18	90	0.18	55	89	14	75	465.02	75	0.00
19	95	0.11	33	108	14	94	465.03	94	0.00
20	100	0.18	55	149	14	135	465.04	135	0.00
21	105	0.33	100	235	14	221	465.07	221	0.01
22	110	0.28	85	307	14	292	465.09	292	0.01
23	115	0.23	70	363	14	349	465.10	349	0.01
24	120	0.26	78	427	14	413	465.12	413	0.01
25	125	0.28	85	498	14	484	465.14	484	0.01
26	130	0.56	168	652	14	638	465.19	638	0.01
27	135	0.76	228	866	14	852	465.25	852	0.02
28	140	0.39	116	968	14	954	465.28	954	0.02
29	145	1.21	364	1,318	14	1,304	465.39	1,304	0.03
30	150	1.34	401	1,705	14	1,691	465.50	1,691	0.04
31	155	1.56	469	2,160	14	2,146	465.64	2,146	0.05
32	160	0.99	296	2,442	14	2,428	465.72	2,428	0.06
33	165	0.01	3	2,431	14	2,417	465.72	2,417	0.06
34	170	0.05	14	2,430	14	2,416	465.72	2,416	0.06
35	175	0.05	14	2,430	14	2,416	465.72	2,416	0.06
36	180	0.02	5	2,420	14	2,406	465.72	2,406	0.06

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.02	5	5	14	-	465.00	-	0.00
2	10	0.02	6	6	14	-	465.00	-	0.00
3	15	0.02	6	6	14	-	465.00	-	0.00
4	20	0.02	6	6	14	-	465.00	-	0.00
5	25	0.02	6	6	14	-	465.00	-	0.00
6	30	0.02	7	7	14	-	465.00	-	0.00
7	35	0.02	7	7	14	-	465.00	-	0.00
8	40	0.02	7	7	14	-	465.00	-	0.00
9	45	0.02	7	7	14	-	465.00	-	0.00
10	50	0.02	7	7	14	-	465.00	-	0.00
11	55	0.02	7	7	14	-	465.00	-	0.00
12	60	0.03	8	8	14	-	465.00	-	0.00
13	65	0.03	8	8	14	-	465.00	-	0.00
14	70	0.03	8	8	14	-	465.00	-	0.00
15	75	0.03	8	8	14	-	465.00	-	0.00
16	80	0.03	8	8	14	-	465.00	-	0.00
17	85	0.03	8	8	14	-	465.00	-	0.00
18	90	0.03	8	8	14	-	465.00	-	0.00
19	95	0.03	8	8	14	-	465.00	-	0.00
20	100	0.03	8	8	14	-	465.00	-	0.00
21	105	0.03	8	8	14	-	465.00	-	0.00
22	110	0.03	8	8	14	-	465.00	-	0.00
23	115	0.03	8	8	14	-	465.00	-	0.00
24	120	0.03	9	9	14	-	465.00	-	0.00
25	125	0.03	8	8	14	-	465.00	-	0.00
26	130	0.03	9	9	14	-	465.00	-	0.00
27	135	0.03	9	9	14	-	465.00	-	0.00
28	140	0.03	9	9	14	-	465.00	-	0.00
29	145	0.03	9	9	14	-	465.00	-	0.00
30	150	0.03	9	9	14	-	465.00	-	0.00
31	155	0.03	9	9	14	-	465.00	-	0.00
32	160	0.03	9	9	14	-	465.00	-	0.00
33	165	0.03	10	10	14	-	465.00	-	0.00
34	170	0.03	10	10	14	-	465.00	-	0.00
35	175	0.03	10	10	14	-	465.00	-	0.00
36	180	0.03	10	10	14	-	465.00	-	0.00
37	185	0.03	10	10	14	-	465.00	-	0.00
38	190	0.04	11	11	14	-	465.00	-	0.00
39	195	0.04	11	11	14	-	465.00	-	0.00
40	200	0.04	11	11	14	-	465.00	-	0.00
41	205	0.04	12	12	14	-	465.00	-	0.00
42	210	0.04	13	13	14	-	465.00	-	0.00
43	215	0.05	14	14	14	-	465.00	-	0.00
44	220	0.05	14	14	14	-	465.00	-	0.00
45	225	0.05	15	15	14	1	465.00	1	0.00
46	230	0.05	15	15	14	1	465.00	1	0.00
47	235	0.03	10	11	14	-	465.00	-	0.00
48	240	0.03	10	10	14	-	465.00	-	0.00
49	245	0.06	19	19	14	5	465.00	5	0.00
50	250	0.10	29	35	14	21	465.01	21	0.00
51	255	0.13	39	60	14	46	465.01	46	0.00
52	260	0.16	49	94	14	80	465.02	80	0.00
53	265	0.20	59	139	14	125	465.04	125	0.00
54	270	0.20	59	184	14	170	465.05	170	0.00
55	275	0.23	69	238	14	224	465.07	224	0.01

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	0.26	78	303	14	289	465.09	289	0.01
57	285	0.29	88	377	14	363	465.11	363	0.01
58	290	0.29	88	451	14	437	465.13	437	0.01
59	295	0.33	98	535	14	521	465.16	521	0.01
60	300	0.36	108	629	14	615	465.18	615	0.01
61	305	0.52	157	772	14	758	465.23	758	0.02
62	310	0.69	206	965	14	951	465.28	951	0.02
63	315	0.79	236	1,186	14	1,172	465.35	1,172	0.03
64	320	0.88	265	1,438	14	1,424	465.42	1,424	0.03
65	325	1.05	315	1,738	14	1,724	465.51	1,724	0.04
66	330	1.34	403	2,127	14	2,113	465.63	2,113	0.05
67	335	0.13	39	2,152	14	2,138	465.64	2,138	0.05
68	340	0.03	9	2,147	14	2,133	465.63	2,133	0.05
69	345	0.02	6	2,139	14	2,125	465.63	2,125	0.05
70	350	0.02	5	2,130	14	2,116	465.63	2,116	0.05
71	355	0.01	3	2,119	14	2,105	465.63	2,105	0.05
72	360	0.01	2	2,107	14	2,093	465.62	2,093	0.05

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.00	3	3	42	-	465.00	-	0.00
2	30	0.01	5	5	42	-	465.00	-	0.00
3	45	0.01	5	5	42	-	465.00	-	0.00
4	60	0.01	6	6	42	-	465.00	-	0.00
5	75	0.01	5	5	42	-	465.00	-	0.00
6	90	0.01	5	5	42	-	465.00	-	0.00
7	105	0.01	5	5	42	-	465.00	-	0.00
8	120	0.01	6	6	42	-	465.00	-	0.00
9	135	0.01	6	6	42	-	465.00	-	0.00
10	150	0.01	6	6	42	-	465.00	-	0.00
11	165	0.01	8	8	42	-	465.00	-	0.00
12	180	0.01	8	8	42	-	465.00	-	0.00
13	195	0.01	8	8	42	-	465.00	-	0.00
14	210	0.01	8	8	42	-	465.00	-	0.00
15	225	0.01	8	8	42	-	465.00	-	0.00
16	240	0.01	10	10	42	-	465.00	-	0.00
17	255	0.01	10	10	42	-	465.00	-	0.00
18	270	0.01	11	11	42	-	465.00	-	0.00
19	285	0.01	11	11	42	-	465.00	-	0.00
20	300	0.01	13	13	42	-	465.00	-	0.00
21	315	0.01	10	10	42	-	465.00	-	0.00
22	330	0.01	11	11	42	-	465.00	-	0.00
23	345	0.01	13	13	42	-	465.00	-	0.00
24	360	0.01	13	13	42	-	465.00	-	0.00
25	375	0.02	15	15	42	-	465.00	-	0.00
26	390	0.02	15	15	42	-	465.00	-	0.00
27	405	0.02	16	16	42	-	465.00	-	0.00
28	420	0.02	16	16	42	-	465.00	-	0.00
29	435	0.02	16	16	42	-	465.00	-	0.00
30	450	0.02	18	18	42	-	465.00	-	0.00
31	465	0.02	19	19	42	-	465.00	-	0.00
32	480	0.02	21	21	42	-	465.00	-	0.00
33	495	0.03	24	24	42	-	465.00	-	0.00
34	510	0.03	24	24	42	-	465.00	-	0.00
35	525	0.03	26	26	42	-	465.00	-	0.00
36	540	0.03	27	27	42	-	465.00	-	0.00
37	555	0.03	31	31	42	-	465.00	-	0.00
38	570	0.04	32	32	42	-	465.00	-	0.00
39	585	0.04	34	34	42	-	465.00	-	0.00
40	600	0.04	35	35	42	-	465.00	-	0.00
41	615	0.03	24	24	42	-	465.00	-	0.00
42	630	0.03	24	24	42	-	465.00	-	0.00
43	645	0.04	32	32	42	-	465.00	-	0.00
44	660	0.04	32	32	42	-	465.00	-	0.00
45	675	0.03	31	31	42	-	465.00	-	0.00
46	690	0.03	31	31	42	-	465.00	-	0.00
47	705	0.03	27	27	42	-	465.00	-	0.00
48	720	0.03	29	29	42	-	465.00	-	0.00
49	735	0.04	40	40	42	-	465.00	-	0.00
50	750	0.02	14	14	42	-	465.00	-	0.00
51	765	0.06	52	52	42	10	465.00	10	0.00
52	780	0.08	74	84	42	42	465.01	42	0.00
53	795	0.18	161	203	42	160	465.05	160	0.00
54	810	0.19	167	327	42	285	465.08	285	0.01
55	825	0.04	37	322	42	280	465.08	280	0.01
56	840	0.00	1	280	42	238	465.07	238	0.01
57	855	0.08	71	309	42	267	465.08	267	0.01
58	870	0.07	60	327	42	285	465.08	285	0.01

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	0.07	66	351	42	309	465.09	309	0.01
60	900	0.06	55	364	42	321	465.10	321	0.01
61	915	0.05	44	366	42	324	465.10	324	0.01
62	930	0.04	33	357	42	315	465.09	315	0.01
63	945	0.03	31	345	42	303	465.09	303	0.01
64	960	0.03	31	334	42	292	465.09	292	0.01
65	975	0.01	6	298	42	256	465.08	256	0.01
66	990	0.01	6	262	42	220	465.07	220	0.01
67	1005	0.01	5	225	42	183	465.05	183	0.00
68	1020	0.01	5	187	42	145	465.04	145	0.00
69	1035	0.01	8	153	42	111	465.03	111	0.00
70	1050	0.01	8	119	42	77	465.02	77	0.00
71	1065	0.01	8	85	42	43	465.01	43	0.00
72	1080	0.01	6	49	42	7	465.00	7	0.00
73	1095	0.01	6	13	42	-	465.00	-	0.00
74	1110	0.01	6	6	42	-	465.00	-	0.00
75	1125	0.01	5	5	42	-	465.00	-	0.00
76	1140	0.00	3	3	42	-	465.00	-	0.00
77	1155	0.01	5	5	42	-	465.00	-	0.00
78	1170	0.01	6	6	42	-	465.00	-	0.00
79	1185	0.01	5	5	42	-	465.00	-	0.00
80	1200	0.00	3	3	42	-	465.00	-	0.00
81	1215	0.01	5	5	42	-	465.00	-	0.00
82	1230	0.01	5	5	42	-	465.00	-	0.00
83	1245	0.01	5	5	42	-	465.00	-	0.00
84	1260	0.00	3	3	42	-	465.00	-	0.00
85	1275	0.01	5	5	42	-	465.00	-	0.00
86	1290	0.00	3	3	42	-	465.00	-	0.00
87	1305	0.01	5	5	42	-	465.00	-	0.00
88	1320	0.00	3	3	42	-	465.00	-	0.00
89	1335	0.01	5	5	42	-	465.00	-	0.00
90	1350	0.00	3	3	42	-	465.00	-	0.00
91	1365	0.00	3	3	42	-	465.00	-	0.00
92	1380	0.00	3	3	42	-	465.00	-	0.00
93	1395	0.00	3	3	42	-	465.00	-	0.00
94	1410	0.00	3	3	42	-	465.00	-	0.00
95	1425	0.00	3	3	42	-	465.00	-	0.00
96	1440	0.00	3	3	42	-	465.00	-	0.00

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 10 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 2		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	2.51		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	7.46		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	0.6		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	724		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	100		
30				
31	ELEVATION OF HEADWATER	472		
32	ELEVATION OF CONCENTRATION POINT	468.5		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	1.04		
40	6-HOUR	1.36		
41	24-HOUR	2.23		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		465	15600	
45		466	17120	
46		467	18710	
47		468	20350	
48		468.5	21200	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 2
[3] AREA - ACRES	10.570
[4] L-FEET	724
[5] L-MILES	0.137
[6] La-FEET	100.00
[7] La-MILES	0.019
[8] ELEVATION OF HEADWATER	472
[9] ELEVATION OF CONCENTRATION POINT	468.5
[10] H-FEET	3.5
[11] S-FEET/MILE	25.5
[12] S^0.5	5.05
[13] L*LCA/S^0.5	0.001
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.03
[16] LAG TIME-MINUTES	1.6
[17] 100% OF LAG-MINUTES	1.6
[18] 200% OF LAG-MINUTES	3.2
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.24

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
1.04	10.570	1.00	1.04	1.36	10.570	1.00	1.36	2.23	10.570	1.00	2.23
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	10.57	SUM [7]	1.04	SUM [9]	10.57	SUM [11]	1.36	SUM [13]	10.57	SUM [15]	2.23
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			1.04				1.36				2.23

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	0.49	0.49	0.40
FLOOD VOLUME	(cu-ft)	18,821	18,747	15,460
	(acre-ft)	0.43	0.43	0.35
REQUIRED STORAGE	(cu-ft)	16,281	14,878	6,850
	(acre-ft)	0.37	0.34	0.16
PEAK FLOW	(cfs)	8.76	7.61	1.44
MAXIMUM WSEL	(ft)	465.99	465.91	465.42

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	2.51	0.237	0.0123
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	7.46	0.706	0.1523
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	0.60	0.057	0.0295
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		10.57	SUM	0.1942

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.097085525
C= 0.00180

Ft=C(24-(T/60))^1.55 = 0.00180 (24-(T/60))^1.55 + 0.10 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.57
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.62
UNIT TIME-PERCENT OF LAG	308.6
TOTAL ADJUSTED STORM RAIN-INCHES	1.04
CONSTANT LOSS RATE-in/hr	0.19
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.24 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.162	0.19	0.15	0.02	0.17	0.00
2	10	0.17	1.3	0.162	0.19	0.15	0.02	0.17	0.00
3	15	0.25	1.1	0.137	0.19	0.12	0.01	0.15	0.00
4	20	0.33	1.5	0.187	0.19	0.17	0.02	0.20	0.00
5	25	0.42	1.5	0.187	0.19	0.17	0.02	0.20	0.00
6	30	0.50	1.8	0.225	0.19	0.20	0.03	0.32	24.03
7	35	0.58	1.5	0.187	0.19	0.17	0.02	0.20	0.00
8	40	0.67	1.8	0.225	0.19	0.20	0.03	0.32	24.03
9	45	0.75	1.8	0.225	0.19	0.20	0.03	0.32	24.03
10	50	0.83	1.5	0.187	0.19	0.17	0.02	0.20	0.00
11	55	0.92	1.6	0.200	0.19	0.18	0.01	0.06	0.00
12	60	1.00	1.8	0.225	0.19	0.20	0.03	0.32	24.03
13	65	1.08	2.2	0.275	0.19	0.25	0.08	0.85	182.33
14	70	1.17	2.2	0.275	0.19	0.25	0.08	0.85	182.33
15	75	1.25	2.2	0.275	0.19	0.25	0.08	0.85	182.33
16	80	1.33	2.0	0.250	0.19	0.22	0.06	0.59	103.18
17	85	1.42	2.6	0.324	0.19	0.29	0.13	1.38	340.63
18	90	1.50	2.7	0.337	0.19	0.30	0.14	1.51	380.20
19	95	1.58	2.4	0.300	0.19	0.27	0.11	1.11	261.48
20	100	1.67	2.7	0.337	0.19	0.30	0.14	1.51	380.20
21	105	1.75	3.3	0.412	0.19	0.37	0.22	2.30	617.64
22	110	1.83	3.1	0.387	0.19	0.35	0.19	2.04	538.50
23	115	1.92	2.9	0.362	0.19	0.33	0.17	1.77	459.35
24	120	2.00	3.0	0.374	0.19	0.34	0.18	1.91	498.92
25	125	2.08	3.1	0.387	0.19	0.35	0.19	2.04	538.50
26	130	2.17	4.2	0.524	0.19	0.47	0.33	3.49	973.81
27	135	2.25	5.0	0.624	0.19	0.56	0.43	4.54	1290.40
28	140	2.33	3.5	0.437	0.19	0.39	0.24	2.56	696.79
29	145	2.42	6.8	0.849	0.19	0.76	0.65	6.92	2002.74
30	150	2.50	7.3	0.911	0.19	0.82	0.72	7.58	2200.61
31	155	2.58	8.2	1.023	0.19	0.92	0.83	8.76	2556.77
32	160	2.67	5.9	0.736	0.19	0.66	0.54	5.73	1646.57
33	165	2.75	2.0	0.250	0.19	0.22	0.06	0.59	103.18
34	170	2.83	1.8	0.225	0.19	0.20	0.03	0.32	24.03
35	175	2.92	1.8	0.225	0.19	0.20	0.03	0.32	24.03
36	180	3.00	0.6	0.075	0.19	0.07	0.01	0.08	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.49
FLOOD VOLUME (acft)	0.43
FLOOD VOLUME (cuft)	18821.12
REQUIRED STORAGE (acft)	0.37
REQUIRED STORAGE (cuft)	16280.67
PEAK FLOW RATE (cfs)	8.76

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.57
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.62
UNIT TIME-PERCENT OF LAG	308.6
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.194
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.24 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.082	0.19	0.07	0.01	0.09	0.00
2	10	0.17	0.6	0.098	0.19	0.09	0.01	0.10	0.00
3	15	0.25	0.6	0.098	0.19	0.09	0.01	0.10	0.00
4	20	0.33	0.6	0.098	0.19	0.09	0.01	0.10	0.00
5	25	0.42	0.6	0.098	0.19	0.09	0.01	0.10	0.00
6	30	0.50	0.7	0.114	0.19	0.10	0.01	0.12	0.00
7	35	0.58	0.7	0.114	0.19	0.10	0.01	0.12	0.00
8	40	0.67	0.7	0.114	0.19	0.10	0.01	0.12	0.00
9	45	0.75	0.7	0.114	0.19	0.10	0.01	0.12	0.00
10	50	0.83	0.7	0.114	0.19	0.10	0.01	0.12	0.00
11	55	0.92	0.7	0.114	0.19	0.10	0.01	0.12	0.00
12	60	1.00	0.8	0.131	0.19	0.12	0.01	0.14	0.00
13	65	1.08	0.8	0.131	0.19	0.12	0.01	0.14	0.00
14	70	1.17	0.8	0.131	0.19	0.12	0.01	0.14	0.00
15	75	1.25	0.8	0.131	0.19	0.12	0.01	0.14	0.00
16	80	1.33	0.8	0.131	0.19	0.12	0.01	0.14	0.00
17	85	1.42	0.8	0.131	0.19	0.12	0.01	0.14	0.00
18	90	1.50	0.8	0.131	0.19	0.12	0.01	0.14	0.00
19	95	1.58	0.8	0.131	0.19	0.12	0.01	0.14	0.00
20	100	1.67	0.8	0.131	0.19	0.12	0.01	0.14	0.00
21	105	1.75	0.8	0.131	0.19	0.12	0.01	0.14	0.00
22	110	1.83	0.8	0.131	0.19	0.12	0.01	0.14	0.00
23	115	1.92	0.8	0.131	0.19	0.12	0.01	0.14	0.00
24	120	2.00	0.9	0.147	0.19	0.13	0.01	0.16	0.00
25	125	2.08	0.8	0.131	0.19	0.12	0.01	0.14	0.00
26	130	2.17	0.9	0.147	0.19	0.13	0.01	0.16	0.00
27	135	2.25	0.9	0.147	0.19	0.13	0.01	0.16	0.00
28	140	2.33	0.9	0.147	0.19	0.13	0.01	0.16	0.00
29	145	2.42	0.9	0.147	0.19	0.13	0.01	0.16	0.00
30	150	2.50	0.9	0.147	0.19	0.13	0.01	0.16	0.00
31	155	2.58	0.9	0.147	0.19	0.13	0.01	0.16	0.00
32	160	2.67	0.9	0.147	0.19	0.13	0.01	0.16	0.00
33	165	2.75	1.0	0.163	0.19	0.15	0.02	0.17	0.00
34	170	2.83	1.0	0.163	0.19	0.15	0.02	0.17	0.00
35	175	2.92	1.0	0.163	0.19	0.15	0.02	0.17	0.00
36	180	3.00	1.0	0.163	0.19	0.15	0.02	0.17	0.00
37	185	3.08	1.0	0.163	0.19	0.15	0.02	0.17	0.00
38	190	3.17	1.1	0.180	0.19	0.16	0.02	0.19	0.00
39	195	3.25	1.1	0.180	0.19	0.16	0.02	0.19	0.00
40	200	3.33	1.1	0.180	0.19	0.16	0.02	0.19	0.00
41	205	3.42	1.2	0.196	0.19	0.18	0.00	0.02	0.00
42	210	3.50	1.3	0.212	0.19	0.19	0.02	0.19	0.00
43	215	3.58	1.4	0.228	0.19	0.21	0.03	0.36	36.21
44	220	3.67	1.4	0.228	0.19	0.21	0.03	0.36	36.21
45	225	3.75	1.5	0.245	0.19	0.22	0.05	0.54	87.96
46	230	3.83	1.5	0.245	0.19	0.22	0.05	0.54	87.96
47	235	3.92	1.6	0.261	0.19	0.24	0.07	0.71	139.71
48	240	4.00	1.6	0.261	0.19	0.24	0.07	0.71	139.71
49	245	4.08	1.7	0.277	0.19	0.25	0.08	0.88	191.46
50	250	4.17	1.8	0.294	0.19	0.26	0.10	1.05	243.21
51	255	4.25	1.9	0.310	0.19	0.28	0.12	1.23	294.96
52	260	4.33	2.0	0.326	0.19	0.29	0.13	1.40	346.71
53	265	4.42	2.1	0.343	0.19	0.31	0.15	1.57	398.47
54	270	4.50	2.1	0.343	0.19	0.31	0.15	1.57	398.47
55	275	4.58	2.2	0.359	0.19	0.32	0.16	1.74	450.22
56	280	4.67	2.3	0.375	0.19	0.34	0.18	1.92	501.97

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD 100 YEAR - 6 HOUR STORM EVENT	PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT CONCENTRATION POINT: 1 BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.57		
UNIT TIME-MINUTES	5		
LAG TIME - MINUTES	1.62		
UNIT TIME-PERCENT OF LAG	308.6		
TOTAL ADJUSTED STORM RAIN-INCHES	1.36		
CONSTANT LOSS RATE-in/hr	0.194		
LOW LOSS RATE - PERCENT	90%	TOTAL PERCOLATION RATE (cfs)	0.24 cfs

Unit Time Period	Time		Pattern	Storm	Loss Rate in/hr		Effective	Flood Hydrograph	Required
	Minutes	Hours	Percent (Plate E-5.9)	Rain in/hr	Max	Low	Rain in/hr	Flow cfs	Storage cf
57	285	4.75	2.4	0.392	0.19	0.35	0.20	2.09	553.72
58	290	4.83	2.4	0.392	0.19	0.35	0.20	2.09	553.72
59	295	4.92	2.5	0.408	0.19	0.37	0.21	2.26	605.47
60	300	5.00	2.6	0.424	0.19	0.38	0.23	2.43	657.22
61	305	5.08	3.1	0.506	0.19	0.46	0.31	3.30	915.97
62	310	5.17	3.6	0.588	0.19	0.53	0.39	4.16	1174.73
63	315	5.25	3.9	0.636	0.19	0.57	0.44	4.68	1329.98
64	320	5.33	4.2	0.685	0.19	0.62	0.49	5.19	1485.23
65	325	5.42	4.7	0.767	0.19	0.69	0.57	6.06	1743.98
66	330	5.50	5.6	0.914	0.19	0.82	0.72	7.61	2209.74
67	335	5.58	1.9	0.310	0.19	0.28	0.12	1.23	294.96
68	340	5.67	0.9	0.147	0.19	0.13	0.01	0.16	0.00
69	345	5.75	0.6	0.098	0.19	0.09	0.01	0.10	0.00
70	350	5.83	0.5	0.082	0.19	0.07	0.01	0.09	0.00
71	355	5.92	0.3	0.049	0.19	0.04	0.00	0.05	0.00
72	360	6.00	0.2	0.033	0.19	0.03	0.00	0.03	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.49
FLOOD VOLUME (acft)	0.43
FLOOD VOLUME (cuft)	18747.03
REQUIRED STORAGE (acft)	0.34
REQUIRED STORAGE (cuft)	14877.95
PEAK FLOW RATE (cfs)	7.61

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.570	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.1942
LAG TIME - MINUTES	1.62	MINIMUM LOSS RATE (for var. loss) - in/hr	0.097
UNIT TIME-PERCENT OF LAG	925.8	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00180
		PERCOLATION RATE (cfs)	0.24

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.018	0.343	0.016	0.002	0.02	0.00
2	30	0.50	0.3	0.027	0.339	0.024	0.003	0.03	0.00
3	45	0.75	0.3	0.027	0.335	0.024	0.003	0.03	0.00
4	60	1.00	0.4	0.036	0.331	0.032	0.004	0.04	0.00
5	75	1.25	0.3	0.027	0.327	0.024	0.003	0.03	0.00
6	90	1.50	0.3	0.027	0.323	0.024	0.003	0.03	0.00
7	105	1.75	0.3	0.027	0.319	0.024	0.003	0.03	0.00
8	120	2.00	0.4	0.036	0.316	0.032	0.004	0.04	0.00
9	135	2.25	0.4	0.036	0.312	0.032	0.004	0.04	0.00
10	150	2.50	0.4	0.036	0.308	0.032	0.004	0.04	0.00
11	165	2.75	0.5	0.045	0.304	0.040	0.004	0.05	0.00
12	180	3.00	0.5	0.045	0.300	0.040	0.004	0.05	0.00
13	195	3.25	0.5	0.045	0.297	0.040	0.004	0.05	0.00
14	210	3.50	0.5	0.045	0.293	0.040	0.004	0.05	0.00
15	225	3.75	0.5	0.045	0.289	0.040	0.004	0.05	0.00
16	240	4.00	0.6	0.054	0.286	0.048	0.005	0.06	0.00
17	255	4.25	0.6	0.054	0.282	0.048	0.005	0.06	0.00
18	270	4.50	0.7	0.062	0.278	0.056	0.006	0.07	0.00
19	285	4.75	0.7	0.062	0.275	0.056	0.006	0.07	0.00
20	300	5.00	0.8	0.071	0.271	0.064	0.007	0.08	0.00
21	315	5.25	0.6	0.054	0.268	0.048	0.005	0.06	0.00
22	330	5.50	0.7	0.062	0.264	0.056	0.006	0.07	0.00
23	345	5.75	0.8	0.071	0.261	0.064	0.007	0.08	0.00
24	360	6.00	0.8	0.071	0.257	0.064	0.007	0.08	0.00
25	375	6.25	0.9	0.080	0.254	0.072	0.008	0.08	0.00
26	390	6.50	0.9	0.080	0.251	0.072	0.008	0.08	0.00
27	405	6.75	1.0	0.089	0.247	0.080	0.009	0.09	0.00
28	420	7.00	1.0	0.089	0.244	0.080	0.009	0.09	0.00
29	435	7.25	1.0	0.089	0.241	0.080	0.009	0.09	0.00
30	450	7.50	1.1	0.098	0.237	0.088	0.010	0.10	0.00
31	465	7.75	1.2	0.107	0.234	0.096	0.011	0.11	0.00
32	480	8.00	1.3	0.116	0.231	0.104	0.012	0.12	0.00
33	495	8.25	1.5	0.134	0.228	0.120	0.013	0.14	0.00
34	510	8.50	1.5	0.134	0.224	0.120	0.013	0.14	0.00
35	525	8.75	1.6	0.143	0.221	0.128	0.014	0.15	0.00
36	540	9.00	1.7	0.152	0.218	0.136	0.015	0.16	0.00
37	555	9.25	1.9	0.169	0.215	0.153	0.017	0.18	0.00
38	570	9.50	2.0	0.178	0.212	0.161	0.018	0.19	0.00
39	585	9.75	2.1	0.187	0.209	0.169	0.019	0.20	0.00
40	600	10.00	2.2	0.196	0.206	0.177	0.020	0.21	0.00
41	615	10.25	1.5	0.134	0.203	0.120	0.013	0.14	0.00
42	630	10.50	1.5	0.134	0.200	0.120	0.013	0.14	0.00
43	645	10.75	2.0	0.178	0.197	0.161	0.018	0.19	0.00
44	660	11.00	2.0	0.178	0.194	0.161	0.018	0.19	0.00
45	675	11.25	1.9	0.169	0.191	0.153	0.017	0.18	0.00
46	690	11.50	1.9	0.169	0.189	0.153	0.017	0.18	0.00
47	705	11.75	1.7	0.152	0.186	0.136	0.015	0.16	0.00
48	720	12.00	1.8	0.161	0.183	0.145	0.016	0.17	0.00
49	735	12.25	2.5	0.223	0.180	0.201	0.043	0.45	188.01
50	750	12.50	2.6	0.232	0.178	0.209	0.054	0.57	298.56
51	765	12.75	2.8	0.250	0.175	0.225	0.075	0.79	493.67
52	780	13.00	2.9	0.259	0.172	0.233	0.086	0.91	603.61
53	795	13.25	3.4	0.303	0.170	0.273	0.134	1.41	1052.67
54	810	13.50	3.4	0.303	0.167	0.273	0.136	1.44	1077.14
55	825	13.75	2.3	0.205	0.165	0.185	0.041	0.43	167.88
56	840	14.00	2.3	0.205	0.162	0.185	0.043	0.45	191.72
57	855	14.25	2.7	0.241	0.160	0.217	0.081	0.86	554.66
58	870	14.50	2.6	0.232	0.157	0.209	0.075	0.79	492.99
59	885	14.75	2.6	0.232	0.155	0.209	0.077	0.82	515.85
60	900	15.00	2.5	0.223	0.152	0.201	0.071	0.75	453.52
61	915	15.25	2.4	0.214	0.150	0.193	0.064	0.68	390.86

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.570	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.1942
LAG TIME - MINUTES	1.62	MINIMUM LOSS RATE (for var. loss) - in/hr	0.097
UNIT TIME-PERCENT OF LAG	925.8	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00180
		PERCOLATION RATE (cfs)	0.24

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
62	930	15.50	2.3	0.205	0.148	0.185	0.057	0.61	327.85
63	945	15.75	1.9	0.169	0.146	0.153	0.024	0.25	9.93
64	960	16.00	1.9	0.169	0.143	0.153	0.026	0.28	31.09
65	975	16.25	0.4	0.036	0.141	0.032	0.004	0.04	0.00
66	990	16.50	0.4	0.036	0.139	0.032	0.004	0.04	0.00
67	1005	16.75	0.3	0.027	0.137	0.024	0.003	0.03	0.00
68	1020	17.00	0.3	0.027	0.135	0.024	0.003	0.03	0.00
69	1035	17.25	0.5	0.045	0.133	0.040	0.004	0.05	0.00
70	1050	17.50	0.5	0.045	0.131	0.040	0.004	0.05	0.00
71	1065	17.75	0.5	0.045	0.129	0.040	0.004	0.05	0.00
72	1080	18.00	0.4	0.036	0.127	0.032	0.004	0.04	0.00
73	1095	18.25	0.4	0.036	0.125	0.032	0.004	0.04	0.00
74	1110	18.50	0.4	0.036	0.123	0.032	0.004	0.04	0.00
75	1125	18.75	0.3	0.027	0.121	0.024	0.003	0.03	0.00
76	1140	19.00	0.2	0.018	0.120	0.016	0.002	0.02	0.00
77	1155	19.25	0.3	0.027	0.118	0.024	0.003	0.03	0.00
78	1170	19.50	0.4	0.036	0.116	0.032	0.004	0.04	0.00
79	1185	19.75	0.3	0.027	0.115	0.024	0.003	0.03	0.00
80	1200	20.00	0.2	0.018	0.113	0.016	0.002	0.02	0.00
81	1215	20.25	0.3	0.027	0.112	0.024	0.003	0.03	0.00
82	1230	20.50	0.3	0.027	0.110	0.024	0.003	0.03	0.00
83	1245	20.75	0.3	0.027	0.109	0.024	0.003	0.03	0.00
84	1260	21.00	0.2	0.018	0.108	0.016	0.002	0.02	0.00
85	1275	21.25	0.3	0.027	0.106	0.024	0.003	0.03	0.00
86	1290	21.50	0.2	0.018	0.105	0.016	0.002	0.02	0.00
87	1305	21.75	0.3	0.027	0.104	0.024	0.003	0.03	0.00
88	1320	22.00	0.2	0.018	0.103	0.016	0.002	0.02	0.00
89	1335	22.25	0.3	0.027	0.102	0.024	0.003	0.03	0.00
90	1350	22.50	0.2	0.018	0.101	0.016	0.002	0.02	0.00
91	1365	22.75	0.2	0.018	0.100	0.016	0.002	0.02	0.00
92	1380	23.00	0.2	0.018	0.099	0.016	0.002	0.02	0.00
93	1395	23.25	0.2	0.018	0.099	0.016	0.002	0.02	0.00
94	1410	23.50	0.2	0.018	0.098	0.016	0.002	0.02	0.00
95	1425	23.75	0.2	0.018	0.097	0.016	0.002	0.02	0.00
96	1440	24.00	0.2	0.018	0.097	0.016	0.002	0.02	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.40
FLOOD VOLUME (acft)	0.35
FLOOD VOLUME (cuft)	15459.88
REQUIRED STORAGE (acft)	0.16
REQUIRED STORAGE (cuft)	6850.04
PEAK FLOW (cfs)	1.44

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
465	0	0		15600	0	0	0.00
466	1	1	1520	17120	16360	16360	0.38
467	1	2	1590	18710	17915	34275	0.79
468	1	3	1640	20350	19530	53805	1.24
468.5	0.5	3.5	850	21200	10388	64193	1.47

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.24 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.24 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.17	51	51	73	-	465.00	-	0.00
2	10	0.17	51	51	73	-	465.00	-	0.00
3	15	0.15	44	44	73	-	465.00	-	0.00
4	20	0.20	59	59	73	-	465.00	-	0.00
5	25	0.20	59	59	73	-	465.00	-	0.00
6	30	0.32	97	97	73	24	465.00	24	0.00
7	35	0.20	59	83	73	11	465.00	11	0.00
8	40	0.32	97	107	73	35	465.00	35	0.00
9	45	0.32	97	131	73	59	465.00	59	0.00
10	50	0.20	59	118	73	46	465.00	46	0.00
11	55	0.06	17	63	73	-	465.00	-	0.00
12	60	0.32	97	97	73	24	465.00	24	0.00
13	65	0.85	255	279	73	206	465.01	206	0.00
14	70	0.85	255	461	73	389	465.02	389	0.01
15	75	0.85	255	644	73	571	465.03	571	0.01
16	80	0.59	176	747	73	674	465.04	674	0.02
17	85	1.38	413	1,087	73	1,015	465.06	1,015	0.02
18	90	1.51	453	1,468	73	1,395	465.09	1,395	0.03
19	95	1.11	334	1,729	73	1,657	465.10	1,657	0.04
20	100	1.51	453	2,109	73	2,037	465.12	2,037	0.05
21	105	2.30	690	2,727	73	2,654	465.16	2,654	0.06
22	110	2.04	611	3,265	73	3,193	465.20	3,193	0.07
23	115	1.77	532	3,725	73	3,652	465.22	3,652	0.08
24	120	1.91	572	4,224	73	4,151	465.25	4,151	0.10
25	125	2.04	611	4,762	73	4,690	465.29	4,690	0.11
26	130	3.49	1,046	5,736	73	5,663	465.35	5,663	0.13
27	135	4.54	1,363	7,026	73	6,954	465.43	6,954	0.16
28	140	2.56	769	7,723	73	7,651	465.47	7,651	0.18
29	145	6.92	2,075	9,726	73	9,653	465.59	9,653	0.22
30	150	7.58	2,273	11,927	73	11,854	465.72	11,854	0.27
31	155	8.76	2,629	14,483	73	14,411	465.88	14,411	0.33
32	160	5.73	1,719	16,130	73	16,057	465.98	16,057	0.37
33	165	0.59	176	16,233	73	16,161	465.99	16,161	0.37
34	170	0.32	97	16,257	73	16,185	465.99	16,185	0.37
35	175	0.32	97	16,281	73	16,209	465.99	16,209	0.37
36	180	0.08	24	16,232	73	16,160	465.99	16,160	0.37

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.09	26	26	73	-	465.00	-	0.00
2	10	0.10	31	31	73	-	465.00	-	0.00
3	15	0.10	31	31	73	-	465.00	-	0.00
4	20	0.10	31	31	73	-	465.00	-	0.00
5	25	0.10	31	31	73	-	465.00	-	0.00
6	30	0.12	36	36	73	-	465.00	-	0.00
7	35	0.12	36	36	73	-	465.00	-	0.00
8	40	0.12	36	36	73	-	465.00	-	0.00
9	45	0.12	36	36	73	-	465.00	-	0.00
10	50	0.12	36	36	73	-	465.00	-	0.00
11	55	0.12	36	36	73	-	465.00	-	0.00
12	60	0.14	41	41	73	-	465.00	-	0.00
13	65	0.14	41	41	73	-	465.00	-	0.00
14	70	0.14	41	41	73	-	465.00	-	0.00
15	75	0.14	41	41	73	-	465.00	-	0.00
16	80	0.14	41	41	73	-	465.00	-	0.00
17	85	0.14	41	41	73	-	465.00	-	0.00
18	90	0.14	41	41	73	-	465.00	-	0.00
19	95	0.14	41	41	73	-	465.00	-	0.00
20	100	0.14	41	41	73	-	465.00	-	0.00
21	105	0.14	41	41	73	-	465.00	-	0.00
22	110	0.14	41	41	73	-	465.00	-	0.00
23	115	0.14	41	41	73	-	465.00	-	0.00
24	120	0.16	47	47	73	-	465.00	-	0.00
25	125	0.14	41	41	73	-	465.00	-	0.00
26	130	0.16	47	47	73	-	465.00	-	0.00
27	135	0.16	47	47	73	-	465.00	-	0.00
28	140	0.16	47	47	73	-	465.00	-	0.00
29	145	0.16	47	47	73	-	465.00	-	0.00
30	150	0.16	47	47	73	-	465.00	-	0.00
31	155	0.16	47	47	73	-	465.00	-	0.00
32	160	0.16	47	47	73	-	465.00	-	0.00
33	165	0.17	52	52	73	-	465.00	-	0.00
34	170	0.17	52	52	73	-	465.00	-	0.00
35	175	0.17	52	52	73	-	465.00	-	0.00
36	180	0.17	52	52	73	-	465.00	-	0.00
37	185	0.17	52	52	73	-	465.00	-	0.00
38	190	0.19	57	57	73	-	465.00	-	0.00
39	195	0.19	57	57	73	-	465.00	-	0.00
40	200	0.19	57	57	73	-	465.00	-	0.00
41	205	0.02	5	5	73	-	465.00	-	0.00
42	210	0.19	57	57	73	-	465.00	-	0.00
43	215	0.36	109	109	73	36	465.00	36	0.00
44	220	0.36	109	145	73	72	465.00	72	0.00
45	225	0.54	161	233	73	160	465.01	160	0.00
46	230	0.54	161	321	73	248	465.02	248	0.01
47	235	0.71	212	461	73	388	465.02	388	0.01
48	240	0.71	212	600	73	528	465.03	528	0.01
49	245	0.88	264	792	73	719	465.04	719	0.02
50	250	1.05	316	1,035	73	962	465.06	962	0.02
51	255	1.23	368	1,330	73	1,257	465.08	1,257	0.03
52	260	1.40	419	1,677	73	1,604	465.10	1,604	0.04
53	265	1.57	471	2,075	73	2,003	465.12	2,003	0.05
54	270	1.57	471	2,474	73	2,401	465.15	2,401	0.06
55	275	1.74	523	2,924	73	2,851	465.17	2,851	0.07

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	1.92	575	3,426	73	3,353	465.20	3,353	0.08
57	285	2.09	626	3,980	73	3,907	465.24	3,907	0.09
58	290	2.09	626	4,533	73	4,461	465.27	4,461	0.10
59	295	2.26	678	5,139	73	5,066	465.31	5,066	0.12
60	300	2.43	730	5,796	73	5,723	465.35	5,723	0.13
61	305	3.30	989	6,712	73	6,639	465.41	6,639	0.15
62	310	4.16	1,247	7,887	73	7,814	465.48	7,814	0.18
63	315	4.68	1,403	9,217	73	9,144	465.56	9,144	0.21
64	320	5.19	1,558	10,702	73	10,629	465.65	10,629	0.24
65	325	6.06	1,817	12,446	73	12,373	465.76	12,373	0.28
66	330	7.61	2,282	14,656	73	14,583	465.89	14,583	0.33
67	335	1.23	368	14,951	73	14,878	465.91	14,878	0.34
68	340	0.16	47	14,925	73	14,852	465.91	14,852	0.34
69	345	0.10	31	14,883	73	14,810	465.91	14,810	0.34
70	350	0.09	26	14,836	73	14,764	465.90	14,764	0.34
71	355	0.05	16	14,779	73	14,707	465.90	14,707	0.34
72	360	0.03	10	14,717	73	14,644	465.90	14,644	0.34

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.02	17	17	218	-	465.00	-	0.00
2	30	0.03	25	25	218	-	465.00	-	0.00
3	45	0.03	25	25	218	-	465.00	-	0.00
4	60	0.04	34	34	218	-	465.00	-	0.00
5	75	0.03	25	25	218	-	465.00	-	0.00
6	90	0.03	25	25	218	-	465.00	-	0.00
7	105	0.03	25	25	218	-	465.00	-	0.00
8	120	0.04	34	34	218	-	465.00	-	0.00
9	135	0.04	34	34	218	-	465.00	-	0.00
10	150	0.04	34	34	218	-	465.00	-	0.00
11	165	0.05	42	42	218	-	465.00	-	0.00
12	180	0.05	42	42	218	-	465.00	-	0.00
13	195	0.05	42	42	218	-	465.00	-	0.00
14	210	0.05	42	42	218	-	465.00	-	0.00
15	225	0.05	42	42	218	-	465.00	-	0.00
16	240	0.06	51	51	218	-	465.00	-	0.00
17	255	0.06	51	51	218	-	465.00	-	0.00
18	270	0.07	59	59	218	-	465.00	-	0.00
19	285	0.07	59	59	218	-	465.00	-	0.00
20	300	0.08	68	68	218	-	465.00	-	0.00
21	315	0.06	51	51	218	-	465.00	-	0.00
22	330	0.07	59	59	218	-	465.00	-	0.00
23	345	0.08	68	68	218	-	465.00	-	0.00
24	360	0.08	68	68	218	-	465.00	-	0.00
25	375	0.08	76	76	218	-	465.00	-	0.00
26	390	0.08	76	76	218	-	465.00	-	0.00
27	405	0.09	85	85	218	-	465.00	-	0.00
28	420	0.09	85	85	218	-	465.00	-	0.00
29	435	0.09	85	85	218	-	465.00	-	0.00
30	450	0.10	93	93	218	-	465.00	-	0.00
31	465	0.11	102	102	218	-	465.00	-	0.00
32	480	0.12	110	110	218	-	465.00	-	0.00
33	495	0.14	127	127	218	-	465.00	-	0.00
34	510	0.14	127	127	218	-	465.00	-	0.00
35	525	0.15	136	136	218	-	465.00	-	0.00
36	540	0.16	144	144	218	-	465.00	-	0.00
37	555	0.18	161	161	218	-	465.00	-	0.00
38	570	0.19	170	170	218	-	465.00	-	0.00
39	585	0.20	178	178	218	-	465.00	-	0.00
40	600	0.21	187	187	218	-	465.00	-	0.00
41	615	0.14	127	127	218	-	465.00	-	0.00
42	630	0.14	127	127	218	-	465.00	-	0.00
43	645	0.19	170	170	218	-	465.00	-	0.00
44	660	0.19	170	170	218	-	465.00	-	0.00
45	675	0.18	161	161	218	-	465.00	-	0.00
46	690	0.18	161	161	218	-	465.00	-	0.00
47	705	0.16	144	144	218	-	465.00	-	0.00
48	720	0.17	153	153	218	-	465.00	-	0.00
49	735	0.45	406	406	218	188	465.01	188	0.00
50	750	0.57	516	704	218	487	465.03	487	0.01
51	765	0.79	711	1,198	218	980	465.06	980	0.02
52	780	0.91	821	1,802	218	1,584	465.10	1,584	0.04
53	795	1.41	1,270	2,854	218	2,637	465.16	2,637	0.06
54	810	1.44	1,295	3,931	218	3,714	465.23	3,714	0.09
55	825	0.43	386	4,099	218	3,882	465.24	3,882	0.09
56	840	0.45	409	4,291	218	4,073	465.25	4,073	0.09
57	855	0.86	772	4,846	218	4,628	465.28	4,628	0.11
58	870	0.79	711	5,339	218	5,121	465.31	5,121	0.12

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	0.82	734	5,855	218	5,637	465.34	5,637	0.13
60	900	0.75	671	6,308	218	6,090	465.37	6,090	0.14
61	915	0.68	609	6,699	218	6,481	465.40	6,481	0.15
62	930	0.61	546	7,027	218	6,809	465.42	6,809	0.16
63	945	0.25	228	7,037	218	6,819	465.42	6,819	0.16
64	960	0.28	249	7,068	218	6,850	465.42	6,850	0.16
65	975	0.04	34	6,884	218	6,666	465.41	6,666	0.15
66	990	0.04	34	6,700	218	6,482	465.40	6,482	0.15
67	1005	0.03	25	6,508	218	6,290	465.38	6,290	0.14
68	1020	0.03	25	6,316	218	6,098	465.37	6,098	0.14
69	1035	0.05	42	6,140	218	5,923	465.36	5,923	0.14
70	1050	0.05	42	5,965	218	5,747	465.35	5,747	0.13
71	1065	0.05	42	5,790	218	5,572	465.34	5,572	0.13
72	1080	0.04	34	5,606	218	5,388	465.33	5,388	0.12
73	1095	0.04	34	5,422	218	5,204	465.32	5,204	0.12
74	1110	0.04	34	5,238	218	5,020	465.31	5,020	0.12
75	1125	0.03	25	5,046	218	4,828	465.30	4,828	0.11
76	1140	0.02	17	4,845	218	4,627	465.28	4,627	0.11
77	1155	0.03	25	4,653	218	4,435	465.27	4,435	0.10
78	1170	0.04	34	4,469	218	4,251	465.26	4,251	0.10
79	1185	0.03	25	4,277	218	4,059	465.25	4,059	0.09
80	1200	0.02	17	4,076	218	3,858	465.24	3,858	0.09
81	1215	0.03	25	3,884	218	3,666	465.22	3,666	0.08
82	1230	0.03	25	3,691	218	3,474	465.21	3,474	0.08
83	1245	0.03	25	3,499	218	3,281	465.20	3,281	0.08
84	1260	0.02	17	3,298	218	3,081	465.19	3,081	0.07
85	1275	0.03	25	3,106	218	2,888	465.18	2,888	0.07
86	1290	0.02	17	2,905	218	2,687	465.16	2,687	0.06
87	1305	0.03	25	2,713	218	2,495	465.15	2,495	0.06
88	1320	0.02	17	2,512	218	2,294	465.14	2,294	0.05
89	1335	0.03	25	2,320	218	2,102	465.13	2,102	0.05
90	1350	0.02	17	2,119	218	1,901	465.12	1,901	0.04
91	1365	0.02	17	1,918	218	1,701	465.10	1,701	0.04
92	1380	0.02	17	1,718	218	1,500	465.09	1,500	0.03
93	1395	0.02	17	1,517	218	1,299	465.08	1,299	0.03
94	1410	0.02	17	1,316	218	1,098	465.07	1,098	0.03
95	1425	0.02	17	1,115	218	897	465.05	897	0.02
96	1440	0.02	17	914	218	697	465.04	697	0.02

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 10 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 3		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	2.56		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	6.65		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	1.04		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	750		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	170		
30				
31	ELEVATION OF HEADWATER	471.8		
32	ELEVATION OF CONCENTRATION POINT	468.5		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	1.04		
40	6-HOUR	1.36		
41	24-HOUR	2.23		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		465	15000	
45		466	16600	
46		467	18250	
47		468	19960	
48		468.5	20831	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 3
[3] AREA - ACRES	10.250
[4] L-FEET	750
[5] L-MILES	0.142
[6] La-FEET	170.00
[7] La-MILES	0.032
[8] ELEVATION OF HEADWATER	471.8
[9] ELEVATION OF CONCENTRATION POINT	468.5
[10] H-FEET	3.3
[11] S-FEET/MILE	23.2
[12] S^0.5	4.82
[13] L*LCA/S^0.5	0.001
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.03
[16] LAG TIME-MINUTES	2.0
[17] 100% OF LAG-MINUTES	2.0
[18] 200% OF LAG-MINUTES	4.1
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.23

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
1.04	10.250	1.00	1.04	1.36	10.250	1.00	1.36	2.23	10.250	1.00	2.23
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	10.25	SUM [7]	1.04	SUM [9]	10.25	SUM [11]	1.36	SUM [13]	10.25	SUM [15]	2.23
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			1.04				1.36				2.23

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	0.47	0.46	0.36
FLOOD VOLUME	(cu-ft)	17,326	17,301	13,560
	(acre-ft)	0.40	0.40	0.31
REQUIRED STORAGE	(cu-ft)	14,912	13,552	5,367
	(acre-ft)	0.34	0.31	0.12
PEAK FLOW	(cfs)	8.38	7.26	1.29
MAXIMUM WSEL	(ft)	465.94	465.86	465.34

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	2.56	0.250	0.0130
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	6.65	0.649	0.1400
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	1.04	0.101	0.0528
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		10.25	SUM	0.2058

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.102877561
C= 0.00191

Ft=C(24-(T/60))^1.55 = 0.00191 (24-(T/60))^1.55 + 0.10 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period,
T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.25
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.05
UNIT TIME-PERCENT OF LAG	244.5
TOTAL ADJUSTED STORM RAIN-INCHES	1.04
CONSTANT LOSS RATE-in/hr	0.21
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.23 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.162	0.21	0.15	0.02	0.17	0.00
2	10	0.17	1.3	0.162	0.21	0.15	0.02	0.17	0.00
3	15	0.25	1.1	0.137	0.21	0.12	0.01	0.14	0.00
4	20	0.33	1.5	0.187	0.21	0.17	0.02	0.19	0.00
5	25	0.42	1.5	0.187	0.21	0.17	0.02	0.19	0.00
6	30	0.50	1.8	0.225	0.21	0.20	0.02	0.19	0.00
7	35	0.58	1.5	0.187	0.21	0.17	0.02	0.19	0.00
8	40	0.67	1.8	0.225	0.21	0.20	0.02	0.19	0.00
9	45	0.75	1.8	0.225	0.21	0.20	0.02	0.19	0.00
10	50	0.83	1.5	0.187	0.21	0.17	0.02	0.19	0.00
11	55	0.92	1.6	0.200	0.21	0.18	0.02	0.20	0.00
12	60	1.00	1.8	0.225	0.21	0.20	0.02	0.19	0.00
13	65	1.08	2.2	0.275	0.21	0.25	0.07	0.71	141.78
14	70	1.17	2.2	0.275	0.21	0.25	0.07	0.71	141.78
15	75	1.25	2.2	0.275	0.21	0.25	0.07	0.71	141.78
16	80	1.33	2.0	0.250	0.21	0.22	0.04	0.45	65.03
17	85	1.42	2.6	0.324	0.21	0.29	0.12	1.22	295.29
18	90	1.50	2.7	0.337	0.21	0.30	0.13	1.34	333.66
19	95	1.58	2.4	0.300	0.21	0.27	0.09	0.96	218.54
20	100	1.67	2.7	0.337	0.21	0.30	0.13	1.34	333.66
21	105	1.75	3.3	0.412	0.21	0.37	0.21	2.11	563.92
22	110	1.83	3.1	0.387	0.21	0.35	0.18	1.86	487.17
23	115	1.92	2.9	0.362	0.21	0.33	0.16	1.60	410.42
24	120	2.00	3.0	0.374	0.21	0.34	0.17	1.73	448.79
25	125	2.08	3.1	0.387	0.21	0.35	0.18	1.86	487.17
26	130	2.17	4.2	0.524	0.21	0.47	0.32	3.26	909.30
27	135	2.25	5.0	0.624	0.21	0.56	0.42	4.29	1216.31
28	140	2.33	3.5	0.437	0.21	0.39	0.23	2.37	640.67
29	145	2.42	6.8	0.849	0.21	0.76	0.64	6.59	1907.08
30	150	2.50	7.3	0.911	0.21	0.82	0.71	7.23	2098.96
31	155	2.58	8.2	1.023	0.21	0.92	0.82	8.38	2444.34
32	160	2.67	5.9	0.736	0.21	0.66	0.53	5.44	1561.70
33	165	2.75	2.0	0.250	0.21	0.22	0.04	0.45	65.03
34	170	2.83	1.8	0.225	0.21	0.20	0.02	0.19	0.00
35	175	2.92	1.8	0.225	0.21	0.20	0.02	0.19	0.00
36	180	3.00	0.6	0.075	0.21	0.07	0.01	0.08	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.47
FLOOD VOLUME (acft)	0.40
FLOOD VOLUME (cuft)	17326.37
REQUIRED STORAGE (acft)	0.34
REQUIRED STORAGE (cuft)	14912.39
PEAK FLOW RATE (cfs)	8.38

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.25
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.05
UNIT TIME-PERCENT OF LAG	244.5
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.206
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.23 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.082	0.21	0.07	0.01	0.08	0.00
2	10	0.17	0.6	0.098	0.21	0.09	0.01	0.10	0.00
3	15	0.25	0.6	0.098	0.21	0.09	0.01	0.10	0.00
4	20	0.33	0.6	0.098	0.21	0.09	0.01	0.10	0.00
5	25	0.42	0.6	0.098	0.21	0.09	0.01	0.10	0.00
6	30	0.50	0.7	0.114	0.21	0.10	0.01	0.12	0.00
7	35	0.58	0.7	0.114	0.21	0.10	0.01	0.12	0.00
8	40	0.67	0.7	0.114	0.21	0.10	0.01	0.12	0.00
9	45	0.75	0.7	0.114	0.21	0.10	0.01	0.12	0.00
10	50	0.83	0.7	0.114	0.21	0.10	0.01	0.12	0.00
11	55	0.92	0.7	0.114	0.21	0.10	0.01	0.12	0.00
12	60	1.00	0.8	0.131	0.21	0.12	0.01	0.13	0.00
13	65	1.08	0.8	0.131	0.21	0.12	0.01	0.13	0.00
14	70	1.17	0.8	0.131	0.21	0.12	0.01	0.13	0.00
15	75	1.25	0.8	0.131	0.21	0.12	0.01	0.13	0.00
16	80	1.33	0.8	0.131	0.21	0.12	0.01	0.13	0.00
17	85	1.42	0.8	0.131	0.21	0.12	0.01	0.13	0.00
18	90	1.50	0.8	0.131	0.21	0.12	0.01	0.13	0.00
19	95	1.58	0.8	0.131	0.21	0.12	0.01	0.13	0.00
20	100	1.67	0.8	0.131	0.21	0.12	0.01	0.13	0.00
21	105	1.75	0.8	0.131	0.21	0.12	0.01	0.13	0.00
22	110	1.83	0.8	0.131	0.21	0.12	0.01	0.13	0.00
23	115	1.92	0.8	0.131	0.21	0.12	0.01	0.13	0.00
24	120	2.00	0.9	0.147	0.21	0.13	0.01	0.15	0.00
25	125	2.08	0.8	0.131	0.21	0.12	0.01	0.13	0.00
26	130	2.17	0.9	0.147	0.21	0.13	0.01	0.15	0.00
27	135	2.25	0.9	0.147	0.21	0.13	0.01	0.15	0.00
28	140	2.33	0.9	0.147	0.21	0.13	0.01	0.15	0.00
29	145	2.42	0.9	0.147	0.21	0.13	0.01	0.15	0.00
30	150	2.50	0.9	0.147	0.21	0.13	0.01	0.15	0.00
31	155	2.58	0.9	0.147	0.21	0.13	0.01	0.15	0.00
32	160	2.67	0.9	0.147	0.21	0.13	0.01	0.15	0.00
33	165	2.75	1.0	0.163	0.21	0.15	0.02	0.17	0.00
34	170	2.83	1.0	0.163	0.21	0.15	0.02	0.17	0.00
35	175	2.92	1.0	0.163	0.21	0.15	0.02	0.17	0.00
36	180	3.00	1.0	0.163	0.21	0.15	0.02	0.17	0.00
37	185	3.08	1.0	0.163	0.21	0.15	0.02	0.17	0.00
38	190	3.17	1.1	0.180	0.21	0.16	0.02	0.18	0.00
39	195	3.25	1.1	0.180	0.21	0.16	0.02	0.18	0.00
40	200	3.33	1.1	0.180	0.21	0.16	0.02	0.18	0.00
41	205	3.42	1.2	0.196	0.21	0.18	0.02	0.20	0.00
42	210	3.50	1.3	0.212	0.21	0.19	0.01	0.07	0.00
43	215	3.58	1.4	0.228	0.21	0.21	0.02	0.23	0.09
44	220	3.67	1.4	0.228	0.21	0.21	0.02	0.23	0.09
45	225	3.75	1.5	0.245	0.21	0.22	0.04	0.40	50.27
46	230	3.83	1.5	0.245	0.21	0.22	0.04	0.40	50.27
47	235	3.92	1.6	0.261	0.21	0.24	0.06	0.57	100.46
48	240	4.00	1.6	0.261	0.21	0.24	0.06	0.57	100.46
49	245	4.08	1.7	0.277	0.21	0.25	0.07	0.73	150.64
50	250	4.17	1.8	0.294	0.21	0.26	0.09	0.90	200.82
51	255	4.25	1.9	0.310	0.21	0.28	0.10	1.07	251.01
52	260	4.33	2.0	0.326	0.21	0.29	0.12	1.24	301.19
53	265	4.42	2.1	0.343	0.21	0.31	0.14	1.40	351.38
54	270	4.50	2.1	0.343	0.21	0.31	0.14	1.40	351.38
55	275	4.58	2.2	0.359	0.21	0.32	0.15	1.57	401.56
56	280	4.67	2.3	0.375	0.21	0.34	0.17	1.74	451.74

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD 100 YEAR - 6 HOUR STORM EVENT	PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT CONCENTRATION POINT: 1 BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.25		
UNIT TIME-MINUTES	5		
LAG TIME - MINUTES	2.05		
UNIT TIME-PERCENT OF LAG	244.5		
TOTAL ADJUSTED STORM RAIN-INCHES	1.36		
CONSTANT LOSS RATE-in/hr	0.206		
LOW LOSS RATE - PERCENT	90%	TOTAL PERCOLATION RATE (cfs)	0.23 cfs

Unit Time Period	Time		Pattern Percent	Storm Rain in/hr	Loss Rate in/hr		Effective Rain	Flood Hydrograph Flow	Required Storage
	Minutes	Hours	(Plate E-5.9)		Max	Low	in/hr	cfs	cf
57	285	4.75	2.4	0.392	0.21	0.35	0.19	1.91	501.93
58	290	4.83	2.4	0.392	0.21	0.35	0.19	1.91	501.93
59	295	4.92	2.5	0.408	0.21	0.37	0.20	2.07	552.11
60	300	5.00	2.6	0.424	0.21	0.38	0.22	2.24	602.30
61	305	5.08	3.1	0.506	0.21	0.46	0.30	3.08	853.22
62	310	5.17	3.6	0.588	0.21	0.53	0.38	3.91	1104.14
63	315	5.25	3.9	0.636	0.21	0.57	0.43	4.41	1254.69
64	320	5.33	4.2	0.685	0.21	0.62	0.48	4.92	1405.24
65	325	5.42	4.7	0.767	0.21	0.69	0.56	5.75	1656.16
66	330	5.50	5.6	0.914	0.21	0.82	0.71	7.26	2107.82
67	335	5.58	1.9	0.310	0.21	0.28	0.10	1.07	251.01
68	340	5.67	0.9	0.147	0.21	0.13	0.01	0.15	0.00
69	345	5.75	0.6	0.098	0.21	0.09	0.01	0.10	0.00
70	350	5.83	0.5	0.082	0.21	0.07	0.01	0.08	0.00
71	355	5.92	0.3	0.049	0.21	0.04	0.00	0.05	0.00
72	360	6.00	0.2	0.033	0.21	0.03	0.00	0.03	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.46
FLOOD VOLUME (acft)	0.40
FLOOD VOLUME (cuft)	17301.15
REQUIRED STORAGE (acft)	0.31
REQUIRED STORAGE (cuft)	13551.86
PEAK FLOW RATE (cfs)	7.26

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.250	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2058
LAG TIME - MINUTES	2.05	MINIMUM LOSS RATE (for var. loss) - in/hr	0.103
UNIT TIME-PERCENT OF LAG	733.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00191
		PERCOLATION RATE (cfs)	0.23

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.018	0.363	0.016	0.002	0.02	0.00
2	30	0.50	0.3	0.027	0.359	0.024	0.003	0.03	0.00
3	45	0.75	0.3	0.027	0.355	0.024	0.003	0.03	0.00
4	60	1.00	0.4	0.036	0.351	0.032	0.004	0.04	0.00
5	75	1.25	0.3	0.027	0.347	0.024	0.003	0.03	0.00
6	90	1.50	0.3	0.027	0.343	0.024	0.003	0.03	0.00
7	105	1.75	0.3	0.027	0.338	0.024	0.003	0.03	0.00
8	120	2.00	0.4	0.036	0.334	0.032	0.004	0.04	0.00
9	135	2.25	0.4	0.036	0.330	0.032	0.004	0.04	0.00
10	150	2.50	0.4	0.036	0.326	0.032	0.004	0.04	0.00
11	165	2.75	0.5	0.045	0.322	0.040	0.004	0.05	0.00
12	180	3.00	0.5	0.045	0.318	0.040	0.004	0.05	0.00
13	195	3.25	0.5	0.045	0.314	0.040	0.004	0.05	0.00
14	210	3.50	0.5	0.045	0.310	0.040	0.004	0.05	0.00
15	225	3.75	0.5	0.045	0.307	0.040	0.004	0.05	0.00
16	240	4.00	0.6	0.054	0.303	0.048	0.005	0.05	0.00
17	255	4.25	0.6	0.054	0.299	0.048	0.005	0.05	0.00
18	270	4.50	0.7	0.062	0.295	0.056	0.006	0.06	0.00
19	285	4.75	0.7	0.062	0.291	0.056	0.006	0.06	0.00
20	300	5.00	0.8	0.071	0.288	0.064	0.007	0.07	0.00
21	315	5.25	0.6	0.054	0.284	0.048	0.005	0.05	0.00
22	330	5.50	0.7	0.062	0.280	0.056	0.006	0.06	0.00
23	345	5.75	0.8	0.071	0.276	0.064	0.007	0.07	0.00
24	360	6.00	0.8	0.071	0.273	0.064	0.007	0.07	0.00
25	375	6.25	0.9	0.080	0.269	0.072	0.008	0.08	0.00
26	390	6.50	0.9	0.080	0.266	0.072	0.008	0.08	0.00
27	405	6.75	1.0	0.089	0.262	0.080	0.009	0.09	0.00
28	420	7.00	1.0	0.089	0.258	0.080	0.009	0.09	0.00
29	435	7.25	1.0	0.089	0.255	0.080	0.009	0.09	0.00
30	450	7.50	1.1	0.098	0.252	0.088	0.010	0.10	0.00
31	465	7.75	1.2	0.107	0.248	0.096	0.011	0.11	0.00
32	480	8.00	1.3	0.116	0.245	0.104	0.012	0.12	0.00
33	495	8.25	1.5	0.134	0.241	0.120	0.013	0.14	0.00
34	510	8.50	1.5	0.134	0.238	0.120	0.013	0.14	0.00
35	525	8.75	1.6	0.143	0.235	0.128	0.014	0.15	0.00
36	540	9.00	1.7	0.152	0.231	0.136	0.015	0.16	0.00
37	555	9.25	1.9	0.169	0.228	0.153	0.017	0.17	0.00
38	570	9.50	2.0	0.178	0.225	0.161	0.018	0.18	0.00
39	585	9.75	2.1	0.187	0.222	0.169	0.019	0.19	0.00
40	600	10.00	2.2	0.196	0.218	0.177	0.020	0.20	0.00
41	615	10.25	1.5	0.134	0.215	0.120	0.013	0.14	0.00
42	630	10.50	1.5	0.134	0.212	0.120	0.013	0.14	0.00
43	645	10.75	2.0	0.178	0.209	0.161	0.018	0.18	0.00
44	660	11.00	2.0	0.178	0.206	0.161	0.018	0.18	0.00
45	675	11.25	1.9	0.169	0.203	0.153	0.017	0.17	0.00
46	690	11.50	1.9	0.169	0.200	0.153	0.017	0.17	0.00
47	705	11.75	1.7	0.152	0.197	0.136	0.015	0.16	0.00
48	720	12.00	1.8	0.161	0.194	0.145	0.016	0.16	0.00
49	735	12.25	2.5	0.223	0.191	0.201	0.032	0.33	84.85
50	750	12.50	2.6	0.232	0.188	0.209	0.044	0.45	193.54
51	765	12.75	2.8	0.250	0.185	0.225	0.064	0.66	384.21
52	780	13.00	2.9	0.259	0.183	0.233	0.076	0.78	492.27
53	795	13.25	3.4	0.303	0.180	0.273	0.123	1.27	929.17
54	810	13.50	3.4	0.303	0.177	0.273	0.126	1.29	954.32
55	825	13.75	2.3	0.205	0.174	0.185	0.031	0.31	73.98
56	840	14.00	2.3	0.205	0.172	0.185	0.033	0.34	98.48
57	855	14.25	2.7	0.241	0.169	0.217	0.072	0.73	451.79
58	870	14.50	2.6	0.232	0.167	0.209	0.065	0.67	393.33
59	885	14.75	2.6	0.232	0.164	0.209	0.068	0.70	416.82
60	900	15.00	2.5	0.223	0.162	0.201	0.061	0.63	357.68
61	915	15.25	2.4	0.214	0.159	0.193	0.055	0.56	298.20

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.250	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2058
LAG TIME - MINUTES	2.05	MINIMUM LOSS RATE (for var. loss) - in/hr	0.103
UNIT TIME-PERCENT OF LAG	733.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00191
		PERCOLATION RATE (cfs)	0.23

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
62	930	15.50	2.3	0.205	0.157	0.185	0.049	0.50	238.37
63	945	15.75	1.9	0.169	0.154	0.153	0.015	0.16	0.00
64	960	16.00	1.9	0.169	0.152	0.153	0.018	0.18	0.00
65	975	16.25	0.4	0.036	0.150	0.032	0.004	0.04	0.00
66	990	16.50	0.4	0.036	0.147	0.032	0.004	0.04	0.00
67	1005	16.75	0.3	0.027	0.145	0.024	0.003	0.03	0.00
68	1020	17.00	0.3	0.027	0.143	0.024	0.003	0.03	0.00
69	1035	17.25	0.5	0.045	0.141	0.040	0.004	0.05	0.00
70	1050	17.50	0.5	0.045	0.139	0.040	0.004	0.05	0.00
71	1065	17.75	0.5	0.045	0.137	0.040	0.004	0.05	0.00
72	1080	18.00	0.4	0.036	0.134	0.032	0.004	0.04	0.00
73	1095	18.25	0.4	0.036	0.133	0.032	0.004	0.04	0.00
74	1110	18.50	0.4	0.036	0.131	0.032	0.004	0.04	0.00
75	1125	18.75	0.3	0.027	0.129	0.024	0.003	0.03	0.00
76	1140	19.00	0.2	0.018	0.127	0.016	0.002	0.02	0.00
77	1155	19.25	0.3	0.027	0.125	0.024	0.003	0.03	0.00
78	1170	19.50	0.4	0.036	0.123	0.032	0.004	0.04	0.00
79	1185	19.75	0.3	0.027	0.122	0.024	0.003	0.03	0.00
80	1200	20.00	0.2	0.018	0.120	0.016	0.002	0.02	0.00
81	1215	20.25	0.3	0.027	0.118	0.024	0.003	0.03	0.00
82	1230	20.50	0.3	0.027	0.117	0.024	0.003	0.03	0.00
83	1245	20.75	0.3	0.027	0.115	0.024	0.003	0.03	0.00
84	1260	21.00	0.2	0.018	0.114	0.016	0.002	0.02	0.00
85	1275	21.25	0.3	0.027	0.113	0.024	0.003	0.03	0.00
86	1290	21.50	0.2	0.018	0.111	0.016	0.002	0.02	0.00
87	1305	21.75	0.3	0.027	0.110	0.024	0.003	0.03	0.00
88	1320	22.00	0.2	0.018	0.109	0.016	0.002	0.02	0.00
89	1335	22.25	0.3	0.027	0.108	0.024	0.003	0.03	0.00
90	1350	22.50	0.2	0.018	0.107	0.016	0.002	0.02	0.00
91	1365	22.75	0.2	0.018	0.106	0.016	0.002	0.02	0.00
92	1380	23.00	0.2	0.018	0.105	0.016	0.002	0.02	0.00
93	1395	23.25	0.2	0.018	0.104	0.016	0.002	0.02	0.00
94	1410	23.50	0.2	0.018	0.104	0.016	0.002	0.02	0.00
95	1425	23.75	0.2	0.018	0.103	0.016	0.002	0.02	0.00
96	1440	24.00	0.2	0.018	0.103	0.016	0.002	0.02	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.36
FLOOD VOLUME (acft)	0.31
FLOOD VOLUME (cuft)	13560.19
REQUIRED STORAGE (acft)	0.12
REQUIRED STORAGE (cuft)	5367.00
PEAK FLOW (cfs)	1.29

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
465	0	0		15000	0	0	0.00
466	1	1	1600	16600	15800	15800	0.36
467	1	2	1650	18250	17425	33225	0.76
468	1	3	1710	19960	19105	52330	1.20
468.5	0.5	3.5	871	20831	10198	62528	1.44

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.23 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.23 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.17	50	50	70	-	465.00	-	0.00
2	10	0.17	50	50	70	-	465.00	-	0.00
3	15	0.14	42	42	70	-	465.00	-	0.00
4	20	0.19	58	58	70	-	465.00	-	0.00
5	25	0.19	58	58	70	-	465.00	-	0.00
6	30	0.19	58	58	70	-	465.00	-	0.00
7	35	0.19	58	58	70	-	465.00	-	0.00
8	40	0.19	58	58	70	-	465.00	-	0.00
9	45	0.19	58	58	70	-	465.00	-	0.00
10	50	0.19	58	58	70	-	465.00	-	0.00
11	55	0.20	61	61	70	-	465.00	-	0.00
12	60	0.19	58	58	70	-	465.00	-	0.00
13	65	0.71	212	212	70	142	465.01	142	0.00
14	70	0.71	212	353	70	284	465.02	284	0.01
15	75	0.71	212	495	70	425	465.03	425	0.01
16	80	0.45	135	560	70	490	465.03	490	0.01
17	85	1.22	365	855	70	786	465.05	786	0.02
18	90	1.34	403	1,189	70	1,119	465.07	1,119	0.03
19	95	0.96	288	1,408	70	1,338	465.08	1,338	0.03
20	100	1.34	403	1,741	70	1,672	465.11	1,672	0.04
21	105	2.11	634	2,305	70	2,235	465.14	2,235	0.05
22	110	1.86	557	2,792	70	2,723	465.17	2,723	0.06
23	115	1.60	480	3,203	70	3,133	465.20	3,133	0.07
24	120	1.73	519	3,652	70	3,582	465.23	3,582	0.08
25	125	1.86	557	4,139	70	4,069	465.26	4,069	0.09
26	130	3.26	979	5,048	70	4,978	465.32	4,978	0.11
27	135	4.29	1,286	6,264	70	6,195	465.39	6,195	0.14
28	140	2.37	710	6,905	70	6,835	465.43	6,835	0.16
29	145	6.59	1,977	8,812	70	8,742	465.55	8,742	0.20
30	150	7.23	2,169	10,911	70	10,841	465.69	10,841	0.25
31	155	8.38	2,514	13,355	70	13,286	465.84	13,286	0.30
32	160	5.44	1,631	14,917	70	14,847	465.94	14,847	0.34
33	165	0.45	135	14,982	70	14,912	465.94	14,912	0.34
34	170	0.19	58	14,970	70	14,901	465.94	14,901	0.34
35	175	0.19	58	14,959	70	14,889	465.94	14,889	0.34
36	180	0.08	23	14,912	70	14,842	465.94	14,842	0.34

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.08	25	25	70	-	465.00	-	0.00
2	10	0.10	30	30	70	-	465.00	-	0.00
3	15	0.10	30	30	70	-	465.00	-	0.00
4	20	0.10	30	30	70	-	465.00	-	0.00
5	25	0.10	30	30	70	-	465.00	-	0.00
6	30	0.12	35	35	70	-	465.00	-	0.00
7	35	0.12	35	35	70	-	465.00	-	0.00
8	40	0.12	35	35	70	-	465.00	-	0.00
9	45	0.12	35	35	70	-	465.00	-	0.00
10	50	0.12	35	35	70	-	465.00	-	0.00
11	55	0.12	35	35	70	-	465.00	-	0.00
12	60	0.13	40	40	70	-	465.00	-	0.00
13	65	0.13	40	40	70	-	465.00	-	0.00
14	70	0.13	40	40	70	-	465.00	-	0.00
15	75	0.13	40	40	70	-	465.00	-	0.00
16	80	0.13	40	40	70	-	465.00	-	0.00
17	85	0.13	40	40	70	-	465.00	-	0.00
18	90	0.13	40	40	70	-	465.00	-	0.00
19	95	0.13	40	40	70	-	465.00	-	0.00
20	100	0.13	40	40	70	-	465.00	-	0.00
21	105	0.13	40	40	70	-	465.00	-	0.00
22	110	0.13	40	40	70	-	465.00	-	0.00
23	115	0.13	40	40	70	-	465.00	-	0.00
24	120	0.15	45	45	70	-	465.00	-	0.00
25	125	0.13	40	40	70	-	465.00	-	0.00
26	130	0.15	45	45	70	-	465.00	-	0.00
27	135	0.15	45	45	70	-	465.00	-	0.00
28	140	0.15	45	45	70	-	465.00	-	0.00
29	145	0.15	45	45	70	-	465.00	-	0.00
30	150	0.15	45	45	70	-	465.00	-	0.00
31	155	0.15	45	45	70	-	465.00	-	0.00
32	160	0.15	45	45	70	-	465.00	-	0.00
33	165	0.17	50	50	70	-	465.00	-	0.00
34	170	0.17	50	50	70	-	465.00	-	0.00
35	175	0.17	50	50	70	-	465.00	-	0.00
36	180	0.17	50	50	70	-	465.00	-	0.00
37	185	0.17	50	50	70	-	465.00	-	0.00
38	190	0.18	55	55	70	-	465.00	-	0.00
39	195	0.18	55	55	70	-	465.00	-	0.00
40	200	0.18	55	55	70	-	465.00	-	0.00
41	205	0.20	60	60	70	-	465.00	-	0.00
42	210	0.07	20	20	70	-	465.00	-	0.00
43	215	0.23	70	70	70	0	465.00	0	0.00
44	220	0.23	70	70	70	0	465.00	0	0.00
45	225	0.40	120	120	70	50	465.00	50	0.00
46	230	0.40	120	171	70	101	465.01	101	0.00
47	235	0.57	170	271	70	201	465.01	201	0.00
48	240	0.57	170	371	70	302	465.02	302	0.01
49	245	0.73	220	522	70	452	465.03	452	0.01
50	250	0.90	271	723	70	653	465.04	653	0.01
51	255	1.07	321	974	70	904	465.06	904	0.02
52	260	1.24	371	1,275	70	1,205	465.08	1,205	0.03
53	265	1.40	421	1,626	70	1,557	465.10	1,557	0.04
54	270	1.40	421	1,978	70	1,908	465.12	1,908	0.04
55	275	1.57	471	2,379	70	2,310	465.15	2,310	0.05

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	1.74	522	2,831	70	2,761	465.17	2,761	0.06
57	285	1.91	572	3,333	70	3,263	465.21	3,263	0.07
58	290	1.91	572	3,835	70	3,765	465.24	3,765	0.09
59	295	2.07	622	4,387	70	4,317	465.27	4,317	0.10
60	300	2.24	672	4,989	70	4,920	465.31	4,920	0.11
61	305	3.08	923	5,843	70	5,773	465.37	5,773	0.13
62	310	3.91	1,174	6,947	70	6,877	465.44	6,877	0.16
63	315	4.41	1,324	8,201	70	8,132	465.51	8,132	0.19
64	320	4.92	1,475	9,607	70	9,537	465.60	9,537	0.22
65	325	5.75	1,726	11,263	70	11,193	465.71	11,193	0.26
66	330	7.26	2,178	13,371	70	13,301	465.84	13,301	0.31
67	335	1.07	321	13,622	70	13,552	465.86	13,552	0.31
68	340	0.15	45	13,597	70	13,527	465.86	13,527	0.31
69	345	0.10	30	13,557	70	13,488	465.85	13,488	0.31
70	350	0.08	25	13,513	70	13,443	465.85	13,443	0.31
71	355	0.05	15	13,458	70	13,388	465.85	13,388	0.31
72	360	0.03	10	13,398	70	13,328	465.84	13,328	0.31

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.02	16	16	209	-	465.00	-	0.00
2	30	0.03	25	25	209	-	465.00	-	0.00
3	45	0.03	25	25	209	-	465.00	-	0.00
4	60	0.04	33	33	209	-	465.00	-	0.00
5	75	0.03	25	25	209	-	465.00	-	0.00
6	90	0.03	25	25	209	-	465.00	-	0.00
7	105	0.03	25	25	209	-	465.00	-	0.00
8	120	0.04	33	33	209	-	465.00	-	0.00
9	135	0.04	33	33	209	-	465.00	-	0.00
10	150	0.04	33	33	209	-	465.00	-	0.00
11	165	0.05	41	41	209	-	465.00	-	0.00
12	180	0.05	41	41	209	-	465.00	-	0.00
13	195	0.05	41	41	209	-	465.00	-	0.00
14	210	0.05	41	41	209	-	465.00	-	0.00
15	225	0.05	41	41	209	-	465.00	-	0.00
16	240	0.05	49	49	209	-	465.00	-	0.00
17	255	0.05	49	49	209	-	465.00	-	0.00
18	270	0.06	58	58	209	-	465.00	-	0.00
19	285	0.06	58	58	209	-	465.00	-	0.00
20	300	0.07	66	66	209	-	465.00	-	0.00
21	315	0.05	49	49	209	-	465.00	-	0.00
22	330	0.06	58	58	209	-	465.00	-	0.00
23	345	0.07	66	66	209	-	465.00	-	0.00
24	360	0.07	66	66	209	-	465.00	-	0.00
25	375	0.08	74	74	209	-	465.00	-	0.00
26	390	0.08	74	74	209	-	465.00	-	0.00
27	405	0.09	82	82	209	-	465.00	-	0.00
28	420	0.09	82	82	209	-	465.00	-	0.00
29	435	0.09	82	82	209	-	465.00	-	0.00
30	450	0.10	91	91	209	-	465.00	-	0.00
31	465	0.11	99	99	209	-	465.00	-	0.00
32	480	0.12	107	107	209	-	465.00	-	0.00
33	495	0.14	123	123	209	-	465.00	-	0.00
34	510	0.14	123	123	209	-	465.00	-	0.00
35	525	0.15	132	132	209	-	465.00	-	0.00
36	540	0.16	140	140	209	-	465.00	-	0.00
37	555	0.17	156	156	209	-	465.00	-	0.00
38	570	0.18	165	165	209	-	465.00	-	0.00
39	585	0.19	173	173	209	-	465.00	-	0.00
40	600	0.20	181	181	209	-	465.00	-	0.00
41	615	0.14	123	123	209	-	465.00	-	0.00
42	630	0.14	123	123	209	-	465.00	-	0.00
43	645	0.18	165	165	209	-	465.00	-	0.00
44	660	0.18	165	165	209	-	465.00	-	0.00
45	675	0.17	156	156	209	-	465.00	-	0.00
46	690	0.17	156	156	209	-	465.00	-	0.00
47	705	0.16	140	140	209	-	465.00	-	0.00
48	720	0.16	148	148	209	-	465.00	-	0.00
49	735	0.33	294	294	209	85	465.01	85	0.00
50	750	0.45	403	488	209	278	465.02	278	0.01
51	765	0.66	594	872	209	663	465.04	663	0.02
52	780	0.78	702	1,364	209	1,155	465.07	1,155	0.03
53	795	1.27	1,139	2,293	209	2,084	465.13	2,084	0.05
54	810	1.29	1,164	3,248	209	3,038	465.19	3,038	0.07
55	825	0.31	283	3,322	209	3,112	465.20	3,112	0.07
56	840	0.34	308	3,420	209	3,211	465.20	3,211	0.07
57	855	0.73	661	3,872	209	3,663	465.23	3,663	0.08
58	870	0.67	603	4,265	209	4,056	465.26	4,056	0.09

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	0.70	626	4,682	209	4,473	465.28	4,473	0.10
60	900	0.63	567	5,040	209	4,830	465.31	4,830	0.11
61	915	0.56	508	5,338	209	5,129	465.32	5,129	0.12
62	930	0.50	448	5,576	209	5,367	465.34	5,367	0.12
63	945	0.16	141	5,508	209	5,298	465.34	5,298	0.12
64	960	0.18	162	5,461	209	5,251	465.33	5,251	0.12
65	975	0.04	33	5,284	209	5,075	465.32	5,075	0.12
66	990	0.04	33	5,108	209	4,898	465.31	4,898	0.11
67	1005	0.03	25	4,923	209	4,714	465.30	4,714	0.11
68	1020	0.03	25	4,738	209	4,529	465.29	4,529	0.10
69	1035	0.05	41	4,570	209	4,361	465.28	4,361	0.10
70	1050	0.05	41	4,402	209	4,193	465.27	4,193	0.10
71	1065	0.05	41	4,234	209	4,024	465.25	4,024	0.09
72	1080	0.04	33	4,057	209	3,848	465.24	3,848	0.09
73	1095	0.04	33	3,881	209	3,671	465.23	3,671	0.08
74	1110	0.04	33	3,704	209	3,495	465.22	3,495	0.08
75	1125	0.03	25	3,520	209	3,310	465.21	3,310	0.08
76	1140	0.02	16	3,327	209	3,117	465.20	3,117	0.07
77	1155	0.03	25	3,142	209	2,933	465.19	2,933	0.07
78	1170	0.04	33	2,966	209	2,756	465.17	2,756	0.06
79	1185	0.03	25	2,781	209	2,572	465.16	2,572	0.06
80	1200	0.02	16	2,588	209	2,379	465.15	2,379	0.05
81	1215	0.03	25	2,403	209	2,194	465.14	2,194	0.05
82	1230	0.03	25	2,219	209	2,009	465.13	2,009	0.05
83	1245	0.03	25	2,034	209	1,825	465.12	1,825	0.04
84	1260	0.02	16	1,841	209	1,632	465.10	1,632	0.04
85	1275	0.03	25	1,656	209	1,447	465.09	1,447	0.03
86	1290	0.02	16	1,463	209	1,254	465.08	1,254	0.03
87	1305	0.03	25	1,279	209	1,069	465.07	1,069	0.02
88	1320	0.02	16	1,086	209	876	465.06	876	0.02
89	1335	0.03	25	901	209	692	465.04	692	0.02
90	1350	0.02	16	708	209	499	465.03	499	0.01
91	1365	0.02	16	515	209	306	465.02	306	0.01
92	1380	0.02	16	322	209	113	465.01	113	0.00
93	1395	0.02	16	129	209	-	465.00	-	0.00
94	1410	0.02	16	16	209	-	465.00	-	0.00
95	1425	0.02	16	16	209	-	465.00	-	0.00
96	1440	0.02	16	16	209	-	465.00	-	0.00

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 10 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 4		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	2.33		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	6.56		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	0.9		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	620		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	70		
30				
31	ELEVATION OF HEADWATER	470.5		
32	ELEVATION OF CONCENTRATION POINT	468		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	1.04		
40	6-HOUR	1.36		
41	24-HOUR	2.23		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		464.5	13730	
45		465.5	15200	
46		466.5	16700	
47		467.5	18270	
48		468	19075	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 4
[3] AREA - ACRES	9.790
[4] L-FEET	620
[5] L-MILES	0.117
[6] La-FEET	70.00
[7] La-MILES	0.013
[8] ELEVATION OF HEADWATER	470.5
[9] ELEVATION OF CONCENTRATION POINT	468
[10] H-FEET	2.5
[11] S-FEET/MILE	21.3
[12] S^0.5	4.61
[13] L*LCA/S^0.5	0.000
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.02
[16] LAG TIME-MINUTES	1.4
[17] 100% OF LAG-MINUTES	1.4
[18] 200% OF LAG-MINUTES	2.8
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.21

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
1.04	9.790	1.00	1.04	1.36	9.790	1.00	1.36	2.23	9.790	1.00	2.23
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	9.79	SUM [7]	1.04	SUM [9]	9.79	SUM [11]	1.36	SUM [13]	9.79	SUM [15]	2.23
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			1.04				1.36				2.23

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	0.47	0.47	0.37
FLOOD VOLUME	(cu-ft)	16,627	16,600	13,067
	(acre-ft)	0.38	0.38	0.30
REQUIRED STORAGE	(cu-ft)	14,362	13,085	5,344
	(acre-ft)	0.33	0.30	0.12
PEAK FLOW	(cfs)	8.01	6.94	1.24
MAXIMUM WSEL	(ft)	465.49	465.40	464.87

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	2.33	0.238	0.0124
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	6.56	0.670	0.1446
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	0.90	0.092	0.0478
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		9.79	SUM	0.2048

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.102390603
C= 0.00190

Ft=C(24-(T/60))^1.55 = 0.00190 (24-(T/60))^1.55 + 0.10 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period,
T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.79
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.38
UNIT TIME-PERCENT OF LAG	362.1
TOTAL ADJUSTED STORM RAIN-INCHES	1.04
CONSTANT LOSS RATE-in/hr	0.20
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.21 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.162	0.20	0.15	0.02	0.16	0.00
2	10	0.17	1.3	0.162	0.20	0.15	0.02	0.16	0.00
3	15	0.25	1.1	0.137	0.20	0.12	0.01	0.13	0.00
4	20	0.33	1.5	0.187	0.20	0.17	0.02	0.18	0.00
5	25	0.42	1.5	0.187	0.20	0.17	0.02	0.18	0.00
6	30	0.50	1.8	0.225	0.20	0.20	0.02	0.19	0.00
7	35	0.58	1.5	0.187	0.20	0.17	0.02	0.18	0.00
8	40	0.67	1.8	0.225	0.20	0.20	0.02	0.19	0.00
9	45	0.75	1.8	0.225	0.20	0.20	0.02	0.19	0.00
10	50	0.83	1.5	0.187	0.20	0.17	0.02	0.18	0.00
11	55	0.92	1.6	0.200	0.20	0.18	0.02	0.20	0.00
12	60	1.00	1.8	0.225	0.20	0.20	0.02	0.19	0.00
13	65	1.08	2.2	0.275	0.20	0.25	0.07	0.68	141.06
14	70	1.17	2.2	0.275	0.20	0.25	0.07	0.68	141.06
15	75	1.25	2.2	0.275	0.20	0.25	0.07	0.68	141.06
16	80	1.33	2.0	0.250	0.20	0.22	0.04	0.44	67.75
17	85	1.42	2.6	0.324	0.20	0.29	0.12	1.17	287.67
18	90	1.50	2.7	0.337	0.20	0.30	0.13	1.29	324.33
19	95	1.58	2.4	0.300	0.20	0.27	0.09	0.93	214.37
20	100	1.67	2.7	0.337	0.20	0.30	0.13	1.29	324.33
21	105	1.75	3.3	0.412	0.20	0.37	0.21	2.03	544.25
22	110	1.83	3.1	0.387	0.20	0.35	0.18	1.78	470.94
23	115	1.92	2.9	0.362	0.20	0.33	0.16	1.54	397.63
24	120	2.00	3.0	0.374	0.20	0.34	0.17	1.66	434.29
25	125	2.08	3.1	0.387	0.20	0.35	0.18	1.78	470.94
26	130	2.17	4.2	0.524	0.20	0.47	0.32	3.13	874.13
27	135	2.25	5.0	0.624	0.20	0.56	0.42	4.10	1167.36
28	140	2.33	3.5	0.437	0.20	0.39	0.23	2.27	617.56
29	145	2.42	6.8	0.849	0.20	0.76	0.64	6.30	1827.13
30	150	2.50	7.3	0.911	0.20	0.82	0.71	6.91	2010.40
31	155	2.58	8.2	1.023	0.20	0.92	0.82	8.01	2340.28
32	160	2.67	5.9	0.736	0.20	0.66	0.53	5.20	1497.25
33	165	2.75	2.0	0.250	0.20	0.22	0.04	0.44	67.75
34	170	2.83	1.8	0.225	0.20	0.20	0.02	0.19	0.00
35	175	2.92	1.8	0.225	0.20	0.20	0.02	0.19	0.00
36	180	3.00	0.6	0.075	0.20	0.07	0.01	0.07	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.47
FLOOD VOLUME (acft)	0.38
FLOOD VOLUME (cuft)	16626.67
REQUIRED STORAGE (acft)	0.33
REQUIRED STORAGE (cuft)	14361.53
PEAK FLOW RATE (cfs)	8.01

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.79
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.38
UNIT TIME-PERCENT OF LAG	362.1
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.205
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.21 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.082	0.20	0.07	0.01	0.08	0.00
2	10	0.17	0.6	0.098	0.20	0.09	0.01	0.10	0.00
3	15	0.25	0.6	0.098	0.20	0.09	0.01	0.10	0.00
4	20	0.33	0.6	0.098	0.20	0.09	0.01	0.10	0.00
5	25	0.42	0.6	0.098	0.20	0.09	0.01	0.10	0.00
6	30	0.50	0.7	0.114	0.20	0.10	0.01	0.11	0.00
7	35	0.58	0.7	0.114	0.20	0.10	0.01	0.11	0.00
8	40	0.67	0.7	0.114	0.20	0.10	0.01	0.11	0.00
9	45	0.75	0.7	0.114	0.20	0.10	0.01	0.11	0.00
10	50	0.83	0.7	0.114	0.20	0.10	0.01	0.11	0.00
11	55	0.92	0.7	0.114	0.20	0.10	0.01	0.11	0.00
12	60	1.00	0.8	0.131	0.20	0.12	0.01	0.13	0.00
13	65	1.08	0.8	0.131	0.20	0.12	0.01	0.13	0.00
14	70	1.17	0.8	0.131	0.20	0.12	0.01	0.13	0.00
15	75	1.25	0.8	0.131	0.20	0.12	0.01	0.13	0.00
16	80	1.33	0.8	0.131	0.20	0.12	0.01	0.13	0.00
17	85	1.42	0.8	0.131	0.20	0.12	0.01	0.13	0.00
18	90	1.50	0.8	0.131	0.20	0.12	0.01	0.13	0.00
19	95	1.58	0.8	0.131	0.20	0.12	0.01	0.13	0.00
20	100	1.67	0.8	0.131	0.20	0.12	0.01	0.13	0.00
21	105	1.75	0.8	0.131	0.20	0.12	0.01	0.13	0.00
22	110	1.83	0.8	0.131	0.20	0.12	0.01	0.13	0.00
23	115	1.92	0.8	0.131	0.20	0.12	0.01	0.13	0.00
24	120	2.00	0.9	0.147	0.20	0.13	0.01	0.14	0.00
25	125	2.08	0.8	0.131	0.20	0.12	0.01	0.13	0.00
26	130	2.17	0.9	0.147	0.20	0.13	0.01	0.14	0.00
27	135	2.25	0.9	0.147	0.20	0.13	0.01	0.14	0.00
28	140	2.33	0.9	0.147	0.20	0.13	0.01	0.14	0.00
29	145	2.42	0.9	0.147	0.20	0.13	0.01	0.14	0.00
30	150	2.50	0.9	0.147	0.20	0.13	0.01	0.14	0.00
31	155	2.58	0.9	0.147	0.20	0.13	0.01	0.14	0.00
32	160	2.67	0.9	0.147	0.20	0.13	0.01	0.14	0.00
33	165	2.75	1.0	0.163	0.20	0.15	0.02	0.16	0.00
34	170	2.83	1.0	0.163	0.20	0.15	0.02	0.16	0.00
35	175	2.92	1.0	0.163	0.20	0.15	0.02	0.16	0.00
36	180	3.00	1.0	0.163	0.20	0.15	0.02	0.16	0.00
37	185	3.08	1.0	0.163	0.20	0.15	0.02	0.16	0.00
38	190	3.17	1.1	0.180	0.20	0.16	0.02	0.18	0.00
39	195	3.25	1.1	0.180	0.20	0.16	0.02	0.18	0.00
40	200	3.33	1.1	0.180	0.20	0.16	0.02	0.18	0.00
41	205	3.42	1.2	0.196	0.20	0.18	0.02	0.19	0.00
42	210	3.50	1.3	0.212	0.20	0.19	0.01	0.07	0.00
43	215	3.58	1.4	0.228	0.20	0.21	0.02	0.23	5.72
44	220	3.67	1.4	0.228	0.20	0.21	0.02	0.23	5.72
45	225	3.75	1.5	0.245	0.20	0.22	0.04	0.39	53.65
46	230	3.83	1.5	0.245	0.20	0.22	0.04	0.39	53.65
47	235	3.92	1.6	0.261	0.20	0.24	0.06	0.55	101.58
48	240	4.00	1.6	0.261	0.20	0.24	0.06	0.55	101.58
49	245	4.08	1.7	0.277	0.20	0.25	0.07	0.71	149.52
50	250	4.17	1.8	0.294	0.20	0.26	0.09	0.87	197.45
51	255	4.25	1.9	0.310	0.20	0.28	0.11	1.03	245.38
52	260	4.33	2.0	0.326	0.20	0.29	0.12	1.19	293.31
53	265	4.42	2.1	0.343	0.20	0.31	0.14	1.35	341.24
54	270	4.50	2.1	0.343	0.20	0.31	0.14	1.35	341.24
55	275	4.58	2.2	0.359	0.20	0.32	0.15	1.51	389.18
56	280	4.67	2.3	0.375	0.20	0.34	0.17	1.67	437.11

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD 100 YEAR - 6 HOUR STORM EVENT	PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT CONCENTRATION POINT: 1 BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.79		
UNIT TIME-MINUTES	5		
LAG TIME - MINUTES	1.38		
UNIT TIME-PERCENT OF LAG	362.1		
TOTAL ADJUSTED STORM RAIN-INCHES	1.36		
CONSTANT LOSS RATE-in/hr	0.205		
LOW LOSS RATE - PERCENT	90%	TOTAL PERCOLATION RATE (cfs)	0.21 cfs

Unit Time Period	Time		Pattern	Storm Rain	Loss Rate in/hr		Effective Rain	Flood Hydrograph Flow	Required Storage
	Minutes	Hours	Percent (Plate E-5.9)	in/hr	Max	Low	in/hr	cfs	cf
57	285	4.75	2.4	0.392	0.20	0.35	0.19	1.83	485.04
58	290	4.83	2.4	0.392	0.20	0.35	0.19	1.83	485.04
59	295	4.92	2.5	0.408	0.20	0.37	0.20	1.99	532.97
60	300	5.00	2.6	0.424	0.20	0.38	0.22	2.15	580.90
61	305	5.08	3.1	0.506	0.20	0.46	0.30	2.95	820.56
62	310	5.17	3.6	0.588	0.20	0.53	0.38	3.75	1060.22
63	315	5.25	3.9	0.636	0.20	0.57	0.43	4.23	1204.02
64	320	5.33	4.2	0.685	0.20	0.62	0.48	4.71	1347.81
65	325	5.42	4.7	0.767	0.20	0.69	0.56	5.50	1587.47
66	330	5.50	5.6	0.914	0.20	0.82	0.71	6.94	2018.86
67	335	5.58	1.9	0.310	0.20	0.28	0.11	1.03	245.38
68	340	5.67	0.9	0.147	0.20	0.13	0.01	0.14	0.00
69	345	5.75	0.6	0.098	0.20	0.09	0.01	0.10	0.00
70	350	5.83	0.5	0.082	0.20	0.07	0.01	0.08	0.00
71	355	5.92	0.3	0.049	0.20	0.04	0.00	0.05	0.00
72	360	6.00	0.2	0.033	0.20	0.03	0.00	0.03	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.47
FLOOD VOLUME (acft)	0.38
FLOOD VOLUME (cuft)	16599.70
REQUIRED STORAGE (acft)	0.30
REQUIRED STORAGE (cuft)	13084.61
PEAK FLOW RATE (cfs)	6.94

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.790	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2048
LAG TIME - MINUTES	1.38	MINIMUM LOSS RATE (for var. loss) - in/hr	0.102
UNIT TIME-PERCENT OF LAG	1086.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00190
		PERCOLATION RATE (cfs)	0.21

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.018	0.362	0.016	0.002	0.02	0.00
2	30	0.50	0.3	0.027	0.357	0.024	0.003	0.03	0.00
3	45	0.75	0.3	0.027	0.353	0.024	0.003	0.03	0.00
4	60	1.00	0.4	0.036	0.349	0.032	0.004	0.03	0.00
5	75	1.25	0.3	0.027	0.345	0.024	0.003	0.03	0.00
6	90	1.50	0.3	0.027	0.341	0.024	0.003	0.03	0.00
7	105	1.75	0.3	0.027	0.337	0.024	0.003	0.03	0.00
8	120	2.00	0.4	0.036	0.333	0.032	0.004	0.03	0.00
9	135	2.25	0.4	0.036	0.329	0.032	0.004	0.03	0.00
10	150	2.50	0.4	0.036	0.325	0.032	0.004	0.03	0.00
11	165	2.75	0.5	0.045	0.321	0.040	0.004	0.04	0.00
12	180	3.00	0.5	0.045	0.317	0.040	0.004	0.04	0.00
13	195	3.25	0.5	0.045	0.313	0.040	0.004	0.04	0.00
14	210	3.50	0.5	0.045	0.309	0.040	0.004	0.04	0.00
15	225	3.75	0.5	0.045	0.305	0.040	0.004	0.04	0.00
16	240	4.00	0.6	0.054	0.301	0.048	0.005	0.05	0.00
17	255	4.25	0.6	0.054	0.297	0.048	0.005	0.05	0.00
18	270	4.50	0.7	0.062	0.294	0.056	0.006	0.06	0.00
19	285	4.75	0.7	0.062	0.290	0.056	0.006	0.06	0.00
20	300	5.00	0.8	0.071	0.286	0.064	0.007	0.07	0.00
21	315	5.25	0.6	0.054	0.282	0.048	0.005	0.05	0.00
22	330	5.50	0.7	0.062	0.279	0.056	0.006	0.06	0.00
23	345	5.75	0.8	0.071	0.275	0.064	0.007	0.07	0.00
24	360	6.00	0.8	0.071	0.272	0.064	0.007	0.07	0.00
25	375	6.25	0.9	0.080	0.268	0.072	0.008	0.08	0.00
26	390	6.50	0.9	0.080	0.264	0.072	0.008	0.08	0.00
27	405	6.75	1.0	0.089	0.261	0.080	0.009	0.09	0.00
28	420	7.00	1.0	0.089	0.257	0.080	0.009	0.09	0.00
29	435	7.25	1.0	0.089	0.254	0.080	0.009	0.09	0.00
30	450	7.50	1.1	0.098	0.250	0.088	0.010	0.10	0.00
31	465	7.75	1.2	0.107	0.247	0.096	0.011	0.10	0.00
32	480	8.00	1.3	0.116	0.243	0.104	0.012	0.11	0.00
33	495	8.25	1.5	0.134	0.240	0.120	0.013	0.13	0.00
34	510	8.50	1.5	0.134	0.237	0.120	0.013	0.13	0.00
35	525	8.75	1.6	0.143	0.233	0.128	0.014	0.14	0.00
36	540	9.00	1.7	0.152	0.230	0.136	0.015	0.15	0.00
37	555	9.25	1.9	0.169	0.227	0.153	0.017	0.17	0.00
38	570	9.50	2.0	0.178	0.224	0.161	0.018	0.17	0.00
39	585	9.75	2.1	0.187	0.220	0.169	0.019	0.18	0.00
40	600	10.00	2.2	0.196	0.217	0.177	0.020	0.19	0.00
41	615	10.25	1.5	0.134	0.214	0.120	0.013	0.13	0.00
42	630	10.50	1.5	0.134	0.211	0.120	0.013	0.13	0.00
43	645	10.75	2.0	0.178	0.208	0.161	0.018	0.17	0.00
44	660	11.00	2.0	0.178	0.205	0.161	0.018	0.17	0.00
45	675	11.25	1.9	0.169	0.202	0.153	0.017	0.17	0.00
46	690	11.50	1.9	0.169	0.199	0.153	0.017	0.17	0.00
47	705	11.75	1.7	0.152	0.196	0.136	0.015	0.15	0.00
48	720	12.00	1.8	0.161	0.193	0.145	0.016	0.16	0.00
49	735	12.25	2.5	0.223	0.190	0.201	0.033	0.32	97.34
50	750	12.50	2.6	0.232	0.187	0.209	0.045	0.44	201.03
51	765	12.75	2.8	0.250	0.185	0.225	0.065	0.64	383.03
52	780	13.00	2.9	0.259	0.182	0.233	0.077	0.75	486.13
53	795	13.25	3.4	0.303	0.179	0.273	0.124	1.22	903.31
54	810	13.50	3.4	0.303	0.176	0.273	0.127	1.24	927.21
55	825	13.75	2.3	0.205	0.174	0.185	0.032	0.31	86.27
56	840	14.00	2.3	0.205	0.171	0.185	0.034	0.33	109.55
57	855	14.25	2.7	0.241	0.168	0.217	0.072	0.71	446.90
58	870	14.50	2.6	0.232	0.166	0.209	0.066	0.65	390.96
59	885	14.75	2.6	0.232	0.163	0.209	0.069	0.67	413.29
60	900	15.00	2.5	0.223	0.161	0.201	0.062	0.61	356.70
61	915	15.25	2.4	0.214	0.158	0.193	0.056	0.55	299.78

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.790	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2048
LAG TIME - MINUTES	1.38	MINIMUM LOSS RATE (for var. loss) - in/hr	0.102
UNIT TIME-PERCENT OF LAG	1086.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00190
		PERCOLATION RATE (cfs)	0.21

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
62	930	15.50	2.3	0.205	0.156	0.185	0.049	0.48	242.53
63	945	15.75	1.9	0.169	0.153	0.153	0.016	0.16	0.00
64	960	16.00	1.9	0.169	0.151	0.153	0.018	0.18	0.00
65	975	16.25	0.4	0.036	0.149	0.032	0.004	0.03	0.00
66	990	16.50	0.4	0.036	0.147	0.032	0.004	0.03	0.00
67	1005	16.75	0.3	0.027	0.144	0.024	0.003	0.03	0.00
68	1020	17.00	0.3	0.027	0.142	0.024	0.003	0.03	0.00
69	1035	17.25	0.5	0.045	0.140	0.040	0.004	0.04	0.00
70	1050	17.50	0.5	0.045	0.138	0.040	0.004	0.04	0.00
71	1065	17.75	0.5	0.045	0.136	0.040	0.004	0.04	0.00
72	1080	18.00	0.4	0.036	0.134	0.032	0.004	0.03	0.00
73	1095	18.25	0.4	0.036	0.132	0.032	0.004	0.03	0.00
74	1110	18.50	0.4	0.036	0.130	0.032	0.004	0.03	0.00
75	1125	18.75	0.3	0.027	0.128	0.024	0.003	0.03	0.00
76	1140	19.00	0.2	0.018	0.126	0.016	0.002	0.02	0.00
77	1155	19.25	0.3	0.027	0.124	0.024	0.003	0.03	0.00
78	1170	19.50	0.4	0.036	0.123	0.032	0.004	0.03	0.00
79	1185	19.75	0.3	0.027	0.121	0.024	0.003	0.03	0.00
80	1200	20.00	0.2	0.018	0.119	0.016	0.002	0.02	0.00
81	1215	20.25	0.3	0.027	0.118	0.024	0.003	0.03	0.00
82	1230	20.50	0.3	0.027	0.116	0.024	0.003	0.03	0.00
83	1245	20.75	0.3	0.027	0.115	0.024	0.003	0.03	0.00
84	1260	21.00	0.2	0.018	0.113	0.016	0.002	0.02	0.00
85	1275	21.25	0.3	0.027	0.112	0.024	0.003	0.03	0.00
86	1290	21.50	0.2	0.018	0.111	0.016	0.002	0.02	0.00
87	1305	21.75	0.3	0.027	0.110	0.024	0.003	0.03	0.00
88	1320	22.00	0.2	0.018	0.108	0.016	0.002	0.02	0.00
89	1335	22.25	0.3	0.027	0.107	0.024	0.003	0.03	0.00
90	1350	22.50	0.2	0.018	0.106	0.016	0.002	0.02	0.00
91	1365	22.75	0.2	0.018	0.105	0.016	0.002	0.02	0.00
92	1380	23.00	0.2	0.018	0.105	0.016	0.002	0.02	0.00
93	1395	23.25	0.2	0.018	0.104	0.016	0.002	0.02	0.00
94	1410	23.50	0.2	0.018	0.103	0.016	0.002	0.02	0.00
95	1425	23.75	0.2	0.018	0.103	0.016	0.002	0.02	0.00
96	1440	24.00	0.2	0.018	0.102	0.016	0.002	0.02	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.37
FLOOD VOLUME (acft)	0.30
FLOOD VOLUME (cuft)	13066.60
REQUIRED STORAGE (acft)	0.12
REQUIRED STORAGE (cuft)	5344.02
PEAK FLOW (cfs)	1.24

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
464.5	0	0		13730	0	0	0.00
465.5	1	1	1470	15200	14465	14465	0.33
466.5	1	2	1500	16700	15950	30415	0.70
467.5	1	3	1570	18270	17485	47900	1.10
468	0.5	3.5	805	19075	9336	57236	1.31

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.21 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.21 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.16	48	48	64	-	464.50	-	0.00
2	10	0.16	48	48	64	-	464.50	-	0.00
3	15	0.13	40	40	64	-	464.50	-	0.00
4	20	0.18	55	55	64	-	464.50	-	0.00
5	25	0.18	55	55	64	-	464.50	-	0.00
6	30	0.19	58	58	64	-	464.50	-	0.00
7	35	0.18	55	55	64	-	464.50	-	0.00
8	40	0.19	58	58	64	-	464.50	-	0.00
9	45	0.19	58	58	64	-	464.50	-	0.00
10	50	0.18	55	55	64	-	464.50	-	0.00
11	55	0.20	59	59	64	-	464.50	-	0.00
12	60	0.19	58	58	64	-	464.50	-	0.00
13	65	0.68	205	205	64	141	464.51	141	0.00
14	70	0.68	205	346	64	282	464.52	282	0.01
15	75	0.68	205	487	64	423	464.53	423	0.01
16	80	0.44	132	555	64	491	464.53	491	0.01
17	85	1.17	352	842	64	779	464.55	779	0.02
18	90	1.29	388	1,167	64	1,103	464.58	1,103	0.03
19	95	0.93	278	1,381	64	1,317	464.59	1,317	0.03
20	100	1.29	388	1,705	64	1,642	464.61	1,642	0.04
21	105	2.03	608	2,250	64	2,186	464.65	2,186	0.05
22	110	1.78	535	2,721	64	2,657	464.68	2,657	0.06
23	115	1.54	462	3,118	64	3,054	464.71	3,054	0.07
24	120	1.66	498	3,553	64	3,489	464.74	3,489	0.08
25	125	1.78	535	4,024	64	3,960	464.77	3,960	0.09
26	130	3.13	938	4,898	64	4,834	464.83	4,834	0.11
27	135	4.10	1,231	6,065	64	6,001	464.91	6,001	0.14
28	140	2.27	681	6,683	64	6,619	464.96	6,619	0.15
29	145	6.30	1,891	8,510	64	8,446	465.08	8,446	0.19
30	150	6.91	2,074	10,520	64	10,456	465.22	10,456	0.24
31	155	8.01	2,404	12,860	64	12,797	465.38	12,797	0.29
32	160	5.20	1,561	14,358	64	14,294	465.49	14,294	0.33
33	165	0.44	132	14,425	64	14,362	465.49	14,362	0.33
34	170	0.19	58	14,420	64	14,356	465.49	14,356	0.33
35	175	0.19	58	14,414	64	14,350	465.49	14,350	0.33
36	180	0.07	22	14,372	64	14,309	465.49	14,309	0.33

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.08	24	24	64	-	464.50	-	0.00
2	10	0.10	29	29	64	-	464.50	-	0.00
3	15	0.10	29	29	64	-	464.50	-	0.00
4	20	0.10	29	29	64	-	464.50	-	0.00
5	25	0.10	29	29	64	-	464.50	-	0.00
6	30	0.11	34	34	64	-	464.50	-	0.00
7	35	0.11	34	34	64	-	464.50	-	0.00
8	40	0.11	34	34	64	-	464.50	-	0.00
9	45	0.11	34	34	64	-	464.50	-	0.00
10	50	0.11	34	34	64	-	464.50	-	0.00
11	55	0.11	34	34	64	-	464.50	-	0.00
12	60	0.13	38	38	64	-	464.50	-	0.00
13	65	0.13	38	38	64	-	464.50	-	0.00
14	70	0.13	38	38	64	-	464.50	-	0.00
15	75	0.13	38	38	64	-	464.50	-	0.00
16	80	0.13	38	38	64	-	464.50	-	0.00
17	85	0.13	38	38	64	-	464.50	-	0.00
18	90	0.13	38	38	64	-	464.50	-	0.00
19	95	0.13	38	38	64	-	464.50	-	0.00
20	100	0.13	38	38	64	-	464.50	-	0.00
21	105	0.13	38	38	64	-	464.50	-	0.00
22	110	0.13	38	38	64	-	464.50	-	0.00
23	115	0.13	38	38	64	-	464.50	-	0.00
24	120	0.14	43	43	64	-	464.50	-	0.00
25	125	0.13	38	38	64	-	464.50	-	0.00
26	130	0.14	43	43	64	-	464.50	-	0.00
27	135	0.14	43	43	64	-	464.50	-	0.00
28	140	0.14	43	43	64	-	464.50	-	0.00
29	145	0.14	43	43	64	-	464.50	-	0.00
30	150	0.14	43	43	64	-	464.50	-	0.00
31	155	0.14	43	43	64	-	464.50	-	0.00
32	160	0.14	43	43	64	-	464.50	-	0.00
33	165	0.16	48	48	64	-	464.50	-	0.00
34	170	0.16	48	48	64	-	464.50	-	0.00
35	175	0.16	48	48	64	-	464.50	-	0.00
36	180	0.16	48	48	64	-	464.50	-	0.00
37	185	0.16	48	48	64	-	464.50	-	0.00
38	190	0.18	53	53	64	-	464.50	-	0.00
39	195	0.18	53	53	64	-	464.50	-	0.00
40	200	0.18	53	53	64	-	464.50	-	0.00
41	205	0.19	58	58	64	-	464.50	-	0.00
42	210	0.07	22	22	64	-	464.50	-	0.00
43	215	0.23	70	70	64	6	464.50	6	0.00
44	220	0.23	70	75	64	11	464.50	11	0.00
45	225	0.39	118	129	64	65	464.50	65	0.00
46	230	0.39	118	183	64	119	464.51	119	0.00
47	235	0.55	165	284	64	220	464.52	220	0.01
48	240	0.55	165	386	64	322	464.52	322	0.01
49	245	0.71	213	535	64	471	464.53	471	0.01
50	250	0.87	261	733	64	669	464.55	669	0.02
51	255	1.03	309	978	64	914	464.56	914	0.02
52	260	1.19	357	1,271	64	1,208	464.58	1,208	0.03
53	265	1.35	405	1,613	64	1,549	464.61	1,549	0.04
54	270	1.35	405	1,954	64	1,890	464.63	1,890	0.04
55	275	1.51	453	2,343	64	2,279	464.66	2,279	0.05

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	1.67	501	2,780	64	2,716	464.69	2,716	0.06
57	285	1.83	549	3,265	64	3,201	464.72	3,201	0.07
58	290	1.83	549	3,750	64	3,686	464.75	3,686	0.08
59	295	1.99	597	4,283	64	4,219	464.79	4,219	0.10
60	300	2.15	645	4,864	64	4,800	464.83	4,800	0.11
61	305	2.95	884	5,685	64	5,621	464.89	5,621	0.13
62	310	3.75	1,124	6,745	64	6,681	464.96	6,681	0.15
63	315	4.23	1,268	7,949	64	7,885	465.05	7,885	0.18
64	320	4.71	1,412	9,297	64	9,233	465.14	9,233	0.21
65	325	5.50	1,651	10,884	64	10,820	465.25	10,820	0.25
66	330	6.94	2,083	12,903	64	12,839	465.39	12,839	0.29
67	335	1.03	309	13,148	64	13,085	465.40	13,085	0.30
68	340	0.14	43	13,128	64	13,064	465.40	13,064	0.30
69	345	0.10	29	13,093	64	13,029	465.40	13,029	0.30
70	350	0.08	24	13,053	64	12,989	465.40	12,989	0.30
71	355	0.05	14	13,003	64	12,939	465.39	12,939	0.30
72	360	0.03	10	12,949	64	12,885	465.39	12,885	0.30

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.02	16	16	192	-	464.50	-	0.00
2	30	0.03	24	24	192	-	464.50	-	0.00
3	45	0.03	24	24	192	-	464.50	-	0.00
4	60	0.03	31	31	192	-	464.50	-	0.00
5	75	0.03	24	24	192	-	464.50	-	0.00
6	90	0.03	24	24	192	-	464.50	-	0.00
7	105	0.03	24	24	192	-	464.50	-	0.00
8	120	0.03	31	31	192	-	464.50	-	0.00
9	135	0.03	31	31	192	-	464.50	-	0.00
10	150	0.03	31	31	192	-	464.50	-	0.00
11	165	0.04	39	39	192	-	464.50	-	0.00
12	180	0.04	39	39	192	-	464.50	-	0.00
13	195	0.04	39	39	192	-	464.50	-	0.00
14	210	0.04	39	39	192	-	464.50	-	0.00
15	225	0.04	39	39	192	-	464.50	-	0.00
16	240	0.05	47	47	192	-	464.50	-	0.00
17	255	0.05	47	47	192	-	464.50	-	0.00
18	270	0.06	55	55	192	-	464.50	-	0.00
19	285	0.06	55	55	192	-	464.50	-	0.00
20	300	0.07	63	63	192	-	464.50	-	0.00
21	315	0.05	47	47	192	-	464.50	-	0.00
22	330	0.06	55	55	192	-	464.50	-	0.00
23	345	0.07	63	63	192	-	464.50	-	0.00
24	360	0.07	63	63	192	-	464.50	-	0.00
25	375	0.08	71	71	192	-	464.50	-	0.00
26	390	0.08	71	71	192	-	464.50	-	0.00
27	405	0.09	79	79	192	-	464.50	-	0.00
28	420	0.09	79	79	192	-	464.50	-	0.00
29	435	0.09	79	79	192	-	464.50	-	0.00
30	450	0.10	86	86	192	-	464.50	-	0.00
31	465	0.10	94	94	192	-	464.50	-	0.00
32	480	0.11	102	102	192	-	464.50	-	0.00
33	495	0.13	118	118	192	-	464.50	-	0.00
34	510	0.13	118	118	192	-	464.50	-	0.00
35	525	0.14	126	126	192	-	464.50	-	0.00
36	540	0.15	134	134	192	-	464.50	-	0.00
37	555	0.17	149	149	192	-	464.50	-	0.00
38	570	0.17	157	157	192	-	464.50	-	0.00
39	585	0.18	165	165	192	-	464.50	-	0.00
40	600	0.19	173	173	192	-	464.50	-	0.00
41	615	0.13	118	118	192	-	464.50	-	0.00
42	630	0.13	118	118	192	-	464.50	-	0.00
43	645	0.17	157	157	192	-	464.50	-	0.00
44	660	0.17	157	157	192	-	464.50	-	0.00
45	675	0.17	149	149	192	-	464.50	-	0.00
46	690	0.17	149	149	192	-	464.50	-	0.00
47	705	0.15	134	134	192	-	464.50	-	0.00
48	720	0.16	141	141	192	-	464.50	-	0.00
49	735	0.32	289	289	192	97	464.51	97	0.00
50	750	0.44	393	490	192	298	464.52	298	0.01
51	765	0.64	575	873	192	681	464.55	681	0.02
52	780	0.75	678	1,359	192	1,168	464.58	1,168	0.03
53	795	1.22	1,095	2,262	192	2,071	464.64	2,071	0.05
54	810	1.24	1,119	3,190	192	2,998	464.71	2,998	0.07
55	825	0.31	278	3,276	192	3,084	464.71	3,084	0.07
56	840	0.33	301	3,386	192	3,194	464.72	3,194	0.07
57	855	0.71	639	3,832	192	3,641	464.75	3,641	0.08
58	870	0.65	583	4,223	192	4,032	464.78	4,032	0.09

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	0.67	605	4,637	192	4,445	464.81	4,445	0.10
60	900	0.61	548	4,993	192	4,802	464.83	4,802	0.11
61	915	0.55	491	5,293	192	5,101	464.85	5,101	0.12
62	930	0.48	434	5,536	192	5,344	464.87	5,344	0.12
63	945	0.16	141	5,485	192	5,293	464.87	5,293	0.12
64	960	0.18	161	5,455	192	5,263	464.86	5,263	0.12
65	975	0.03	31	5,294	192	5,103	464.85	5,103	0.12
66	990	0.03	31	5,134	192	4,943	464.84	4,943	0.11
67	1005	0.03	24	4,966	192	4,775	464.83	4,775	0.11
68	1020	0.03	24	4,798	192	4,606	464.82	4,606	0.11
69	1035	0.04	39	4,646	192	4,454	464.81	4,454	0.10
70	1050	0.04	39	4,493	192	4,302	464.80	4,302	0.10
71	1065	0.04	39	4,341	192	4,149	464.79	4,149	0.10
72	1080	0.03	31	4,181	192	3,989	464.78	3,989	0.09
73	1095	0.03	31	4,021	192	3,829	464.76	3,829	0.09
74	1110	0.03	31	3,860	192	3,669	464.75	3,669	0.08
75	1125	0.03	24	3,692	192	3,501	464.74	3,501	0.08
76	1140	0.02	16	3,516	192	3,325	464.73	3,325	0.08
77	1155	0.03	24	3,348	192	3,157	464.72	3,157	0.07
78	1170	0.03	31	3,188	192	2,996	464.71	2,996	0.07
79	1185	0.03	24	3,020	192	2,828	464.70	2,828	0.06
80	1200	0.02	16	2,844	192	2,652	464.68	2,652	0.06
81	1215	0.03	24	2,676	192	2,484	464.67	2,484	0.06
82	1230	0.03	24	2,508	192	2,316	464.66	2,316	0.05
83	1245	0.03	24	2,340	192	2,148	464.65	2,148	0.05
84	1260	0.02	16	2,164	192	1,972	464.64	1,972	0.05
85	1275	0.03	24	1,996	192	1,804	464.62	1,804	0.04
86	1290	0.02	16	1,820	192	1,628	464.61	1,628	0.04
87	1305	0.03	24	1,652	192	1,460	464.60	1,460	0.03
88	1320	0.02	16	1,476	192	1,284	464.59	1,284	0.03
89	1335	0.03	24	1,308	192	1,116	464.58	1,116	0.03
90	1350	0.02	16	1,132	192	940	464.57	940	0.02
91	1365	0.02	16	956	192	764	464.55	764	0.02
92	1380	0.02	16	780	192	588	464.54	588	0.01
93	1395	0.02	16	604	192	413	464.53	413	0.01
94	1410	0.02	16	428	192	237	464.52	237	0.01
95	1425	0.02	16	252	192	61	464.50	61	0.00
96	1440	0.02	16	76	192	-	464.50	-	0.00

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 10 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 5		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	1.95		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	4.71		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	2.83		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	950		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	310		
30				
31	ELEVATION OF HEADWATER	471		
32	ELEVATION OF CONCENTRATION POINT	467		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	1.04		
40	6-HOUR	1.36		
41	24-HOUR	2.23		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		463.5	17610	
45		464.5	19400	
46		465.5	21240	
47		466.5	23140	
48		467	24110	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 5
[3] AREA - ACRES	9.490
[4] L-FEET	950
[5] L-MILES	0.180
[6] La-FEET	310.00
[7] La-MILES	0.059
[8] ELEVATION OF HEADWATER	471
[9] ELEVATION OF CONCENTRATION POINT	467
[10] H-FEET	4
[11] S-FEET/MILE	22.2
[12] S^0.5	4.72
[13] L*LCA/S^0.5	0.002
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.05
[16] LAG TIME-MINUTES	2.8
[17] 100% OF LAG-MINUTES	2.8
[18] 200% OF LAG-MINUTES	5.7
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.27

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
1.04	9.490	1.00	1.04	1.36	9.490	1.00	1.36	2.23	9.490	1.00	2.23
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	9.49	SUM [7]	1.04	SUM [9]	9.49	SUM [11]	1.36	SUM [13]	9.49	SUM [15]	2.23
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			1.04				1.36				2.23

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	0.36	0.35	0.22
FLOOD VOLUME	(cu-ft)	12,335	12,150	7,524
	(acre-ft)	0.28	0.28	0.17
REQUIRED STORAGE	(cu-ft)	9,965	8,400	646
	(acre-ft)	0.23	0.19	0.01
PEAK FLOW	(cfs)	7.12	6.08	0.65
MAXIMUM WSEL	(ft)	464.04	463.95	463.53

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	1.95	0.205	0.0107
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	4.71	0.496	0.1071
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	2.83	0.298	0.1551
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		9.49	SUM	0.2729

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.136428767
C= 0.00253

Ft=C(24-(T/60))^1.55 = 0.00253 (24-(T/60))^1.55 + 0.14 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.49
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.83
UNIT TIME-PERCENT OF LAG	176.4
TOTAL ADJUSTED STORM RAIN-INCHES	1.04
CONSTANT LOSS RATE-in/hr	0.27
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.27 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.162	0.27	0.15	0.02	0.15	0.00
2	10	0.17	1.3	0.162	0.27	0.15	0.02	0.15	0.00
3	15	0.25	1.1	0.137	0.27	0.12	0.01	0.13	0.00
4	20	0.33	1.5	0.187	0.27	0.17	0.02	0.18	0.00
5	25	0.42	1.5	0.187	0.27	0.17	0.02	0.18	0.00
6	30	0.50	1.8	0.225	0.27	0.20	0.02	0.21	0.00
7	35	0.58	1.5	0.187	0.27	0.17	0.02	0.18	0.00
8	40	0.67	1.8	0.225	0.27	0.20	0.02	0.21	0.00
9	45	0.75	1.8	0.225	0.27	0.20	0.02	0.21	0.00
10	50	0.83	1.5	0.187	0.27	0.17	0.02	0.18	0.00
11	55	0.92	1.6	0.200	0.27	0.18	0.02	0.19	0.00
12	60	1.00	1.8	0.225	0.27	0.20	0.02	0.21	0.00
13	65	1.08	2.2	0.275	0.27	0.25	0.00	0.02	0.00
14	70	1.17	2.2	0.275	0.27	0.25	0.00	0.02	0.00
15	75	1.25	2.2	0.275	0.27	0.25	0.00	0.02	0.00
16	80	1.33	2.0	0.250	0.27	0.22	0.02	0.24	0.00
17	85	1.42	2.6	0.324	0.27	0.29	0.05	0.49	65.03
18	90	1.50	2.7	0.337	0.27	0.30	0.06	0.61	100.56
19	95	1.58	2.4	0.300	0.27	0.27	0.03	0.25	0.00
20	100	1.67	2.7	0.337	0.27	0.30	0.06	0.61	100.56
21	105	1.75	3.3	0.412	0.27	0.37	0.14	1.32	313.75
22	110	1.83	3.1	0.387	0.27	0.35	0.11	1.08	242.69
23	115	1.92	2.9	0.362	0.27	0.33	0.09	0.85	171.63
24	120	2.00	3.0	0.374	0.27	0.34	0.10	0.96	207.16
25	125	2.08	3.1	0.387	0.27	0.35	0.11	1.08	242.69
26	130	2.17	4.2	0.524	0.27	0.47	0.25	2.38	633.52
27	135	2.25	5.0	0.624	0.27	0.56	0.35	3.33	917.77
28	140	2.33	3.5	0.437	0.27	0.39	0.16	1.56	384.81
29	145	2.42	6.8	0.849	0.27	0.76	0.58	5.46	1557.32
30	150	2.50	7.3	0.911	0.27	0.82	0.64	6.06	1734.97
31	155	2.58	8.2	1.023	0.27	0.92	0.75	7.12	2054.75
32	160	2.67	5.9	0.736	0.27	0.66	0.46	4.40	1237.54
33	165	2.75	2.0	0.250	0.27	0.22	0.02	0.24	0.00
34	170	2.83	1.8	0.225	0.27	0.20	0.02	0.21	0.00
35	175	2.92	1.8	0.225	0.27	0.20	0.02	0.21	0.00
36	180	3.00	0.6	0.075	0.27	0.07	0.01	0.07	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.36
FLOOD VOLUME (acft)	0.28
FLOOD VOLUME (cuft)	12334.87
REQUIRED STORAGE (acft)	0.23
REQUIRED STORAGE (cuft)	9964.74
PEAK FLOW RATE (cfs)	7.12

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.49
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.83
UNIT TIME-PERCENT OF LAG	176.4
TOTAL ADJUSTED STORM RAIN-INCHES	1.36
CONSTANT LOSS RATE-in/hr	0.273
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.27 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.082	0.27	0.07	0.01	0.08	0.00
2	10	0.17	0.6	0.098	0.27	0.09	0.01	0.09	0.00
3	15	0.25	0.6	0.098	0.27	0.09	0.01	0.09	0.00
4	20	0.33	0.6	0.098	0.27	0.09	0.01	0.09	0.00
5	25	0.42	0.6	0.098	0.27	0.09	0.01	0.09	0.00
6	30	0.50	0.7	0.114	0.27	0.10	0.01	0.11	0.00
7	35	0.58	0.7	0.114	0.27	0.10	0.01	0.11	0.00
8	40	0.67	0.7	0.114	0.27	0.10	0.01	0.11	0.00
9	45	0.75	0.7	0.114	0.27	0.10	0.01	0.11	0.00
10	50	0.83	0.7	0.114	0.27	0.10	0.01	0.11	0.00
11	55	0.92	0.7	0.114	0.27	0.10	0.01	0.11	0.00
12	60	1.00	0.8	0.131	0.27	0.12	0.01	0.12	0.00
13	65	1.08	0.8	0.131	0.27	0.12	0.01	0.12	0.00
14	70	1.17	0.8	0.131	0.27	0.12	0.01	0.12	0.00
15	75	1.25	0.8	0.131	0.27	0.12	0.01	0.12	0.00
16	80	1.33	0.8	0.131	0.27	0.12	0.01	0.12	0.00
17	85	1.42	0.8	0.131	0.27	0.12	0.01	0.12	0.00
18	90	1.50	0.8	0.131	0.27	0.12	0.01	0.12	0.00
19	95	1.58	0.8	0.131	0.27	0.12	0.01	0.12	0.00
20	100	1.67	0.8	0.131	0.27	0.12	0.01	0.12	0.00
21	105	1.75	0.8	0.131	0.27	0.12	0.01	0.12	0.00
22	110	1.83	0.8	0.131	0.27	0.12	0.01	0.12	0.00
23	115	1.92	0.8	0.131	0.27	0.12	0.01	0.12	0.00
24	120	2.00	0.9	0.147	0.27	0.13	0.01	0.14	0.00
25	125	2.08	0.8	0.131	0.27	0.12	0.01	0.12	0.00
26	130	2.17	0.9	0.147	0.27	0.13	0.01	0.14	0.00
27	135	2.25	0.9	0.147	0.27	0.13	0.01	0.14	0.00
28	140	2.33	0.9	0.147	0.27	0.13	0.01	0.14	0.00
29	145	2.42	0.9	0.147	0.27	0.13	0.01	0.14	0.00
30	150	2.50	0.9	0.147	0.27	0.13	0.01	0.14	0.00
31	155	2.58	0.9	0.147	0.27	0.13	0.01	0.14	0.00
32	160	2.67	0.9	0.147	0.27	0.13	0.01	0.14	0.00
33	165	2.75	1.0	0.163	0.27	0.15	0.02	0.15	0.00
34	170	2.83	1.0	0.163	0.27	0.15	0.02	0.15	0.00
35	175	2.92	1.0	0.163	0.27	0.15	0.02	0.15	0.00
36	180	3.00	1.0	0.163	0.27	0.15	0.02	0.15	0.00
37	185	3.08	1.0	0.163	0.27	0.15	0.02	0.15	0.00
38	190	3.17	1.1	0.180	0.27	0.16	0.02	0.17	0.00
39	195	3.25	1.1	0.180	0.27	0.16	0.02	0.17	0.00
40	200	3.33	1.1	0.180	0.27	0.16	0.02	0.17	0.00
41	205	3.42	1.2	0.196	0.27	0.18	0.02	0.19	0.00
42	210	3.50	1.3	0.212	0.27	0.19	0.02	0.20	0.00
43	215	3.58	1.4	0.228	0.27	0.21	0.02	0.22	0.00
44	220	3.67	1.4	0.228	0.27	0.21	0.02	0.22	0.00
45	225	3.75	1.5	0.245	0.27	0.22	0.02	0.23	0.00
46	230	3.83	1.5	0.245	0.27	0.22	0.02	0.23	0.00
47	235	3.92	1.6	0.261	0.27	0.24	0.03	0.25	0.00
48	240	4.00	1.6	0.261	0.27	0.24	0.03	0.25	0.00
49	245	4.08	1.7	0.277	0.27	0.25	0.00	0.04	0.00
50	250	4.17	1.8	0.294	0.27	0.26	0.02	0.20	0.00
51	255	4.25	1.9	0.310	0.27	0.28	0.04	0.35	24.04
52	260	4.33	2.0	0.326	0.27	0.29	0.05	0.51	70.50
53	265	4.42	2.1	0.343	0.27	0.31	0.07	0.66	116.96
54	270	4.50	2.1	0.343	0.27	0.31	0.07	0.66	116.96
55	275	4.58	2.2	0.359	0.27	0.32	0.09	0.82	163.43
56	280	4.67	2.3	0.375	0.27	0.34	0.10	0.97	209.89

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD 100 YEAR - 6 HOUR STORM EVENT	PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT CONCENTRATION POINT: 1 BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.49		
UNIT TIME-MINUTES	5		
LAG TIME - MINUTES	2.83		
UNIT TIME-PERCENT OF LAG	176.4		
TOTAL ADJUSTED STORM RAIN-INCHES	1.36		
CONSTANT LOSS RATE-in/hr	0.273		
LOW LOSS RATE - PERCENT	90%	TOTAL PERCOLATION RATE (cfs)	0.27 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.392	0.27	0.35	0.12	1.13	256.35
58	290	4.83	2.4	0.392	0.27	0.35	0.12	1.13	256.35
59	295	4.92	2.5	0.408	0.27	0.37	0.14	1.28	302.82
60	300	5.00	2.6	0.424	0.27	0.38	0.15	1.44	349.28
61	305	5.08	3.1	0.506	0.27	0.46	0.23	2.21	581.59
62	310	5.17	3.6	0.588	0.27	0.53	0.31	2.99	813.91
63	315	5.25	3.9	0.636	0.27	0.57	0.36	3.45	953.30
64	320	5.33	4.2	0.685	0.27	0.62	0.41	3.92	1092.69
65	325	5.42	4.7	0.767	0.27	0.69	0.49	4.69	1325.00
66	330	5.50	5.6	0.914	0.27	0.82	0.64	6.08	1743.17
67	335	5.58	1.9	0.310	0.27	0.28	0.04	0.35	24.04
68	340	5.67	0.9	0.147	0.27	0.13	0.01	0.14	0.00
69	345	5.75	0.6	0.098	0.27	0.09	0.01	0.09	0.00
70	350	5.83	0.5	0.082	0.27	0.07	0.01	0.08	0.00
71	355	5.92	0.3	0.049	0.27	0.04	0.00	0.05	0.00
72	360	6.00	0.2	0.033	0.27	0.03	0.00	0.03	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.35
FLOOD VOLUME (acft)	0.28
FLOOD VOLUME (cuft)	12149.95
REQUIRED STORAGE (acft)	0.19
REQUIRED STORAGE (cuft)	8400.27
PEAK FLOW RATE (cfs)	6.08

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.490	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2729
LAG TIME - MINUTES	2.83	MINIMUM LOSS RATE (for var. loss) - in/hr	0.136
UNIT TIME-PERCENT OF LAG	529.1	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00253
		PERCOLATION RATE (cfs)	0.27

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.018	0.482	0.016	0.002	0.02	0.00
2	30	0.50	0.3	0.027	0.476	0.024	0.003	0.03	0.00
3	45	0.75	0.3	0.027	0.471	0.024	0.003	0.03	0.00
4	60	1.00	0.4	0.036	0.465	0.032	0.004	0.03	0.00
5	75	1.25	0.3	0.027	0.460	0.024	0.003	0.03	0.00
6	90	1.50	0.3	0.027	0.454	0.024	0.003	0.03	0.00
7	105	1.75	0.3	0.027	0.449	0.024	0.003	0.03	0.00
8	120	2.00	0.4	0.036	0.443	0.032	0.004	0.03	0.00
9	135	2.25	0.4	0.036	0.438	0.032	0.004	0.03	0.00
10	150	2.50	0.4	0.036	0.433	0.032	0.004	0.03	0.00
11	165	2.75	0.5	0.045	0.427	0.040	0.004	0.04	0.00
12	180	3.00	0.5	0.045	0.422	0.040	0.004	0.04	0.00
13	195	3.25	0.5	0.045	0.417	0.040	0.004	0.04	0.00
14	210	3.50	0.5	0.045	0.412	0.040	0.004	0.04	0.00
15	225	3.75	0.5	0.045	0.407	0.040	0.004	0.04	0.00
16	240	4.00	0.6	0.054	0.401	0.048	0.005	0.05	0.00
17	255	4.25	0.6	0.054	0.396	0.048	0.005	0.05	0.00
18	270	4.50	0.7	0.062	0.391	0.056	0.006	0.06	0.00
19	285	4.75	0.7	0.062	0.386	0.056	0.006	0.06	0.00
20	300	5.00	0.8	0.071	0.381	0.064	0.007	0.07	0.00
21	315	5.25	0.6	0.054	0.376	0.048	0.005	0.05	0.00
22	330	5.50	0.7	0.062	0.371	0.056	0.006	0.06	0.00
23	345	5.75	0.8	0.071	0.367	0.064	0.007	0.07	0.00
24	360	6.00	0.8	0.071	0.362	0.064	0.007	0.07	0.00
25	375	6.25	0.9	0.080	0.357	0.072	0.008	0.08	0.00
26	390	6.50	0.9	0.080	0.352	0.072	0.008	0.08	0.00
27	405	6.75	1.0	0.089	0.347	0.080	0.009	0.08	0.00
28	420	7.00	1.0	0.089	0.343	0.080	0.009	0.08	0.00
29	435	7.25	1.0	0.089	0.338	0.080	0.009	0.08	0.00
30	450	7.50	1.1	0.098	0.334	0.088	0.010	0.09	0.00
31	465	7.75	1.2	0.107	0.329	0.096	0.011	0.10	0.00
32	480	8.00	1.3	0.116	0.324	0.104	0.012	0.11	0.00
33	495	8.25	1.5	0.134	0.320	0.120	0.013	0.13	0.00
34	510	8.50	1.5	0.134	0.315	0.120	0.013	0.13	0.00
35	525	8.75	1.6	0.143	0.311	0.128	0.014	0.14	0.00
36	540	9.00	1.7	0.152	0.307	0.136	0.015	0.14	0.00
37	555	9.25	1.9	0.169	0.302	0.153	0.017	0.16	0.00
38	570	9.50	2.0	0.178	0.298	0.161	0.018	0.17	0.00
39	585	9.75	2.1	0.187	0.294	0.169	0.019	0.18	0.00
40	600	10.00	2.2	0.196	0.290	0.177	0.020	0.19	0.00
41	615	10.25	1.5	0.134	0.285	0.120	0.013	0.13	0.00
42	630	10.50	1.5	0.134	0.281	0.120	0.013	0.13	0.00
43	645	10.75	2.0	0.178	0.277	0.161	0.018	0.17	0.00
44	660	11.00	2.0	0.178	0.273	0.161	0.018	0.17	0.00
45	675	11.25	1.9	0.169	0.269	0.153	0.017	0.16	0.00
46	690	11.50	1.9	0.169	0.265	0.153	0.017	0.16	0.00
47	705	11.75	1.7	0.152	0.261	0.136	0.015	0.14	0.00
48	720	12.00	1.8	0.161	0.257	0.145	0.016	0.15	0.00
49	735	12.25	2.5	0.223	0.253	0.201	0.022	0.21	0.00
50	750	12.50	2.6	0.232	0.250	0.209	0.023	0.22	0.00
51	765	12.75	2.8	0.250	0.246	0.225	0.004	0.04	0.00
52	780	13.00	2.9	0.259	0.242	0.233	0.017	0.16	0.00
53	795	13.25	3.4	0.303	0.239	0.273	0.065	0.61	307.33
54	810	13.50	3.4	0.303	0.235	0.273	0.068	0.65	338.20
55	825	13.75	2.3	0.205	0.231	0.185	0.021	0.19	0.00
56	840	14.00	2.3	0.205	0.228	0.185	0.021	0.19	0.00
57	855	14.25	2.7	0.241	0.224	0.217	0.016	0.16	0.00
58	870	14.50	2.6	0.232	0.221	0.209	0.011	0.10	0.00
59	885	14.75	2.6	0.232	0.218	0.209	0.014	0.14	0.00
60	900	15.00	2.5	0.223	0.214	0.201	0.009	0.08	0.00
61	915	15.25	2.4	0.214	0.211	0.193	0.003	0.03	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.490	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2729
LAG TIME - MINUTES	2.83	MINIMUM LOSS RATE (for var. loss) - in/hr	0.136
UNIT TIME-PERCENT OF LAG	529.1	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	2.23	C	0.00253
		PERCOLATION RATE (cfs)	0.27

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
62	930	15.50	2.3	0.205	0.208	0.185	0.021	0.19	0.00
63	945	15.75	1.9	0.169	0.205	0.153	0.017	0.16	0.00
64	960	16.00	1.9	0.169	0.201	0.153	0.017	0.16	0.00
65	975	16.25	0.4	0.036	0.198	0.032	0.004	0.03	0.00
66	990	16.50	0.4	0.036	0.195	0.032	0.004	0.03	0.00
67	1005	16.75	0.3	0.027	0.192	0.024	0.003	0.03	0.00
68	1020	17.00	0.3	0.027	0.189	0.024	0.003	0.03	0.00
69	1035	17.25	0.5	0.045	0.187	0.040	0.004	0.04	0.00
70	1050	17.50	0.5	0.045	0.184	0.040	0.004	0.04	0.00
71	1065	17.75	0.5	0.045	0.181	0.040	0.004	0.04	0.00
72	1080	18.00	0.4	0.036	0.178	0.032	0.004	0.03	0.00
73	1095	18.25	0.4	0.036	0.176	0.032	0.004	0.03	0.00
74	1110	18.50	0.4	0.036	0.173	0.032	0.004	0.03	0.00
75	1125	18.75	0.3	0.027	0.171	0.024	0.003	0.03	0.00
76	1140	19.00	0.2	0.018	0.168	0.016	0.002	0.02	0.00
77	1155	19.25	0.3	0.027	0.166	0.024	0.003	0.03	0.00
78	1170	19.50	0.4	0.036	0.164	0.032	0.004	0.03	0.00
79	1185	19.75	0.3	0.027	0.161	0.024	0.003	0.03	0.00
80	1200	20.00	0.2	0.018	0.159	0.016	0.002	0.02	0.00
81	1215	20.25	0.3	0.027	0.157	0.024	0.003	0.03	0.00
82	1230	20.50	0.3	0.027	0.155	0.024	0.003	0.03	0.00
83	1245	20.75	0.3	0.027	0.153	0.024	0.003	0.03	0.00
84	1260	21.00	0.2	0.018	0.151	0.016	0.002	0.02	0.00
85	1275	21.25	0.3	0.027	0.149	0.024	0.003	0.03	0.00
86	1290	21.50	0.2	0.018	0.148	0.016	0.002	0.02	0.00
87	1305	21.75	0.3	0.027	0.146	0.024	0.003	0.03	0.00
88	1320	22.00	0.2	0.018	0.145	0.016	0.002	0.02	0.00
89	1335	22.25	0.3	0.027	0.143	0.024	0.003	0.03	0.00
90	1350	22.50	0.2	0.018	0.142	0.016	0.002	0.02	0.00
91	1365	22.75	0.2	0.018	0.141	0.016	0.002	0.02	0.00
92	1380	23.00	0.2	0.018	0.139	0.016	0.002	0.02	0.00
93	1395	23.25	0.2	0.018	0.138	0.016	0.002	0.02	0.00
94	1410	23.50	0.2	0.018	0.138	0.016	0.002	0.02	0.00
95	1425	23.75	0.2	0.018	0.137	0.016	0.002	0.02	0.00
96	1440	24.00	0.2	0.018	0.137	0.016	0.002	0.02	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.22
FLOOD VOLUME (acft)	0.17
FLOOD VOLUME (cuft)	7524.21
REQUIRED STORAGE (acft)	0.01
REQUIRED STORAGE (cuft)	645.53
PEAK FLOW (cfs)	0.65

PROJECT: CALHOUN AT AVENUE 49 - 10 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
463.5	0	0		17610	0	0	0.00
464.5	1	1	1790	19400	18505	18505	0.42
465.5	1	2	1840	21240	20320	38825	0.89
466.5	1	3	1900	23140	22190	61015	1.40
467	0.5	3.5	970	24110	11813	72828	1.67

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.27 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.27 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.15	46	46	82	-	463.50	-	0.00
2	10	0.15	46	46	82	-	463.50	-	0.00
3	15	0.13	39	39	82	-	463.50	-	0.00
4	20	0.18	53	53	82	-	463.50	-	0.00
5	25	0.18	53	53	82	-	463.50	-	0.00
6	30	0.21	64	64	82	-	463.50	-	0.00
7	35	0.18	53	53	82	-	463.50	-	0.00
8	40	0.21	64	64	82	-	463.50	-	0.00
9	45	0.21	64	64	82	-	463.50	-	0.00
10	50	0.18	53	53	82	-	463.50	-	0.00
11	55	0.19	57	57	82	-	463.50	-	0.00
12	60	0.21	64	64	82	-	463.50	-	0.00
13	65	0.02	5	5	82	-	463.50	-	0.00
14	70	0.02	5	5	82	-	463.50	-	0.00
15	75	0.02	5	5	82	-	463.50	-	0.00
16	80	0.24	71	71	82	-	463.50	-	0.00
17	85	0.49	147	147	82	65	463.50	65	0.00
18	90	0.61	182	248	82	166	463.51	166	0.00
19	95	0.25	76	242	82	160	463.51	160	0.00
20	100	0.61	182	342	82	260	463.51	260	0.01
21	105	1.32	396	656	82	574	463.53	574	0.01
22	110	1.08	325	899	82	817	463.54	817	0.02
23	115	0.85	254	1,070	82	988	463.55	988	0.02
24	120	0.96	289	1,277	82	1,195	463.56	1,195	0.03
25	125	1.08	325	1,520	82	1,438	463.58	1,438	0.03
26	130	2.38	715	2,153	82	2,072	463.61	2,072	0.05
27	135	3.33	1,000	3,071	82	2,989	463.66	2,989	0.07
28	140	1.56	467	3,456	82	3,374	463.68	3,374	0.08
29	145	5.46	1,639	5,013	82	4,931	463.77	4,931	0.11
30	150	6.06	1,817	6,748	82	6,666	463.86	6,666	0.15
31	155	7.12	2,137	8,803	82	8,721	463.97	8,721	0.20
32	160	4.40	1,319	10,041	82	9,959	464.04	9,959	0.23
33	165	0.24	71	10,030	82	9,948	464.04	9,948	0.23
34	170	0.21	64	10,012	82	9,930	464.04	9,930	0.23
35	175	0.21	64	9,994	82	9,912	464.04	9,912	0.23
36	180	0.07	21	9,933	82	9,851	464.03	9,851	0.23

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.08	23	23	82	-	463.50	-	0.00
2	10	0.09	28	28	82	-	463.50	-	0.00
3	15	0.09	28	28	82	-	463.50	-	0.00
4	20	0.09	28	28	82	-	463.50	-	0.00
5	25	0.09	28	28	82	-	463.50	-	0.00
6	30	0.11	33	33	82	-	463.50	-	0.00
7	35	0.11	33	33	82	-	463.50	-	0.00
8	40	0.11	33	33	82	-	463.50	-	0.00
9	45	0.11	33	33	82	-	463.50	-	0.00
10	50	0.11	33	33	82	-	463.50	-	0.00
11	55	0.11	33	33	82	-	463.50	-	0.00
12	60	0.12	37	37	82	-	463.50	-	0.00
13	65	0.12	37	37	82	-	463.50	-	0.00
14	70	0.12	37	37	82	-	463.50	-	0.00
15	75	0.12	37	37	82	-	463.50	-	0.00
16	80	0.12	37	37	82	-	463.50	-	0.00
17	85	0.12	37	37	82	-	463.50	-	0.00
18	90	0.12	37	37	82	-	463.50	-	0.00
19	95	0.12	37	37	82	-	463.50	-	0.00
20	100	0.12	37	37	82	-	463.50	-	0.00
21	105	0.12	37	37	82	-	463.50	-	0.00
22	110	0.12	37	37	82	-	463.50	-	0.00
23	115	0.12	37	37	82	-	463.50	-	0.00
24	120	0.14	42	42	82	-	463.50	-	0.00
25	125	0.12	37	37	82	-	463.50	-	0.00
26	130	0.14	42	42	82	-	463.50	-	0.00
27	135	0.14	42	42	82	-	463.50	-	0.00
28	140	0.14	42	42	82	-	463.50	-	0.00
29	145	0.14	42	42	82	-	463.50	-	0.00
30	150	0.14	42	42	82	-	463.50	-	0.00
31	155	0.14	42	42	82	-	463.50	-	0.00
32	160	0.14	42	42	82	-	463.50	-	0.00
33	165	0.15	46	46	82	-	463.50	-	0.00
34	170	0.15	46	46	82	-	463.50	-	0.00
35	175	0.15	46	46	82	-	463.50	-	0.00
36	180	0.15	46	46	82	-	463.50	-	0.00
37	185	0.15	46	46	82	-	463.50	-	0.00
38	190	0.17	51	51	82	-	463.50	-	0.00
39	195	0.17	51	51	82	-	463.50	-	0.00
40	200	0.17	51	51	82	-	463.50	-	0.00
41	205	0.19	56	56	82	-	463.50	-	0.00
42	210	0.20	60	60	82	-	463.50	-	0.00
43	215	0.22	65	65	82	-	463.50	-	0.00
44	220	0.22	65	65	82	-	463.50	-	0.00
45	225	0.23	70	70	82	-	463.50	-	0.00
46	230	0.23	70	70	82	-	463.50	-	0.00
47	235	0.25	74	74	82	-	463.50	-	0.00
48	240	0.25	74	74	82	-	463.50	-	0.00
49	245	0.04	13	13	82	-	463.50	-	0.00
50	250	0.20	60	60	82	-	463.50	-	0.00
51	255	0.35	106	106	82	24	463.50	24	0.00
52	260	0.51	152	176	82	95	463.51	95	0.00
53	265	0.66	199	293	82	211	463.51	211	0.00
54	270	0.66	199	410	82	328	463.52	328	0.01
55	275	0.82	245	574	82	492	463.53	492	0.01

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	0.97	292	784	82	702	463.54	702	0.02
57	285	1.13	338	1,040	82	958	463.55	958	0.02
58	290	1.13	338	1,296	82	1,214	463.57	1,214	0.03
59	295	1.28	385	1,599	82	1,517	463.58	1,517	0.03
60	300	1.44	431	1,949	82	1,867	463.60	1,867	0.04
61	305	2.21	664	2,530	82	2,448	463.63	2,448	0.06
62	310	2.99	896	3,344	82	3,262	463.68	3,262	0.07
63	315	3.45	1,035	4,297	82	4,215	463.73	4,215	0.10
64	320	3.92	1,175	5,390	82	5,308	463.79	5,308	0.12
65	325	4.69	1,407	6,715	82	6,633	463.86	6,633	0.15
66	330	6.08	1,825	8,458	82	8,376	463.95	8,376	0.19
67	335	0.35	106	8,482	82	8,400	463.95	8,400	0.19
68	340	0.14	42	8,442	82	8,360	463.95	8,360	0.19
69	345	0.09	28	8,388	82	8,306	463.95	8,306	0.19
70	350	0.08	23	8,329	82	8,247	463.95	8,247	0.19
71	355	0.05	14	8,261	82	8,179	463.94	8,179	0.19
72	360	0.03	9	8,189	82	8,107	463.94	8,107	0.19

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.02	15	15	246	-	463.50	-	0.00
2	30	0.03	23	23	246	-	463.50	-	0.00
3	45	0.03	23	23	246	-	463.50	-	0.00
4	60	0.03	30	30	246	-	463.50	-	0.00
5	75	0.03	23	23	246	-	463.50	-	0.00
6	90	0.03	23	23	246	-	463.50	-	0.00
7	105	0.03	23	23	246	-	463.50	-	0.00
8	120	0.03	30	30	246	-	463.50	-	0.00
9	135	0.03	30	30	246	-	463.50	-	0.00
10	150	0.03	30	30	246	-	463.50	-	0.00
11	165	0.04	38	38	246	-	463.50	-	0.00
12	180	0.04	38	38	246	-	463.50	-	0.00
13	195	0.04	38	38	246	-	463.50	-	0.00
14	210	0.04	38	38	246	-	463.50	-	0.00
15	225	0.04	38	38	246	-	463.50	-	0.00
16	240	0.05	46	46	246	-	463.50	-	0.00
17	255	0.05	46	46	246	-	463.50	-	0.00
18	270	0.06	53	53	246	-	463.50	-	0.00
19	285	0.06	53	53	246	-	463.50	-	0.00
20	300	0.07	61	61	246	-	463.50	-	0.00
21	315	0.05	46	46	246	-	463.50	-	0.00
22	330	0.06	53	53	246	-	463.50	-	0.00
23	345	0.07	61	61	246	-	463.50	-	0.00
24	360	0.07	61	61	246	-	463.50	-	0.00
25	375	0.08	69	69	246	-	463.50	-	0.00
26	390	0.08	69	69	246	-	463.50	-	0.00
27	405	0.08	76	76	246	-	463.50	-	0.00
28	420	0.08	76	76	246	-	463.50	-	0.00
29	435	0.08	76	76	246	-	463.50	-	0.00
30	450	0.09	84	84	246	-	463.50	-	0.00
31	465	0.10	91	91	246	-	463.50	-	0.00
32	480	0.11	99	99	246	-	463.50	-	0.00
33	495	0.13	114	114	246	-	463.50	-	0.00
34	510	0.13	114	114	246	-	463.50	-	0.00
35	525	0.14	122	122	246	-	463.50	-	0.00
36	540	0.14	130	130	246	-	463.50	-	0.00
37	555	0.16	145	145	246	-	463.50	-	0.00
38	570	0.17	152	152	246	-	463.50	-	0.00
39	585	0.18	160	160	246	-	463.50	-	0.00
40	600	0.19	168	168	246	-	463.50	-	0.00
41	615	0.13	114	114	246	-	463.50	-	0.00
42	630	0.13	114	114	246	-	463.50	-	0.00
43	645	0.17	152	152	246	-	463.50	-	0.00
44	660	0.17	152	152	246	-	463.50	-	0.00
45	675	0.16	145	145	246	-	463.50	-	0.00
46	690	0.16	145	145	246	-	463.50	-	0.00
47	705	0.14	130	130	246	-	463.50	-	0.00
48	720	0.15	137	137	246	-	463.50	-	0.00
49	735	0.21	190	190	246	-	463.50	-	0.00
50	750	0.22	198	198	246	-	463.50	-	0.00
51	765	0.04	33	33	246	-	463.50	-	0.00
52	780	0.16	141	141	246	-	463.50	-	0.00
53	795	0.61	553	553	246	307	463.52	307	0.01
54	810	0.65	584	891	246	646	463.53	646	0.01
55	825	0.19	175	821	246	575	463.53	575	0.01
56	840	0.19	175	750	246	504	463.53	504	0.01
57	855	0.16	141	645	246	399	463.52	399	0.01
58	870	0.10	94	493	246	248	463.51	248	0.01

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	0.14	123	371	246	125	463.51	125	0.00
60	900	0.08	75	200	246	-	463.50	-	0.00
61	915	0.03	27	27	246	-	463.50	-	0.00
62	930	0.19	175	175	246	-	463.50	-	0.00
63	945	0.16	145	145	246	-	463.50	-	0.00
64	960	0.16	145	145	246	-	463.50	-	0.00
65	975	0.03	30	30	246	-	463.50	-	0.00
66	990	0.03	30	30	246	-	463.50	-	0.00
67	1005	0.03	23	23	246	-	463.50	-	0.00
68	1020	0.03	23	23	246	-	463.50	-	0.00
69	1035	0.04	38	38	246	-	463.50	-	0.00
70	1050	0.04	38	38	246	-	463.50	-	0.00
71	1065	0.04	38	38	246	-	463.50	-	0.00
72	1080	0.03	30	30	246	-	463.50	-	0.00
73	1095	0.03	30	30	246	-	463.50	-	0.00
74	1110	0.03	30	30	246	-	463.50	-	0.00
75	1125	0.03	23	23	246	-	463.50	-	0.00
76	1140	0.02	15	15	246	-	463.50	-	0.00
77	1155	0.03	23	23	246	-	463.50	-	0.00
78	1170	0.03	30	30	246	-	463.50	-	0.00
79	1185	0.03	23	23	246	-	463.50	-	0.00
80	1200	0.02	15	15	246	-	463.50	-	0.00
81	1215	0.03	23	23	246	-	463.50	-	0.00
82	1230	0.03	23	23	246	-	463.50	-	0.00
83	1245	0.03	23	23	246	-	463.50	-	0.00
84	1260	0.02	15	15	246	-	463.50	-	0.00
85	1275	0.03	23	23	246	-	463.50	-	0.00
86	1290	0.02	15	15	246	-	463.50	-	0.00
87	1305	0.03	23	23	246	-	463.50	-	0.00
88	1320	0.02	15	15	246	-	463.50	-	0.00
89	1335	0.03	23	23	246	-	463.50	-	0.00
90	1350	0.02	15	15	246	-	463.50	-	0.00
91	1365	0.02	15	15	246	-	463.50	-	0.00
92	1380	0.02	15	15	246	-	463.50	-	0.00
93	1395	0.02	15	15	246	-	463.50	-	0.00
94	1410	0.02	15	15	246	-	463.50	-	0.00
95	1425	0.02	15	15	246	-	463.50	-	0.00
96	1440	0.02	15	15	246	-	463.50	-	0.00

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 100 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 1		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	1.18		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS			
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	0.83		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	1000		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	15		
30				
31	ELEVATION OF HEADWATER	471.5		
32	ELEVATION OF CONCENTRATION POINT	468.8		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	2.12		
40	6-HOUR	2.78		
41	24-HOUR	4.47		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		465	3025	
45		466	3700	
46		467	4430	
47		468	5215	
48		468.5	5630	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 1
[3] AREA - ACRES	2.010
[4] L-FEET	1000
[5] L-MILES	0.189
[6] La-FEET	15.00
[7] La-MILES	0.003
[8] ELEVATION OF HEADWATER	471.5
[9] ELEVATION OF CONCENTRATION POINT	468.8
[10] H-FEET	2.7
[11] S-FEET/MILE	14.3
[12] S^0.5	3.78
[13] L*LCA/S^0.5	0.000
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.02
[16] LAG TIME-MINUTES	1.0
[17] 100% OF LAG-MINUTES	1.0
[18] 200% OF LAG-MINUTES	2.0
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.05

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
2.12	2.010	1.00	2.12	2.78	2.010	1.00	2.78	4.47	2.010	1.00	4.47
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	2.01	SUM [7]	2.12	SUM [9]	2.01	SUM [11]	2.78	SUM [13]	2.01	SUM [15]	4.47
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			2.12				2.78				4.47

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.39	1.40	1.43
FLOOD VOLUME	(cu-ft)	10,165	10,196	10,445
	(acre-ft)	0.23	0.23	0.24
REQUIRED STORAGE	(cu-ft)	9,580	9,148	8,100
	(acre-ft)	0.22	0.21	0.19
PEAK FLOW	(cfs)	3.70	3.26	0.80
MAXIMUM WSEL	(ft)	467.45	467.36	467.13

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	1.18	0.587	0.0305
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	0.00	0.000	0.0000
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	0.83	0.413	0.2147
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		2.01	SUM	0.2453

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.122626866
C= 0.00227

Ft=C(24-(T/60))^1.55 = 0.00227 (24-(T/60))^1.55 + 0.12 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.01
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.00
UNIT TIME-PERCENT OF LAG	502.5
TOTAL ADJUSTED STORM RAIN-INCHES	2.12
CONSTANT LOSS RATE-in/hr	0.25
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.05 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.331	0.25	0.30	0.09	0.17	37.46
2	10	0.17	1.3	0.331	0.25	0.30	0.09	0.17	37.46
3	15	0.25	1.1	0.280	0.25	0.25	0.03	0.07	6.78
4	20	0.33	1.5	0.382	0.25	0.34	0.14	0.27	68.14
5	25	0.42	1.5	0.382	0.25	0.34	0.14	0.27	68.14
6	30	0.50	1.8	0.458	0.25	0.41	0.21	0.43	114.16
7	35	0.58	1.5	0.382	0.25	0.34	0.14	0.27	68.14
8	40	0.67	1.8	0.458	0.25	0.41	0.21	0.43	114.16
9	45	0.75	1.8	0.458	0.25	0.41	0.21	0.43	114.16
10	50	0.83	1.5	0.382	0.25	0.34	0.14	0.27	68.14
11	55	0.92	1.6	0.407	0.25	0.37	0.16	0.33	83.48
12	60	1.00	1.8	0.458	0.25	0.41	0.21	0.43	114.16
13	65	1.08	2.2	0.560	0.25	0.50	0.31	0.63	175.52
14	70	1.17	2.2	0.560	0.25	0.50	0.31	0.63	175.52
15	75	1.25	2.2	0.560	0.25	0.50	0.31	0.63	175.52
16	80	1.33	2.0	0.509	0.25	0.46	0.26	0.53	144.84
17	85	1.42	2.6	0.661	0.25	0.60	0.42	0.84	236.89
18	90	1.50	2.7	0.687	0.25	0.62	0.44	0.89	252.23
19	95	1.58	2.4	0.611	0.25	0.55	0.37	0.73	206.21
20	100	1.67	2.7	0.687	0.25	0.62	0.44	0.89	252.23
21	105	1.75	3.3	0.840	0.25	0.76	0.59	1.19	344.27
22	110	1.83	3.1	0.789	0.25	0.71	0.54	1.09	313.59
23	115	1.92	2.9	0.738	0.25	0.66	0.49	0.99	282.91
24	120	2.00	3.0	0.763	0.25	0.69	0.52	1.04	298.25
25	125	2.08	3.1	0.789	0.25	0.71	0.54	1.09	313.59
26	130	2.17	4.2	1.068	0.25	0.96	0.82	1.65	482.33
27	135	2.25	5.0	1.272	0.25	1.14	1.03	2.06	605.05
28	140	2.33	3.5	0.890	0.25	0.80	0.65	1.30	374.95
29	145	2.42	6.8	1.730	0.25	1.56	1.48	2.98	881.18
30	150	2.50	7.3	1.857	0.25	1.67	1.61	3.24	957.88
31	155	2.58	8.2	2.086	0.25	1.88	1.84	3.70	1095.94
32	160	2.67	5.9	1.501	0.25	1.35	1.26	2.52	743.12
33	165	2.75	2.0	0.509	0.25	0.46	0.26	0.53	144.84
34	170	2.83	1.8	0.458	0.25	0.41	0.21	0.43	114.16
35	175	2.92	1.8	0.458	0.25	0.41	0.21	0.43	114.16
36	180	3.00	0.6	0.153	0.25	0.14	0.02	0.03	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.39
FLOOD VOLUME (acft)	0.23
FLOOD VOLUME (cuft)	10165.45
REQUIRED STORAGE (acft)	0.22
REQUIRED STORAGE (cuft)	9579.59
PEAK FLOW RATE (cfs)	3.70

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.01
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.00
UNIT TIME-PERCENT OF LAG	502.5
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.245
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.05 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.167	0.25	0.15	0.02	0.03	0.00
2	10	0.17	0.6	0.200	0.25	0.18	0.02	0.04	0.00
3	15	0.25	0.6	0.200	0.25	0.18	0.02	0.04	0.00
4	20	0.33	0.6	0.200	0.25	0.18	0.02	0.04	0.00
5	25	0.42	0.6	0.200	0.25	0.18	0.02	0.04	0.00
6	30	0.50	0.7	0.234	0.25	0.21	0.02	0.05	0.01
7	35	0.58	0.7	0.234	0.25	0.21	0.02	0.05	0.01
8	40	0.67	0.7	0.234	0.25	0.21	0.02	0.05	0.01
9	45	0.75	0.7	0.234	0.25	0.21	0.02	0.05	0.01
10	50	0.83	0.7	0.234	0.25	0.21	0.02	0.05	0.01
11	55	0.92	0.7	0.234	0.25	0.21	0.02	0.05	0.01
12	60	1.00	0.8	0.267	0.25	0.24	0.02	0.04	0.00
13	65	1.08	0.8	0.267	0.25	0.24	0.02	0.04	0.00
14	70	1.17	0.8	0.267	0.25	0.24	0.02	0.04	0.00
15	75	1.25	0.8	0.267	0.25	0.24	0.02	0.04	0.00
16	80	1.33	0.8	0.267	0.25	0.24	0.02	0.04	0.00
17	85	1.42	0.8	0.267	0.25	0.24	0.02	0.04	0.00
18	90	1.50	0.8	0.267	0.25	0.24	0.02	0.04	0.00
19	95	1.58	0.8	0.267	0.25	0.24	0.02	0.04	0.00
20	100	1.67	0.8	0.267	0.25	0.24	0.02	0.04	0.00
21	105	1.75	0.8	0.267	0.25	0.24	0.02	0.04	0.00
22	110	1.83	0.8	0.267	0.25	0.24	0.02	0.04	0.00
23	115	1.92	0.8	0.267	0.25	0.24	0.02	0.04	0.00
24	120	2.00	0.9	0.300	0.25	0.27	0.05	0.11	19.08
25	125	2.08	0.8	0.267	0.25	0.24	0.02	0.04	0.00
26	130	2.17	0.9	0.300	0.25	0.27	0.05	0.11	19.08
27	135	2.25	0.9	0.300	0.25	0.27	0.05	0.11	19.08
28	140	2.33	0.9	0.300	0.25	0.27	0.05	0.11	19.08
29	145	2.42	0.9	0.300	0.25	0.27	0.05	0.11	19.08
30	150	2.50	0.9	0.300	0.25	0.27	0.05	0.11	19.08
31	155	2.58	0.9	0.300	0.25	0.27	0.05	0.11	19.08
32	160	2.67	0.9	0.300	0.25	0.27	0.05	0.11	19.08
33	165	2.75	1.0	0.334	0.25	0.30	0.09	0.18	39.20
34	170	2.83	1.0	0.334	0.25	0.30	0.09	0.18	39.20
35	175	2.92	1.0	0.334	0.25	0.30	0.09	0.18	39.20
36	180	3.00	1.0	0.334	0.25	0.30	0.09	0.18	39.20
37	185	3.08	1.0	0.334	0.25	0.30	0.09	0.18	39.20
38	190	3.17	1.1	0.367	0.25	0.33	0.12	0.24	59.31
39	195	3.25	1.1	0.367	0.25	0.33	0.12	0.24	59.31
40	200	3.33	1.1	0.367	0.25	0.33	0.12	0.24	59.31
41	205	3.42	1.2	0.400	0.25	0.36	0.16	0.31	79.43
42	210	3.50	1.3	0.434	0.25	0.39	0.19	0.38	99.55
43	215	3.58	1.4	0.467	0.25	0.42	0.22	0.45	119.66
44	220	3.67	1.4	0.467	0.25	0.42	0.22	0.45	119.66
45	225	3.75	1.5	0.500	0.25	0.45	0.26	0.51	139.78
46	230	3.83	1.5	0.500	0.25	0.45	0.26	0.51	139.78
47	235	3.92	1.6	0.534	0.25	0.48	0.29	0.58	159.89
48	240	4.00	1.6	0.534	0.25	0.48	0.29	0.58	159.89
49	245	4.08	1.7	0.567	0.25	0.51	0.32	0.65	180.01
50	250	4.17	1.8	0.600	0.25	0.54	0.36	0.71	200.13
51	255	4.25	1.9	0.634	0.25	0.57	0.39	0.78	220.24
52	260	4.33	2.0	0.667	0.25	0.60	0.42	0.85	240.36
53	265	4.42	2.1	0.701	0.25	0.63	0.46	0.92	260.48
54	270	4.50	2.1	0.701	0.25	0.63	0.46	0.92	260.48
55	275	4.58	2.2	0.734	0.25	0.66	0.49	0.98	280.59
56	280	4.67	2.3	0.767	0.25	0.69	0.52	1.05	300.71

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.01
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.00
UNIT TIME-PERCENT OF LAG	502.5
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.245
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.05 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.801	0.25	0.72	0.56	1.12	320.82
58	290	4.83	2.4	0.801	0.25	0.72	0.56	1.12	320.82
59	295	4.92	2.5	0.834	0.25	0.75	0.59	1.18	340.94
60	300	5.00	2.6	0.867	0.25	0.78	0.62	1.25	361.06
61	305	5.08	3.1	1.034	0.25	0.93	0.79	1.59	461.64
62	310	5.17	3.6	1.201	0.25	1.08	0.96	1.92	562.22
63	315	5.25	3.9	1.301	0.25	1.17	1.06	2.12	622.56
64	320	5.33	4.2	1.401	0.25	1.26	1.16	2.32	682.91
65	325	5.42	4.7	1.568	0.25	1.41	1.32	2.66	783.49
66	330	5.50	5.6	1.868	0.25	1.68	1.62	3.26	964.54
67	335	5.58	1.9	0.634	0.25	0.57	0.39	0.78	220.24
68	340	5.67	0.9	0.300	0.25	0.27	0.05	0.11	19.08
69	345	5.75	0.6	0.200	0.25	0.18	0.02	0.04	0.00
70	350	5.83	0.5	0.167	0.25	0.15	0.02	0.03	0.00
71	355	5.92	0.3	0.100	0.25	0.09	0.01	0.02	0.00
72	360	6.00	0.2	0.067	0.25	0.06	0.01	0.01	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.40
FLOOD VOLUME (acft)	0.23
FLOOD VOLUME (cuft)	10195.68
REQUIRED STORAGE (acft)	0.21
REQUIRED STORAGE (cuft)	9147.59
PEAK FLOW RATE (cfs)	3.26

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.010	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2453
LAG TIME - MINUTES	1.00	MINIMUM LOSS RATE (for var. loss) - in/hr	0.123
UNIT TIME-PERCENT OF LAG	1507.5	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00227
		PERCOLATION RATE (cfs)	0.05

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.036	0.433	0.032	0.004	0.01	0.00
2	30	0.50	0.3	0.054	0.428	0.048	0.005	0.01	0.00
3	45	0.75	0.3	0.054	0.423	0.048	0.005	0.01	0.00
4	60	1.00	0.4	0.072	0.418	0.064	0.007	0.01	0.00
5	75	1.25	0.3	0.054	0.413	0.048	0.005	0.01	0.00
6	90	1.50	0.3	0.054	0.408	0.048	0.005	0.01	0.00
7	105	1.75	0.3	0.054	0.403	0.048	0.005	0.01	0.00
8	120	2.00	0.4	0.072	0.399	0.064	0.007	0.01	0.00
9	135	2.25	0.4	0.072	0.394	0.064	0.007	0.01	0.00
10	150	2.50	0.4	0.072	0.389	0.064	0.007	0.01	0.00
11	165	2.75	0.5	0.089	0.384	0.080	0.009	0.02	0.00
12	180	3.00	0.5	0.089	0.379	0.080	0.009	0.02	0.00
13	195	3.25	0.5	0.089	0.375	0.080	0.009	0.02	0.00
14	210	3.50	0.5	0.089	0.370	0.080	0.009	0.02	0.00
15	225	3.75	0.5	0.089	0.365	0.080	0.009	0.02	0.00
16	240	4.00	0.6	0.107	0.361	0.097	0.011	0.02	0.00
17	255	4.25	0.6	0.107	0.356	0.097	0.011	0.02	0.00
18	270	4.50	0.7	0.125	0.352	0.113	0.013	0.03	0.00
19	285	4.75	0.7	0.125	0.347	0.113	0.013	0.03	0.00
20	300	5.00	0.8	0.143	0.343	0.129	0.014	0.03	0.00
21	315	5.25	0.6	0.107	0.338	0.097	0.011	0.02	0.00
22	330	5.50	0.7	0.125	0.334	0.113	0.013	0.03	0.00
23	345	5.75	0.8	0.143	0.330	0.129	0.014	0.03	0.00
24	360	6.00	0.8	0.143	0.325	0.129	0.014	0.03	0.00
25	375	6.25	0.9	0.161	0.321	0.145	0.016	0.03	0.00
26	390	6.50	0.9	0.161	0.317	0.145	0.016	0.03	0.00
27	405	6.75	1.0	0.179	0.312	0.161	0.018	0.04	0.00
28	420	7.00	1.0	0.179	0.308	0.161	0.018	0.04	0.00
29	435	7.25	1.0	0.179	0.304	0.161	0.018	0.04	0.00
30	450	7.50	1.1	0.197	0.300	0.177	0.020	0.04	0.00
31	465	7.75	1.2	0.215	0.296	0.193	0.021	0.04	0.00
32	480	8.00	1.3	0.232	0.292	0.209	0.023	0.05	0.00
33	495	8.25	1.5	0.268	0.288	0.241	0.027	0.05	6.29
34	510	8.50	1.5	0.268	0.284	0.241	0.027	0.05	6.29
35	525	8.75	1.6	0.286	0.280	0.257	0.007	0.01	0.00
36	540	9.00	1.7	0.304	0.276	0.274	0.028	0.06	9.01
37	555	9.25	1.9	0.340	0.272	0.306	0.068	0.14	80.76
38	570	9.50	2.0	0.358	0.268	0.322	0.090	0.18	120.10
39	585	9.75	2.1	0.375	0.264	0.338	0.111	0.22	159.37
40	600	10.00	2.2	0.393	0.260	0.354	0.133	0.27	198.58
41	615	10.25	1.5	0.268	0.256	0.241	0.012	0.02	0.00
42	630	10.50	1.5	0.268	0.253	0.241	0.015	0.03	0.00
43	645	10.75	2.0	0.358	0.249	0.322	0.109	0.22	154.08
44	660	11.00	2.0	0.358	0.245	0.322	0.112	0.23	160.67
45	675	11.25	1.9	0.340	0.242	0.306	0.098	0.20	134.85
46	690	11.50	1.9	0.340	0.238	0.306	0.101	0.20	141.31
47	705	11.75	1.7	0.304	0.235	0.274	0.069	0.14	83.00
48	720	12.00	1.8	0.322	0.231	0.290	0.091	0.18	121.66
49	735	12.25	2.5	0.447	0.228	0.402	0.219	0.44	354.32
50	750	12.50	2.6	0.465	0.224	0.418	0.240	0.48	392.84
51	765	12.75	2.8	0.501	0.221	0.451	0.280	0.56	463.63
52	780	13.00	2.9	0.519	0.218	0.467	0.301	0.60	502.00
53	795	13.25	3.4	0.608	0.214	0.547	0.394	0.79	669.68
54	810	13.50	3.4	0.608	0.211	0.547	0.397	0.80	675.55
55	825	13.75	2.3	0.411	0.208	0.370	0.203	0.41	325.56
56	840	14.00	2.3	0.411	0.205	0.370	0.206	0.42	331.29
57	855	14.25	2.7	0.483	0.202	0.434	0.281	0.57	466.31
58	870	14.50	2.6	0.465	0.199	0.418	0.266	0.54	439.54
59	885	14.75	2.6	0.465	0.196	0.418	0.269	0.54	445.03
60	900	15.00	2.5	0.447	0.193	0.402	0.254	0.51	418.10
61	915	15.25	2.4	0.429	0.190	0.386	0.240	0.48	391.08
62	930	15.50	2.3	0.411	0.187	0.370	0.225	0.45	363.98
63	945	15.75	1.9	0.340	0.184	0.306	0.156	0.31	239.77
64	960	16.00	1.9	0.340	0.181	0.306	0.159	0.32	244.85
65	975	16.25	0.4	0.072	0.178	0.064	0.007	0.01	0.00
66	990	16.50	0.4	0.072	0.176	0.064	0.007	0.01	0.00
67	1005	16.75	0.3	0.054	0.173	0.048	0.005	0.01	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	2.010	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2453
LAG TIME - MINUTES	1.00	MINIMUM LOSS RATE (for var. loss) - in/hr	0.123
UNIT TIME-PERCENT OF LAG	1507.5	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00227
		PERCOLATION RATE (cfs)	0.05

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
68	1020	17.00	0.3	0.054	0.170	0.048	0.005	0.01	0.00
69	1035	17.25	0.5	0.089	0.168	0.080	0.009	0.02	0.00
70	1050	17.50	0.5	0.089	0.165	0.080	0.009	0.02	0.00
71	1065	17.75	0.5	0.089	0.163	0.080	0.009	0.02	0.00
72	1080	18.00	0.4	0.072	0.160	0.064	0.007	0.01	0.00
73	1095	18.25	0.4	0.072	0.158	0.064	0.007	0.01	0.00
74	1110	18.50	0.4	0.072	0.156	0.064	0.007	0.01	0.00
75	1125	18.75	0.3	0.054	0.153	0.048	0.005	0.01	0.00
76	1140	19.00	0.2	0.036	0.151	0.032	0.004	0.01	0.00
77	1155	19.25	0.3	0.054	0.149	0.048	0.005	0.01	0.00
78	1170	19.50	0.4	0.072	0.147	0.064	0.007	0.01	0.00
79	1185	19.75	0.3	0.054	0.145	0.048	0.005	0.01	0.00
80	1200	20.00	0.2	0.036	0.143	0.032	0.004	0.01	0.00
81	1215	20.25	0.3	0.054	0.141	0.048	0.005	0.01	0.00
82	1230	20.50	0.3	0.054	0.139	0.048	0.005	0.01	0.00
83	1245	20.75	0.3	0.054	0.138	0.048	0.005	0.01	0.00
84	1260	21.00	0.2	0.036	0.136	0.032	0.004	0.01	0.00
85	1275	21.25	0.3	0.054	0.134	0.048	0.005	0.01	0.00
86	1290	21.50	0.2	0.036	0.133	0.032	0.004	0.01	0.00
87	1305	21.75	0.3	0.054	0.131	0.048	0.005	0.01	0.00
88	1320	22.00	0.2	0.036	0.130	0.032	0.004	0.01	0.00
89	1335	22.25	0.3	0.054	0.129	0.048	0.005	0.01	0.00
90	1350	22.50	0.2	0.036	0.127	0.032	0.004	0.01	0.00
91	1365	22.75	0.2	0.036	0.126	0.032	0.004	0.01	0.00
92	1380	23.00	0.2	0.036	0.125	0.032	0.004	0.01	0.00
93	1395	23.25	0.2	0.036	0.124	0.032	0.004	0.01	0.00
94	1410	23.50	0.2	0.036	0.124	0.032	0.004	0.01	0.00
95	1425	23.75	0.2	0.036	0.123	0.032	0.004	0.01	0.00
96	1440	24.00	0.2	0.036	0.123	0.032	0.004	0.01	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.43
FLOOD VOLUME (acft)	0.24
FLOOD VOLUME (cuft)	10444.84
REQUIRED STORAGE (acft)	0.19
REQUIRED STORAGE (cuft)	8099.53
PEAK FLOW (cfs)	0.80

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
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BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
465	0	0		3025	0	0	0.00
466	1	1	675	3700	3363	3363	0.08
467	1	2	730	4430	4065	7428	0.17
468	1	3	785	5215	4823	12250	0.28
468.5	0.5	3.5	415	5630	2711	14961	0.34

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.05 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.05 cfs

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JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.17	52	52	14	37	465.01	37	0.00
2	10	0.17	52	89	14	75	465.02	75	0.00
3	15	0.07	21	96	14	82	465.02	82	0.00
4	20	0.27	82	164	14	150	465.04	150	0.00
5	25	0.27	82	232	14	218	465.06	218	0.01
6	30	0.43	128	346	14	332	465.10	332	0.01
7	35	0.27	82	414	14	400	465.12	400	0.01
8	40	0.43	128	529	14	514	465.15	514	0.01
9	45	0.43	128	643	14	629	465.19	629	0.01
10	50	0.27	82	711	14	697	465.21	697	0.02
11	55	0.33	98	794	14	780	465.23	780	0.02
12	60	0.43	128	908	14	894	465.27	894	0.02
13	65	0.63	190	1,084	14	1,070	465.32	1,070	0.02
14	70	0.63	190	1,260	14	1,245	465.37	1,245	0.03
15	75	0.63	190	1,435	14	1,421	465.42	1,421	0.03
16	80	0.53	159	1,580	14	1,566	465.47	1,566	0.04
17	85	0.84	251	1,817	14	1,803	465.54	1,803	0.04
18	90	0.89	266	2,069	14	2,055	465.61	2,055	0.05
19	95	0.73	220	2,275	14	2,261	465.67	2,261	0.05
20	100	0.89	266	2,527	14	2,513	465.75	2,513	0.06
21	105	1.19	358	2,872	14	2,858	465.85	2,858	0.07
22	110	1.09	328	3,185	14	3,171	465.94	3,171	0.07
23	115	0.99	297	3,468	14	3,454	466.02	3,454	0.08
24	120	1.04	312	3,766	14	3,752	466.10	3,752	0.09
25	125	1.09	328	4,080	14	4,066	466.17	4,066	0.09
26	130	1.65	496	4,562	14	4,548	466.29	4,548	0.10
27	135	2.06	619	5,167	14	5,153	466.44	5,153	0.12
28	140	1.30	389	5,542	14	5,528	466.53	5,528	0.13
29	145	2.98	895	6,424	14	6,409	466.75	6,409	0.15
30	150	3.24	972	7,381	14	7,367	466.99	7,367	0.17
31	155	3.70	1,110	8,477	14	8,463	467.21	8,463	0.19
32	160	2.52	757	9,220	14	9,206	467.37	9,206	0.21
33	165	0.53	159	9,365	14	9,351	467.40	9,351	0.21
34	170	0.43	128	9,479	14	9,465	467.42	9,465	0.22
35	175	0.43	128	9,594	14	9,580	467.45	9,580	0.22
36	180	0.03	9	9,589	14	9,575	467.45	9,575	0.22

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.03	10	10	14	-	465.00	-	0.00
2	10	0.04	12	12	14	-	465.00	-	0.00
3	15	0.04	12	12	14	-	465.00	-	0.00
4	20	0.04	12	12	14	-	465.00	-	0.00
5	25	0.04	12	12	14	-	465.00	-	0.00
6	30	0.05	14	14	14	0	465.00	0	0.00
7	35	0.05	14	14	14	0	465.00	0	0.00
8	40	0.05	14	14	14	0	465.00	0	0.00
9	45	0.05	14	14	14	0	465.00	0	0.00
10	50	0.05	14	14	14	0	465.00	0	0.00
11	55	0.05	14	14	14	0	465.00	0	0.00
12	60	0.04	13	13	14	-	465.00	-	0.00
13	65	0.04	13	13	14	-	465.00	-	0.00
14	70	0.04	13	13	14	-	465.00	-	0.00
15	75	0.04	13	13	14	-	465.00	-	0.00
16	80	0.04	13	13	14	-	465.00	-	0.00
17	85	0.04	13	13	14	-	465.00	-	0.00
18	90	0.04	13	13	14	-	465.00	-	0.00
19	95	0.04	13	13	14	-	465.00	-	0.00
20	100	0.04	13	13	14	-	465.00	-	0.00
21	105	0.04	13	13	14	-	465.00	-	0.00
22	110	0.04	13	13	14	-	465.00	-	0.00
23	115	0.04	13	13	14	-	465.00	-	0.00
24	120	0.11	33	33	14	19	465.01	19	0.00
25	125	0.04	13	32	14	18	465.01	18	0.00
26	130	0.11	33	51	14	37	465.01	37	0.00
27	135	0.11	33	70	14	56	465.02	56	0.00
28	140	0.11	33	89	14	75	465.02	75	0.00
29	145	0.11	33	108	14	94	465.03	94	0.00
30	150	0.11	33	128	14	113	465.03	113	0.00
31	155	0.11	33	147	14	133	465.04	133	0.00
32	160	0.11	33	166	14	152	465.05	152	0.00
33	165	0.18	53	205	14	191	465.06	191	0.00
34	170	0.18	53	244	14	230	465.07	230	0.01
35	175	0.18	53	283	14	269	465.08	269	0.01
36	180	0.18	53	322	14	308	465.09	308	0.01
37	185	0.18	53	362	14	348	465.10	348	0.01
38	190	0.24	73	421	14	407	465.12	407	0.01
39	195	0.24	73	480	14	466	465.14	466	0.01
40	200	0.24	73	540	14	526	465.16	526	0.01
41	205	0.31	94	619	14	605	465.18	605	0.01
42	210	0.38	114	719	14	705	465.21	705	0.02
43	215	0.45	134	838	14	824	465.25	824	0.02
44	220	0.45	134	958	14	944	465.28	944	0.02
45	225	0.51	154	1,098	14	1,084	465.32	1,084	0.02
46	230	0.51	154	1,237	14	1,223	465.36	1,223	0.03
47	235	0.58	174	1,397	14	1,383	465.41	1,383	0.03
48	240	0.58	174	1,557	14	1,543	465.46	1,543	0.04
49	245	0.65	194	1,737	14	1,723	465.51	1,723	0.04
50	250	0.71	214	1,937	14	1,923	465.57	1,923	0.04
51	255	0.78	234	2,158	14	2,144	465.64	2,144	0.05
52	260	0.85	254	2,398	14	2,384	465.71	2,384	0.05
53	265	0.92	275	2,658	14	2,644	465.79	2,644	0.06
54	270	0.92	275	2,919	14	2,905	465.86	2,905	0.07
55	275	0.98	295	3,200	14	3,185	465.95	3,185	0.07

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	1.05	315	3,500	14	3,486	466.03	3,486	0.08
57	285	1.12	335	3,821	14	3,807	466.11	3,807	0.09
58	290	1.12	335	4,142	14	4,128	466.19	4,128	0.09
59	295	1.18	355	4,483	14	4,469	466.27	4,469	0.10
60	300	1.25	375	4,844	14	4,830	466.36	4,830	0.11
61	305	1.59	476	5,306	14	5,291	466.47	5,291	0.12
62	310	1.92	576	5,868	14	5,854	466.61	5,854	0.13
63	315	2.12	637	6,490	14	6,476	466.77	6,476	0.15
64	320	2.32	697	7,173	14	7,159	466.93	7,159	0.16
65	325	2.66	798	7,957	14	7,943	467.11	7,943	0.18
66	330	3.26	979	8,921	14	8,907	467.31	8,907	0.20
67	335	0.78	234	9,142	14	9,127	467.35	9,127	0.21
68	340	0.11	33	9,161	14	9,147	467.36	9,147	0.21
69	345	0.04	12	9,159	14	9,145	467.36	9,145	0.21
70	350	0.03	10	9,155	14	9,140	467.36	9,140	0.21
71	355	0.02	6	9,147	14	9,132	467.35	9,132	0.21
72	360	0.01	4	9,136	14	9,122	467.35	9,122	0.21

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.01	6	6	42	-	465.00	-	0.00
2	30	0.01	10	10	42	-	465.00	-	0.00
3	45	0.01	10	10	42	-	465.00	-	0.00
4	60	0.01	13	13	42	-	465.00	-	0.00
5	75	0.01	10	10	42	-	465.00	-	0.00
6	90	0.01	10	10	42	-	465.00	-	0.00
7	105	0.01	10	10	42	-	465.00	-	0.00
8	120	0.01	13	13	42	-	465.00	-	0.00
9	135	0.01	13	13	42	-	465.00	-	0.00
10	150	0.01	13	13	42	-	465.00	-	0.00
11	165	0.02	16	16	42	-	465.00	-	0.00
12	180	0.02	16	16	42	-	465.00	-	0.00
13	195	0.02	16	16	42	-	465.00	-	0.00
14	210	0.02	16	16	42	-	465.00	-	0.00
15	225	0.02	16	16	42	-	465.00	-	0.00
16	240	0.02	19	19	42	-	465.00	-	0.00
17	255	0.02	19	19	42	-	465.00	-	0.00
18	270	0.03	23	23	42	-	465.00	-	0.00
19	285	0.03	23	23	42	-	465.00	-	0.00
20	300	0.03	26	26	42	-	465.00	-	0.00
21	315	0.02	19	19	42	-	465.00	-	0.00
22	330	0.03	23	23	42	-	465.00	-	0.00
23	345	0.03	26	26	42	-	465.00	-	0.00
24	360	0.03	26	26	42	-	465.00	-	0.00
25	375	0.03	29	29	42	-	465.00	-	0.00
26	390	0.03	29	29	42	-	465.00	-	0.00
27	405	0.04	32	32	42	-	465.00	-	0.00
28	420	0.04	32	32	42	-	465.00	-	0.00
29	435	0.04	32	32	42	-	465.00	-	0.00
30	450	0.04	36	36	42	-	465.00	-	0.00
31	465	0.04	39	39	42	-	465.00	-	0.00
32	480	0.05	42	42	42	-	465.00	-	0.00
33	495	0.05	49	49	42	6	465.00	6	0.00
34	510	0.05	49	55	42	13	465.00	13	0.00
35	525	0.01	12	24	42	-	465.00	-	0.00
36	540	0.06	51	51	42	9	465.00	9	0.00
37	555	0.14	123	132	42	90	465.03	90	0.00
38	570	0.18	162	252	42	210	465.06	210	0.00
39	585	0.22	202	411	42	369	465.11	369	0.01
40	600	0.27	241	610	42	568	465.17	568	0.01
41	615	0.02	21	589	42	547	465.16	547	0.01
42	630	0.03	28	575	42	532	465.16	532	0.01
43	645	0.22	196	729	42	687	465.20	687	0.02
44	660	0.23	203	889	42	847	465.25	847	0.02
45	675	0.20	177	1,024	42	982	465.29	982	0.02
46	690	0.20	184	1,166	42	1,123	465.33	1,123	0.03
47	705	0.14	125	1,249	42	1,206	465.36	1,206	0.03
48	720	0.18	164	1,370	42	1,328	465.39	1,328	0.03
49	735	0.44	397	1,725	42	1,682	465.50	1,682	0.04
50	750	0.48	435	2,117	42	2,075	465.62	2,075	0.05
51	765	0.56	506	2,581	42	2,539	465.76	2,539	0.06
52	780	0.60	544	3,083	42	3,041	465.90	3,041	0.07
53	795	0.79	712	3,753	42	3,711	466.09	3,711	0.09
54	810	0.80	718	4,428	42	4,386	466.25	4,386	0.10
55	825	0.41	368	4,754	42	4,712	466.33	4,712	0.11
56	840	0.42	374	5,085	42	5,043	466.41	5,043	0.12
57	855	0.57	509	5,551	42	5,509	466.53	5,509	0.13
58	870	0.54	482	5,991	42	5,949	466.64	5,949	0.14

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	0.54	487	6,436	42	6,394	466.75	6,394	0.15
60	900	0.51	460	6,854	42	6,812	466.85	6,812	0.16
61	915	0.48	433	7,245	42	7,203	466.94	7,203	0.17
62	930	0.45	406	7,609	42	7,567	467.03	7,567	0.17
63	945	0.31	282	7,849	42	7,807	467.08	7,807	0.18
64	960	0.32	287	8,094	42	8,052	467.13	8,052	0.18
65	975	0.01	13	8,065	42	8,022	467.12	8,022	0.18
66	990	0.01	13	8,035	42	7,993	467.12	7,993	0.18
67	1005	0.01	10	8,003	42	7,961	467.11	7,961	0.18
68	1020	0.01	10	7,970	42	7,928	467.10	7,928	0.18
69	1035	0.02	16	7,944	42	7,902	467.10	7,902	0.18
70	1050	0.02	16	7,918	42	7,876	467.09	7,876	0.18
71	1065	0.02	16	7,892	42	7,850	467.09	7,850	0.18
72	1080	0.01	13	7,863	42	7,821	467.08	7,821	0.18
73	1095	0.01	13	7,833	42	7,791	467.08	7,791	0.18
74	1110	0.01	13	7,804	42	7,762	467.07	7,762	0.18
75	1125	0.01	10	7,772	42	7,729	467.06	7,729	0.18
76	1140	0.01	6	7,736	42	7,694	467.06	7,694	0.18
77	1155	0.01	10	7,703	42	7,661	467.05	7,661	0.18
78	1170	0.01	13	7,674	42	7,632	467.04	7,632	0.18
79	1185	0.01	10	7,642	42	7,599	467.04	7,599	0.17
80	1200	0.01	6	7,606	42	7,564	467.03	7,564	0.17
81	1215	0.01	10	7,573	42	7,531	467.02	7,531	0.17
82	1230	0.01	10	7,541	42	7,499	467.01	7,499	0.17
83	1245	0.01	10	7,508	42	7,466	467.01	7,466	0.17
84	1260	0.01	6	7,473	42	7,430	467.00	7,430	0.17
85	1275	0.01	10	7,440	42	7,398	466.99	7,398	0.17
86	1290	0.01	6	7,404	42	7,362	466.98	7,362	0.17
87	1305	0.01	10	7,372	42	7,330	466.98	7,330	0.17
88	1320	0.01	6	7,336	42	7,294	466.97	7,294	0.17
89	1335	0.01	10	7,303	42	7,261	466.96	7,261	0.17
90	1350	0.01	6	7,268	42	7,225	466.95	7,225	0.17
91	1365	0.01	6	7,232	42	7,190	466.94	7,190	0.17
92	1380	0.01	6	7,196	42	7,154	466.93	7,154	0.16
93	1395	0.01	6	7,160	42	7,118	466.92	7,118	0.16
94	1410	0.01	6	7,125	42	7,082	466.92	7,082	0.16
95	1425	0.01	6	7,089	42	7,047	466.91	7,047	0.16
96	1440	0.01	6	7,053	42	7,011	466.90	7,011	0.16

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 100 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 2		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	2.51		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	7.46		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	0.6		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	724		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	100		
30				
31	ELEVATION OF HEADWATER	472		
32	ELEVATION OF CONCENTRATION POINT	468.5		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	2.12		
40	6-HOUR	2.78		
41	24-HOUR	4.47		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		465	15600	
45		466	17120	
46		467	18710	
47		468	20350	
48		468.5	21200	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 2
[3] AREA - ACRES	10.570
[4] L-FEET	724
[5] L-MILES	0.137
[6] La-FEET	100.00
[7] La-MILES	0.019
[8] ELEVATION OF HEADWATER	472
[9] ELEVATION OF CONCENTRATION POINT	468.5
[10] H-FEET	3.5
[11] S-FEET/MILE	25.5
[12] S^0.5	5.05
[13] L*LCA/S^0.5	0.001
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.03
[16] LAG TIME-MINUTES	1.6
[17] 100% OF LAG-MINUTES	1.6
[18] 200% OF LAG-MINUTES	3.2
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.24

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
2.12	10.570	1.00	2.12	2.78	10.570	1.00	2.78	4.47	10.570	1.00	4.47
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	10.57	SUM [7]	2.12	SUM [9]	10.57	SUM [11]	2.78	SUM [13]	10.57	SUM [15]	4.47
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			2.12				2.78				4.47

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.54	1.64	1.79
FLOOD VOLUME	(cu-ft)	59,174	63,009	68,653
	(acre-ft)	1.36	1.45	1.58
REQUIRED STORAGE	(cu-ft)	56,096	57,661	56,204
	(acre-ft)	1.29	1.32	1.29
PEAK FLOW	(cfs)	20.00	17.69	4.66
MAXIMUM WSEL	(ft)	468.11	468.19	468.12

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	2.51	0.237	0.0123
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	7.46	0.706	0.1523
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	0.60	0.057	0.0295
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		10.57	SUM	0.1942

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.097085525
C= 0.00180

Ft=C(24-(T/60))^1.55 = 0.00180 (24-(T/60))^1.55 + 0.10 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period,
T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.57
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.62
UNIT TIME-PERCENT OF LAG	308.6
TOTAL ADJUSTED STORM RAIN-INCHES	2.12
CONSTANT LOSS RATE-in/hr	0.19
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.24 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.331	0.19	0.30	0.14	1.44	360.41
2	10	0.17	1.3	0.331	0.19	0.30	0.14	1.44	360.41
3	15	0.25	1.1	0.280	0.19	0.25	0.09	0.91	199.07
4	20	0.33	1.5	0.382	0.19	0.34	0.19	1.98	521.75
5	25	0.42	1.5	0.382	0.19	0.34	0.19	1.98	521.75
6	30	0.50	1.8	0.458	0.19	0.41	0.26	2.79	763.76
7	35	0.58	1.5	0.382	0.19	0.34	0.19	1.98	521.75
8	40	0.67	1.8	0.458	0.19	0.41	0.26	2.79	763.76
9	45	0.75	1.8	0.458	0.19	0.41	0.26	2.79	763.76
10	50	0.83	1.5	0.382	0.19	0.34	0.19	1.98	521.75
11	55	0.92	1.6	0.407	0.19	0.37	0.21	2.25	602.42
12	60	1.00	1.8	0.458	0.19	0.41	0.26	2.79	763.76
13	65	1.08	2.2	0.560	0.19	0.50	0.37	3.86	1086.45
14	70	1.17	2.2	0.560	0.19	0.50	0.37	3.86	1086.45
15	75	1.25	2.2	0.560	0.19	0.50	0.37	3.86	1086.45
16	80	1.33	2.0	0.509	0.19	0.46	0.31	3.33	925.11
17	85	1.42	2.6	0.661	0.19	0.60	0.47	4.94	1409.13
18	90	1.50	2.7	0.687	0.19	0.62	0.49	5.21	1489.80
19	95	1.58	2.4	0.611	0.19	0.55	0.42	4.40	1247.79
20	100	1.67	2.7	0.687	0.19	0.62	0.49	5.21	1489.80
21	105	1.75	3.3	0.840	0.19	0.76	0.65	6.82	1973.82
22	110	1.83	3.1	0.789	0.19	0.71	0.59	6.28	1812.48
23	115	1.92	2.9	0.738	0.19	0.66	0.54	5.75	1651.14
24	120	2.00	3.0	0.763	0.19	0.69	0.57	6.01	1731.81
25	125	2.08	3.1	0.789	0.19	0.71	0.59	6.28	1812.48
26	130	2.17	4.2	1.068	0.19	0.96	0.87	9.24	2699.85
27	135	2.25	5.0	1.272	0.19	1.14	1.08	11.39	3345.21
28	140	2.33	3.5	0.890	0.19	0.80	0.70	7.36	2135.16
29	145	2.42	6.8	1.730	0.19	1.56	1.54	16.23	4797.28
30	150	2.50	7.3	1.857	0.19	1.67	1.66	17.58	5200.63
31	155	2.58	8.2	2.086	0.19	1.88	1.89	20.00	5926.66
32	160	2.67	5.9	1.501	0.19	1.35	1.31	13.81	4071.24
33	165	2.75	2.0	0.509	0.19	0.46	0.31	3.33	925.11
34	170	2.83	1.8	0.458	0.19	0.41	0.26	2.79	763.76
35	175	2.92	1.8	0.458	0.19	0.41	0.26	2.79	763.76
36	180	3.00	0.6	0.153	0.19	0.14	0.02	0.16	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.54
FLOOD VOLUME (acft)	1.36
FLOOD VOLUME (cuft)	59173.82
REQUIRED STORAGE (acft)	1.29
REQUIRED STORAGE (cuft)	56095.73
PEAK FLOW RATE (cfs)	20.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.57
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.62
UNIT TIME-PERCENT OF LAG	308.6
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.194
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.24 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.167	0.19	0.15	0.02	0.18	0.00
2	10	0.17	0.6	0.200	0.19	0.18	0.01	0.06	0.00
3	15	0.25	0.6	0.200	0.19	0.18	0.01	0.06	0.00
4	20	0.33	0.6	0.200	0.19	0.18	0.01	0.06	0.00
5	25	0.42	0.6	0.200	0.19	0.18	0.01	0.06	0.00
6	30	0.50	0.7	0.234	0.19	0.21	0.04	0.42	52.19
7	35	0.58	0.7	0.234	0.19	0.21	0.04	0.42	52.19
8	40	0.67	0.7	0.234	0.19	0.21	0.04	0.42	52.19
9	45	0.75	0.7	0.234	0.19	0.21	0.04	0.42	52.19
10	50	0.83	0.7	0.234	0.19	0.21	0.04	0.42	52.19
11	55	0.92	0.7	0.234	0.19	0.21	0.04	0.42	52.19
12	60	1.00	0.8	0.267	0.19	0.24	0.07	0.77	157.98
13	65	1.08	0.8	0.267	0.19	0.24	0.07	0.77	157.98
14	70	1.17	0.8	0.267	0.19	0.24	0.07	0.77	157.98
15	75	1.25	0.8	0.267	0.19	0.24	0.07	0.77	157.98
16	80	1.33	0.8	0.267	0.19	0.24	0.07	0.77	157.98
17	85	1.42	0.8	0.267	0.19	0.24	0.07	0.77	157.98
18	90	1.50	0.8	0.267	0.19	0.24	0.07	0.77	157.98
19	95	1.58	0.8	0.267	0.19	0.24	0.07	0.77	157.98
20	100	1.67	0.8	0.267	0.19	0.24	0.07	0.77	157.98
21	105	1.75	0.8	0.267	0.19	0.24	0.07	0.77	157.98
22	110	1.83	0.8	0.267	0.19	0.24	0.07	0.77	157.98
23	115	1.92	0.8	0.267	0.19	0.24	0.07	0.77	157.98
24	120	2.00	0.9	0.300	0.19	0.27	0.11	1.12	263.76
25	125	2.08	0.8	0.267	0.19	0.24	0.07	0.77	157.98
26	130	2.17	0.9	0.300	0.19	0.27	0.11	1.12	263.76
27	135	2.25	0.9	0.300	0.19	0.27	0.11	1.12	263.76
28	140	2.33	0.9	0.300	0.19	0.27	0.11	1.12	263.76
29	145	2.42	0.9	0.300	0.19	0.27	0.11	1.12	263.76
30	150	2.50	0.9	0.300	0.19	0.27	0.11	1.12	263.76
31	155	2.58	0.9	0.300	0.19	0.27	0.11	1.12	263.76
32	160	2.67	0.9	0.300	0.19	0.27	0.11	1.12	263.76
33	165	2.75	1.0	0.334	0.19	0.30	0.14	1.47	369.55
34	170	2.83	1.0	0.334	0.19	0.30	0.14	1.47	369.55
35	175	2.92	1.0	0.334	0.19	0.30	0.14	1.47	369.55
36	180	3.00	1.0	0.334	0.19	0.30	0.14	1.47	369.55
37	185	3.08	1.0	0.334	0.19	0.30	0.14	1.47	369.55
38	190	3.17	1.1	0.367	0.19	0.33	0.17	1.83	475.33
39	195	3.25	1.1	0.367	0.19	0.33	0.17	1.83	475.33
40	200	3.33	1.1	0.367	0.19	0.33	0.17	1.83	475.33
41	205	3.42	1.2	0.400	0.19	0.36	0.21	2.18	581.11
42	210	3.50	1.3	0.434	0.19	0.39	0.24	2.53	686.90
43	215	3.58	1.4	0.467	0.19	0.42	0.27	2.88	792.68
44	220	3.67	1.4	0.467	0.19	0.42	0.27	2.88	792.68
45	225	3.75	1.5	0.500	0.19	0.45	0.31	3.24	898.47
46	230	3.83	1.5	0.500	0.19	0.45	0.31	3.24	898.47
47	235	3.92	1.6	0.534	0.19	0.48	0.34	3.59	1004.25
48	240	4.00	1.6	0.534	0.19	0.48	0.34	3.59	1004.25
49	245	4.08	1.7	0.567	0.19	0.51	0.37	3.94	1110.04
50	250	4.17	1.8	0.600	0.19	0.54	0.41	4.29	1215.82
51	255	4.25	1.9	0.634	0.19	0.57	0.44	4.65	1321.61
52	260	4.33	2.0	0.667	0.19	0.60	0.47	5.00	1427.39
53	265	4.42	2.1	0.701	0.19	0.63	0.51	5.35	1533.18
54	270	4.50	2.1	0.701	0.19	0.63	0.51	5.35	1533.18
55	275	4.58	2.2	0.734	0.19	0.66	0.54	5.71	1638.96
56	280	4.67	2.3	0.767	0.19	0.69	0.57	6.06	1744.75

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.57
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.62
UNIT TIME-PERCENT OF LAG	308.6
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.194
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.24 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.801	0.19	0.72	0.61	6.41	1850.53
58	290	4.83	2.4	0.801	0.19	0.72	0.61	6.41	1850.53
59	295	4.92	2.5	0.834	0.19	0.75	0.64	6.76	1956.31
60	300	5.00	2.6	0.867	0.19	0.78	0.67	7.12	2062.10
61	305	5.08	3.1	1.034	0.19	0.93	0.84	8.88	2591.02
62	310	5.17	3.6	1.201	0.19	1.08	1.01	10.64	3119.94
63	315	5.25	3.9	1.301	0.19	1.17	1.11	11.70	3437.30
64	320	5.33	4.2	1.401	0.19	1.26	1.21	12.76	3754.65
65	325	5.42	4.7	1.568	0.19	1.41	1.37	14.52	4283.57
66	330	5.50	5.6	1.868	0.19	1.68	1.67	17.69	5235.64
67	335	5.58	1.9	0.634	0.19	0.57	0.44	4.65	1321.61
68	340	5.67	0.9	0.300	0.19	0.27	0.11	1.12	263.76
69	345	5.75	0.6	0.200	0.19	0.18	0.01	0.06	0.00
70	350	5.83	0.5	0.167	0.19	0.15	0.02	0.18	0.00
71	355	5.92	0.3	0.100	0.19	0.09	0.01	0.11	0.00
72	360	6.00	0.2	0.067	0.19	0.06	0.01	0.07	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.64
FLOOD VOLUME (acft)	1.45
FLOOD VOLUME (cuft)	63008.73
REQUIRED STORAGE (acft)	1.32
REQUIRED STORAGE (cuft)	57661.37
PEAK FLOW RATE (cfs)	17.69

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.570	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.1942
LAG TIME - MINUTES	1.62	MINIMUM LOSS RATE (for var. loss) - in/hr	0.097
UNIT TIME-PERCENT OF LAG	925.8	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00180
		PERCOLATION RATE (cfs)	0.24

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.036	0.343	0.032	0.004	0.04	0.00
2	30	0.50	0.3	0.054	0.339	0.048	0.005	0.06	0.00
3	45	0.75	0.3	0.054	0.335	0.048	0.005	0.06	0.00
4	60	1.00	0.4	0.072	0.331	0.064	0.007	0.08	0.00
5	75	1.25	0.3	0.054	0.327	0.048	0.005	0.06	0.00
6	90	1.50	0.3	0.054	0.323	0.048	0.005	0.06	0.00
7	105	1.75	0.3	0.054	0.319	0.048	0.005	0.06	0.00
8	120	2.00	0.4	0.072	0.316	0.064	0.007	0.08	0.00
9	135	2.25	0.4	0.072	0.312	0.064	0.007	0.08	0.00
10	150	2.50	0.4	0.072	0.308	0.064	0.007	0.08	0.00
11	165	2.75	0.5	0.089	0.304	0.080	0.009	0.09	0.00
12	180	3.00	0.5	0.089	0.300	0.080	0.009	0.09	0.00
13	195	3.25	0.5	0.089	0.297	0.080	0.009	0.09	0.00
14	210	3.50	0.5	0.089	0.293	0.080	0.009	0.09	0.00
15	225	3.75	0.5	0.089	0.289	0.080	0.009	0.09	0.00
16	240	4.00	0.6	0.107	0.286	0.097	0.011	0.11	0.00
17	255	4.25	0.6	0.107	0.282	0.097	0.011	0.11	0.00
18	270	4.50	0.7	0.125	0.278	0.113	0.013	0.13	0.00
19	285	4.75	0.7	0.125	0.275	0.113	0.013	0.13	0.00
20	300	5.00	0.8	0.143	0.271	0.129	0.014	0.15	0.00
21	315	5.25	0.6	0.107	0.268	0.097	0.011	0.11	0.00
22	330	5.50	0.7	0.125	0.264	0.113	0.013	0.13	0.00
23	345	5.75	0.8	0.143	0.261	0.129	0.014	0.15	0.00
24	360	6.00	0.8	0.143	0.257	0.129	0.014	0.15	0.00
25	375	6.25	0.9	0.161	0.254	0.145	0.016	0.17	0.00
26	390	6.50	0.9	0.161	0.251	0.145	0.016	0.17	0.00
27	405	6.75	1.0	0.179	0.247	0.161	0.018	0.19	0.00
28	420	7.00	1.0	0.179	0.244	0.161	0.018	0.19	0.00
29	435	7.25	1.0	0.179	0.241	0.161	0.018	0.19	0.00
30	450	7.50	1.1	0.197	0.237	0.177	0.020	0.21	0.00
31	465	7.75	1.2	0.215	0.234	0.193	0.021	0.23	0.00
32	480	8.00	1.3	0.232	0.231	0.209	0.002	0.02	0.00
33	495	8.25	1.5	0.268	0.228	0.241	0.041	0.43	167.88
34	510	8.50	1.5	0.268	0.224	0.241	0.044	0.46	198.07
35	525	8.75	1.6	0.286	0.221	0.257	0.065	0.68	398.09
36	540	9.00	1.7	0.304	0.218	0.274	0.086	0.91	597.84
37	555	9.25	1.9	0.340	0.215	0.306	0.125	1.32	967.41
38	570	9.50	2.0	0.358	0.212	0.322	0.146	1.54	1166.63
39	585	9.75	2.1	0.375	0.209	0.338	0.166	1.76	1365.57
40	600	10.00	2.2	0.393	0.206	0.354	0.187	1.98	1564.23
41	615	10.25	1.5	0.268	0.203	0.241	0.065	0.69	401.88
42	630	10.50	1.5	0.268	0.200	0.241	0.068	0.72	429.90
43	645	10.75	2.0	0.358	0.197	0.322	0.160	1.70	1308.09
44	660	11.00	2.0	0.358	0.194	0.322	0.163	1.73	1335.54
45	675	11.25	1.9	0.340	0.191	0.306	0.148	1.57	1192.62
46	690	11.50	1.9	0.340	0.189	0.306	0.151	1.60	1219.49
47	705	11.75	1.7	0.304	0.186	0.274	0.118	1.25	905.90
48	720	12.00	1.8	0.322	0.183	0.290	0.139	1.47	1102.28
49	735	12.25	2.5	0.447	0.180	0.402	0.267	2.82	2318.92
50	750	12.50	2.6	0.465	0.178	0.418	0.287	3.04	2514.71
51	765	12.75	2.8	0.501	0.175	0.451	0.326	3.44	2880.29
52	780	13.00	2.9	0.519	0.172	0.467	0.346	3.66	3075.47
53	795	13.25	3.4	0.608	0.170	0.547	0.438	4.63	3950.71
54	810	13.50	3.4	0.608	0.167	0.547	0.441	4.66	3975.18
55	825	13.75	2.3	0.411	0.165	0.370	0.247	2.61	2128.32
56	840	14.00	2.3	0.411	0.162	0.370	0.249	2.63	2152.16
57	855	14.25	2.7	0.483	0.160	0.434	0.323	3.42	2856.04
58	870	14.50	2.6	0.465	0.157	0.418	0.308	3.25	2709.14
59	885	14.75	2.6	0.465	0.155	0.418	0.310	3.28	2732.00
60	900	15.00	2.5	0.447	0.152	0.402	0.295	3.11	2584.44
61	915	15.25	2.4	0.429	0.150	0.386	0.279	2.95	2436.54
62	930	15.50	2.3	0.411	0.148	0.370	0.263	2.78	2288.29
63	945	15.75	1.9	0.340	0.146	0.306	0.194	2.05	1629.43
64	960	16.00	1.9	0.340	0.143	0.306	0.196	2.08	1650.58
65	975	16.25	0.4	0.072	0.141	0.064	0.007	0.08	0.00
66	990	16.50	0.4	0.072	0.139	0.064	0.007	0.08	0.00
67	1005	16.75	0.3	0.054	0.137	0.048	0.005	0.06	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.570	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.1942
LAG TIME - MINUTES	1.62	MINIMUM LOSS RATE (for var. loss) - in/hr	0.097
UNIT TIME-PERCENT OF LAG	925.8	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00180
		PERCOLATION RATE (cfs)	0.24

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
68	1020	17.00	0.3	0.054	0.135	0.048	0.005	0.06	0.00
69	1035	17.25	0.5	0.089	0.133	0.080	0.009	0.09	0.00
70	1050	17.50	0.5	0.089	0.131	0.080	0.009	0.09	0.00
71	1065	17.75	0.5	0.089	0.129	0.080	0.009	0.09	0.00
72	1080	18.00	0.4	0.072	0.127	0.064	0.007	0.08	0.00
73	1095	18.25	0.4	0.072	0.125	0.064	0.007	0.08	0.00
74	1110	18.50	0.4	0.072	0.123	0.064	0.007	0.08	0.00
75	1125	18.75	0.3	0.054	0.121	0.048	0.005	0.06	0.00
76	1140	19.00	0.2	0.036	0.120	0.032	0.004	0.04	0.00
77	1155	19.25	0.3	0.054	0.118	0.048	0.005	0.06	0.00
78	1170	19.50	0.4	0.072	0.116	0.064	0.007	0.08	0.00
79	1185	19.75	0.3	0.054	0.115	0.048	0.005	0.06	0.00
80	1200	20.00	0.2	0.036	0.113	0.032	0.004	0.04	0.00
81	1215	20.25	0.3	0.054	0.112	0.048	0.005	0.06	0.00
82	1230	20.50	0.3	0.054	0.110	0.048	0.005	0.06	0.00
83	1245	20.75	0.3	0.054	0.109	0.048	0.005	0.06	0.00
84	1260	21.00	0.2	0.036	0.108	0.032	0.004	0.04	0.00
85	1275	21.25	0.3	0.054	0.106	0.048	0.005	0.06	0.00
86	1290	21.50	0.2	0.036	0.105	0.032	0.004	0.04	0.00
87	1305	21.75	0.3	0.054	0.104	0.048	0.005	0.06	0.00
88	1320	22.00	0.2	0.036	0.103	0.032	0.004	0.04	0.00
89	1335	22.25	0.3	0.054	0.102	0.048	0.005	0.06	0.00
90	1350	22.50	0.2	0.036	0.101	0.032	0.004	0.04	0.00
91	1365	22.75	0.2	0.036	0.100	0.032	0.004	0.04	0.00
92	1380	23.00	0.2	0.036	0.099	0.032	0.004	0.04	0.00
93	1395	23.25	0.2	0.036	0.099	0.032	0.004	0.04	0.00
94	1410	23.50	0.2	0.036	0.098	0.032	0.004	0.04	0.00
95	1425	23.75	0.2	0.036	0.097	0.032	0.004	0.04	0.00
96	1440	24.00	0.2	0.036	0.097	0.032	0.004	0.04	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.79
FLOOD VOLUME (acft)	1.58
FLOOD VOLUME (cuft)	68652.95
REQUIRED STORAGE (acft)	1.29
REQUIRED STORAGE (cuft)	56203.65
PEAK FLOW (cfs)	4.66

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
465	0	0		15600	0	0	0.00
466	1	1	1520	17120	16360	16360	0.38
467	1	2	1590	18710	17915	34275	0.79
468	1	3	1640	20350	19530	53805	1.24
468.5	0.5	3.5	850	21200	10388	64193	1.47

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.24 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.24 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	1.44	433	433	73	360	465.02	360	0.01
2	10	1.44	433	793	73	721	465.04	721	0.02
3	15	0.91	272	992	73	920	465.06	920	0.02
4	20	1.98	594	1,514	73	1,442	465.09	1,442	0.03
5	25	1.98	594	2,036	73	1,963	465.12	1,963	0.05
6	30	2.79	836	2,800	73	2,727	465.17	2,727	0.06
7	35	1.98	594	3,322	73	3,249	465.20	3,249	0.07
8	40	2.79	836	4,085	73	4,013	465.25	4,013	0.09
9	45	2.79	836	4,849	73	4,776	465.29	4,776	0.11
10	50	1.98	594	5,371	73	5,298	465.32	5,298	0.12
11	55	2.25	675	5,973	73	5,901	465.36	5,901	0.14
12	60	2.79	836	6,737	73	6,664	465.41	6,664	0.15
13	65	3.86	1,159	7,823	73	7,751	465.47	7,751	0.18
14	70	3.86	1,159	8,910	73	8,837	465.54	8,837	0.20
15	75	3.86	1,159	9,996	73	9,924	465.61	9,924	0.23
16	80	3.33	998	10,921	73	10,849	465.66	10,849	0.25
17	85	4.94	1,482	12,331	73	12,258	465.75	12,258	0.28
18	90	5.21	1,562	13,820	73	13,748	465.84	13,748	0.32
19	95	4.40	1,320	15,068	73	14,996	465.92	14,996	0.34
20	100	5.21	1,562	16,558	73	16,485	466.01	16,485	0.38
21	105	6.82	2,046	18,532	73	18,459	466.12	18,459	0.42
22	110	6.28	1,885	20,344	73	20,272	466.22	20,272	0.47
23	115	5.75	1,724	21,995	73	21,923	466.31	21,923	0.50
24	120	6.01	1,804	23,727	73	23,655	466.41	23,655	0.54
25	125	6.28	1,885	25,540	73	25,467	466.51	25,467	0.58
26	130	9.24	2,772	28,239	73	28,167	466.66	28,167	0.65
27	135	11.39	3,418	31,585	73	31,512	466.85	31,512	0.72
28	140	7.36	2,208	33,720	73	33,647	466.96	33,647	0.77
29	145	16.23	4,870	38,517	73	38,445	467.21	38,445	0.88
30	150	17.58	5,273	43,718	73	43,645	467.48	43,645	1.00
31	155	20.00	5,999	49,644	73	49,572	467.78	49,572	1.14
32	160	13.81	4,144	53,716	73	53,643	467.99	53,643	1.23
33	165	3.33	998	54,641	73	54,568	468.04	54,568	1.25
34	170	2.79	836	55,405	73	55,332	468.07	55,332	1.27
35	175	2.79	836	56,168	73	56,096	468.11	56,096	1.29
36	180	0.16	48	56,144	73	56,072	468.11	56,072	1.29

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.18	53	53	73	-	465.00	-	0.00
2	10	0.06	19	19	73	-	465.00	-	0.00
3	15	0.06	19	19	73	-	465.00	-	0.00
4	20	0.06	19	19	73	-	465.00	-	0.00
5	25	0.06	19	19	73	-	465.00	-	0.00
6	30	0.42	125	125	73	52	465.00	52	0.00
7	35	0.42	125	177	73	104	465.01	104	0.00
8	40	0.42	125	229	73	157	465.01	157	0.00
9	45	0.42	125	281	73	209	465.01	209	0.00
10	50	0.42	125	334	73	261	465.02	261	0.01
11	55	0.42	125	386	73	313	465.02	313	0.01
12	60	0.77	231	544	73	471	465.03	471	0.01
13	65	0.77	231	702	73	629	465.04	629	0.01
14	70	0.77	231	860	73	787	465.05	787	0.02
15	75	0.77	231	1,018	73	945	465.06	945	0.02
16	80	0.77	231	1,176	73	1,103	465.07	1,103	0.03
17	85	0.77	231	1,334	73	1,261	465.08	1,261	0.03
18	90	0.77	231	1,492	73	1,419	465.09	1,419	0.03
19	95	0.77	231	1,650	73	1,577	465.10	1,577	0.04
20	100	0.77	231	1,808	73	1,735	465.11	1,735	0.04
21	105	0.77	231	1,966	73	1,893	465.12	1,893	0.04
22	110	0.77	231	2,123	73	2,051	465.13	2,051	0.05
23	115	0.77	231	2,281	73	2,209	465.14	2,209	0.05
24	120	1.12	336	2,545	73	2,473	465.15	2,473	0.06
25	125	0.77	231	2,703	73	2,631	465.16	2,631	0.06
26	130	1.12	336	2,967	73	2,894	465.18	2,894	0.07
27	135	1.12	336	3,231	73	3,158	465.19	3,158	0.07
28	140	1.12	336	3,494	73	3,422	465.21	3,422	0.08
29	145	1.12	336	3,758	73	3,686	465.23	3,686	0.08
30	150	1.12	336	4,022	73	3,949	465.24	3,949	0.09
31	155	1.12	336	4,286	73	4,213	465.26	4,213	0.10
32	160	1.12	336	4,550	73	4,477	465.27	4,477	0.10
33	165	1.47	442	4,919	73	4,846	465.30	4,846	0.11
34	170	1.47	442	5,289	73	5,216	465.32	5,216	0.12
35	175	1.47	442	5,658	73	5,586	465.34	5,586	0.13
36	180	1.47	442	6,028	73	5,955	465.36	5,955	0.14
37	185	1.47	442	6,397	73	6,325	465.39	6,325	0.15
38	190	1.83	548	6,873	73	6,800	465.42	6,800	0.16
39	195	1.83	548	7,348	73	7,275	465.44	7,275	0.17
40	200	1.83	548	7,823	73	7,751	465.47	7,751	0.18
41	205	2.18	654	8,404	73	8,332	465.51	8,332	0.19
42	210	2.53	759	9,091	73	9,019	465.55	9,019	0.21
43	215	2.88	865	9,884	73	9,811	465.60	9,811	0.23
44	220	2.88	865	10,677	73	10,604	465.65	10,604	0.24
45	225	3.24	971	11,575	73	11,503	465.70	11,503	0.26
46	230	3.24	971	12,474	73	12,401	465.76	12,401	0.28
47	235	3.59	1,077	13,478	73	13,405	465.82	13,405	0.31
48	240	3.59	1,077	14,482	73	14,409	465.88	14,409	0.33
49	245	3.94	1,183	15,592	73	15,520	465.95	15,520	0.36
50	250	4.29	1,288	16,808	73	16,735	466.02	16,735	0.38
51	255	4.65	1,394	18,130	73	18,057	466.09	18,057	0.41
52	260	5.00	1,500	19,557	73	19,484	466.17	19,484	0.45
53	265	5.35	1,606	21,090	73	21,018	466.26	21,018	0.48
54	270	5.35	1,606	22,623	73	22,551	466.35	22,551	0.52
55	275	5.71	1,712	24,262	73	24,190	466.44	24,190	0.56

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	6.06	1,817	26,007	73	25,934	466.53	25,934	0.60
57	285	6.41	1,923	27,858	73	27,785	466.64	27,785	0.64
58	290	6.41	1,923	29,708	73	29,635	466.74	29,635	0.68
59	295	6.76	2,029	31,664	73	31,592	466.85	31,592	0.73
60	300	7.12	2,135	33,726	73	33,654	466.97	33,654	0.77
61	305	8.88	2,664	36,317	73	36,245	467.10	36,245	0.83
62	310	10.64	3,193	39,437	73	39,365	467.26	39,365	0.90
63	315	11.70	3,510	42,875	73	42,802	467.44	42,802	0.98
64	320	12.76	3,827	46,629	73	46,557	467.63	46,557	1.07
65	325	14.52	4,356	50,913	73	50,840	467.85	50,840	1.17
66	330	17.69	5,308	56,149	73	56,076	468.11	56,076	1.29
67	335	4.65	1,394	57,470	73	57,398	468.17	57,398	1.32
68	340	1.12	336	57,734	73	57,661	468.19	57,661	1.32
69	345	0.06	19	57,680	73	57,608	468.18	57,608	1.32
70	350	0.18	53	57,661	73	57,588	468.18	57,588	1.32
71	355	0.11	32	57,620	73	57,547	468.18	57,547	1.32
72	360	0.07	21	57,568	73	57,496	468.18	57,496	1.32

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.04	34	34	218	-	465.00	-	0.00
2	30	0.06	51	51	218	-	465.00	-	0.00
3	45	0.06	51	51	218	-	465.00	-	0.00
4	60	0.08	68	68	218	-	465.00	-	0.00
5	75	0.06	51	51	218	-	465.00	-	0.00
6	90	0.06	51	51	218	-	465.00	-	0.00
7	105	0.06	51	51	218	-	465.00	-	0.00
8	120	0.08	68	68	218	-	465.00	-	0.00
9	135	0.08	68	68	218	-	465.00	-	0.00
10	150	0.08	68	68	218	-	465.00	-	0.00
11	165	0.09	85	85	218	-	465.00	-	0.00
12	180	0.09	85	85	218	-	465.00	-	0.00
13	195	0.09	85	85	218	-	465.00	-	0.00
14	210	0.09	85	85	218	-	465.00	-	0.00
15	225	0.09	85	85	218	-	465.00	-	0.00
16	240	0.11	102	102	218	-	465.00	-	0.00
17	255	0.11	102	102	218	-	465.00	-	0.00
18	270	0.13	119	119	218	-	465.00	-	0.00
19	285	0.13	119	119	218	-	465.00	-	0.00
20	300	0.15	136	136	218	-	465.00	-	0.00
21	315	0.11	102	102	218	-	465.00	-	0.00
22	330	0.13	119	119	218	-	465.00	-	0.00
23	345	0.15	136	136	218	-	465.00	-	0.00
24	360	0.15	136	136	218	-	465.00	-	0.00
25	375	0.17	153	153	218	-	465.00	-	0.00
26	390	0.17	153	153	218	-	465.00	-	0.00
27	405	0.19	170	170	218	-	465.00	-	0.00
28	420	0.19	170	170	218	-	465.00	-	0.00
29	435	0.19	170	170	218	-	465.00	-	0.00
30	450	0.21	187	187	218	-	465.00	-	0.00
31	465	0.23	204	204	218	-	465.00	-	0.00
32	480	0.02	15	15	218	-	465.00	-	0.00
33	495	0.43	386	386	218	168	465.01	168	0.00
34	510	0.46	416	584	218	366	465.02	366	0.01
35	525	0.68	616	982	218	764	465.05	764	0.02
36	540	0.91	816	1,580	218	1,362	465.08	1,362	0.03
37	555	1.32	1,185	2,547	218	2,329	465.14	2,329	0.05
38	570	1.54	1,384	3,714	218	3,496	465.21	3,496	0.08
39	585	1.76	1,583	5,079	218	4,861	465.30	4,861	0.11
40	600	1.98	1,782	6,643	218	6,426	465.39	6,426	0.15
41	615	0.69	620	7,045	218	6,828	465.42	6,828	0.16
42	630	0.72	648	7,475	218	7,257	465.44	7,257	0.17
43	645	1.70	1,526	8,783	218	8,566	465.52	8,566	0.20
44	660	1.73	1,553	10,119	218	9,901	465.61	9,901	0.23
45	675	1.57	1,410	11,311	218	11,094	465.68	11,094	0.25
46	690	1.60	1,437	12,531	218	12,313	465.75	12,313	0.28
47	705	1.25	1,124	13,437	218	13,219	465.81	13,219	0.30
48	720	1.47	1,320	14,539	218	14,321	465.88	14,321	0.33
49	735	2.82	2,537	16,858	218	16,640	466.02	16,640	0.38
50	750	3.04	2,732	19,373	218	19,155	466.16	19,155	0.44
51	765	3.44	3,098	22,253	218	22,035	466.32	22,035	0.51
52	780	3.66	3,293	25,329	218	25,111	466.49	25,111	0.58
53	795	4.63	4,168	29,279	218	29,062	466.71	29,062	0.67
54	810	4.66	4,193	33,254	218	33,037	466.93	33,037	0.76
55	825	2.61	2,346	35,383	218	35,165	467.05	35,165	0.81
56	840	2.63	2,370	37,535	218	37,317	467.16	37,317	0.86
57	855	3.42	3,074	40,391	218	40,173	467.30	40,173	0.92
58	870	3.25	2,927	43,100	218	42,882	467.44	42,882	0.98

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	3.28	2,950	45,832	218	45,614	467.58	45,614	1.05
60	900	3.11	2,802	48,417	218	48,199	467.71	48,199	1.11
61	915	2.95	2,654	50,853	218	50,635	467.84	50,635	1.16
62	930	2.78	2,506	53,141	218	52,924	467.95	52,924	1.21
63	945	2.05	1,847	54,771	218	54,553	468.04	54,553	1.25
64	960	2.08	1,868	56,421	218	56,204	468.12	56,204	1.29
65	975	0.08	68	56,272	218	56,054	468.11	56,054	1.29
66	990	0.08	68	56,122	218	55,904	468.10	55,904	1.28
67	1005	0.06	51	55,955	218	55,738	468.09	55,738	1.28
68	1020	0.06	51	55,789	218	55,571	468.08	55,571	1.28
69	1035	0.09	85	55,656	218	55,438	468.08	55,438	1.27
70	1050	0.09	85	55,523	218	55,305	468.07	55,305	1.27
71	1065	0.09	85	55,390	218	55,173	468.07	55,173	1.27
72	1080	0.08	68	55,241	218	55,023	468.06	55,023	1.26
73	1095	0.08	68	55,091	218	54,873	468.05	54,873	1.26
74	1110	0.08	68	54,941	218	54,724	468.04	54,724	1.26
75	1125	0.06	51	54,775	218	54,557	468.04	54,557	1.25
76	1140	0.04	34	54,591	218	54,373	468.03	54,373	1.25
77	1155	0.06	51	54,424	218	54,206	468.02	54,206	1.24
78	1170	0.08	68	54,274	218	54,057	468.01	54,057	1.24
79	1185	0.06	51	54,108	218	53,890	468.00	53,890	1.24
80	1200	0.04	34	53,924	218	53,706	467.99	53,706	1.23
81	1215	0.06	51	53,757	218	53,539	467.99	53,539	1.23
82	1230	0.06	51	53,590	218	53,373	467.98	53,373	1.23
83	1245	0.06	51	53,424	218	53,206	467.97	53,206	1.22
84	1260	0.04	34	53,240	218	53,022	467.96	53,022	1.22
85	1275	0.06	51	53,073	218	52,856	467.95	52,856	1.21
86	1290	0.04	34	52,890	218	52,672	467.94	52,672	1.21
87	1305	0.06	51	52,723	218	52,505	467.93	52,505	1.21
88	1320	0.04	34	52,539	218	52,321	467.92	52,321	1.20
89	1335	0.06	51	52,372	218	52,155	467.92	52,155	1.20
90	1350	0.04	34	52,189	218	51,971	467.91	51,971	1.19
91	1365	0.04	34	52,005	218	51,787	467.90	51,787	1.19
92	1380	0.04	34	51,821	218	51,603	467.89	51,603	1.18
93	1395	0.04	34	51,637	218	51,420	467.88	51,420	1.18
94	1410	0.04	34	51,454	218	51,236	467.87	51,236	1.18
95	1425	0.04	34	51,270	218	51,052	467.86	51,052	1.17
96	1440	0.04	34	51,086	218	50,869	467.85	50,869	1.17

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 100 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 3		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	2.56		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	6.65		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	1.04		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	750		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	170		
30				
31	ELEVATION OF HEADWATER	471.8		
32	ELEVATION OF CONCENTRATION POINT	468.5		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	2.12		
40	6-HOUR	2.78		
41	24-HOUR	4.47		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		465	15000	
45		466	16600	
46		467	18250	
47		468	19960	
48		468.5	20831	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 3
[3] AREA - ACRES	10.250
[4] L-FEET	750
[5] L-MILES	0.142
[6] La-FEET	170.00
[7] La-MILES	0.032
[8] ELEVATION OF HEADWATER	471.8
[9] ELEVATION OF CONCENTRATION POINT	468.5
[10] H-FEET	3.3
[11] S-FEET/MILE	23.2
[12] S^0.5	4.82
[13] L*LCA/S^0.5	0.001
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.03
[16] LAG TIME-MINUTES	2.0
[17] 100% OF LAG-MINUTES	2.0
[18] 200% OF LAG-MINUTES	4.1
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.23

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
2.12	10.250	1.00	2.12	2.78	10.250	1.00	2.78	4.47	10.250	1.00	4.47
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	10.25	SUM [7]	2.12	SUM [9]	10.25	SUM [11]	2.78	SUM [13]	10.25	SUM [15]	4.47
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			2.12				2.78				4.47

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.51	1.59	1.71
FLOOD VOLUME	(cu-ft)	56,125	59,056	63,525
	(acre-ft)	1.29	1.36	1.46
REQUIRED STORAGE	(cu-ft)	53,172	53,709	51,340
	(acre-ft)	1.22	1.23	1.18
PEAK FLOW	(cfs)	19.27	17.04	4.42
MAXIMUM WSEL	(ft)	468.04	468.07	467.95

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	2.56	0.250	0.0130
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	6.65	0.649	0.1400
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	1.04	0.101	0.0528
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		10.25	SUM	0.2058

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.102877561
C= 0.00191

Ft=C(24-(T/60))^1.55 = 0.00191 (24-(T/60))^1.55 + 0.10 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period,
T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.25
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.05
UNIT TIME-PERCENT OF LAG	244.5
TOTAL ADJUSTED STORM RAIN-INCHES	2.12
CONSTANT LOSS RATE-in/hr	0.21
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.23 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.331	0.21	0.30	0.12	1.28	314.48
2	10	0.17	1.3	0.331	0.21	0.30	0.12	1.28	314.48
3	15	0.25	1.1	0.280	0.21	0.25	0.07	0.76	158.02
4	20	0.33	1.5	0.382	0.21	0.34	0.18	1.80	470.93
5	25	0.42	1.5	0.382	0.21	0.34	0.18	1.80	470.93
6	30	0.50	1.8	0.458	0.21	0.41	0.25	2.58	705.62
7	35	0.58	1.5	0.382	0.21	0.34	0.18	1.80	470.93
8	40	0.67	1.8	0.458	0.21	0.41	0.25	2.58	705.62
9	45	0.75	1.8	0.458	0.21	0.41	0.25	2.58	705.62
10	50	0.83	1.5	0.382	0.21	0.34	0.18	1.80	470.93
11	55	0.92	1.6	0.407	0.21	0.37	0.20	2.06	549.16
12	60	1.00	1.8	0.458	0.21	0.41	0.25	2.58	705.62
13	65	1.08	2.2	0.560	0.21	0.50	0.35	3.63	1018.53
14	70	1.17	2.2	0.560	0.21	0.50	0.35	3.63	1018.53
15	75	1.25	2.2	0.560	0.21	0.50	0.35	3.63	1018.53
16	80	1.33	2.0	0.509	0.21	0.46	0.30	3.11	862.07
17	85	1.42	2.6	0.661	0.21	0.60	0.46	4.67	1331.44
18	90	1.50	2.7	0.687	0.21	0.62	0.48	4.93	1409.67
19	95	1.58	2.4	0.611	0.21	0.55	0.40	4.15	1174.98
20	100	1.67	2.7	0.687	0.21	0.62	0.48	4.93	1409.67
21	105	1.75	3.3	0.840	0.21	0.76	0.63	6.50	1879.04
22	110	1.83	3.1	0.789	0.21	0.71	0.58	5.97	1722.58
23	115	1.92	2.9	0.738	0.21	0.66	0.53	5.45	1566.12
24	120	2.00	3.0	0.763	0.21	0.69	0.56	5.71	1644.35
25	125	2.08	3.1	0.789	0.21	0.71	0.58	5.97	1722.58
26	130	2.17	4.2	1.068	0.21	0.96	0.86	8.84	2583.09
27	135	2.25	5.0	1.272	0.21	1.14	1.07	10.93	3208.91
28	140	2.33	3.5	0.890	0.21	0.80	0.68	7.02	2035.49
29	145	2.42	6.8	1.730	0.21	1.56	1.52	15.62	4617.02
30	150	2.50	7.3	1.857	0.21	1.67	1.65	16.93	5008.16
31	155	2.58	8.2	2.086	0.21	1.88	1.88	19.27	5712.21
32	160	2.67	5.9	1.501	0.21	1.35	1.30	13.28	3912.96
33	165	2.75	2.0	0.509	0.21	0.46	0.30	3.11	862.07
34	170	2.83	1.8	0.458	0.21	0.41	0.25	2.58	705.62
35	175	2.92	1.8	0.458	0.21	0.41	0.25	2.58	705.62
36	180	3.00	0.6	0.153	0.21	0.14	0.02	0.16	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.51
FLOOD VOLUME (acft)	1.29
FLOOD VOLUME (cuft)	56125.24
REQUIRED STORAGE (acft)	1.22
REQUIRED STORAGE (cuft)	53171.53
PEAK FLOW RATE (cfs)	19.27

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.25
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.05
UNIT TIME-PERCENT OF LAG	244.5
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.206
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.23 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.167	0.21	0.15	0.02	0.17	0.00
2	10	0.17	0.6	0.200	0.21	0.18	0.02	0.21	0.00
3	15	0.25	0.6	0.200	0.21	0.18	0.02	0.21	0.00
4	20	0.33	0.6	0.200	0.21	0.18	0.02	0.21	0.00
5	25	0.42	0.6	0.200	0.21	0.18	0.02	0.21	0.00
6	30	0.50	0.7	0.234	0.21	0.21	0.03	0.28	15.59
7	35	0.58	0.7	0.234	0.21	0.21	0.03	0.28	15.59
8	40	0.67	0.7	0.234	0.21	0.21	0.03	0.28	15.59
9	45	0.75	0.7	0.234	0.21	0.21	0.03	0.28	15.59
10	50	0.83	0.7	0.234	0.21	0.21	0.03	0.28	15.59
11	55	0.92	0.7	0.234	0.21	0.21	0.03	0.28	15.59
12	60	1.00	0.8	0.267	0.21	0.24	0.06	0.63	118.17
13	65	1.08	0.8	0.267	0.21	0.24	0.06	0.63	118.17
14	70	1.17	0.8	0.267	0.21	0.24	0.06	0.63	118.17
15	75	1.25	0.8	0.267	0.21	0.24	0.06	0.63	118.17
16	80	1.33	0.8	0.267	0.21	0.24	0.06	0.63	118.17
17	85	1.42	0.8	0.267	0.21	0.24	0.06	0.63	118.17
18	90	1.50	0.8	0.267	0.21	0.24	0.06	0.63	118.17
19	95	1.58	0.8	0.267	0.21	0.24	0.06	0.63	118.17
20	100	1.67	0.8	0.267	0.21	0.24	0.06	0.63	118.17
21	105	1.75	0.8	0.267	0.21	0.24	0.06	0.63	118.17
22	110	1.83	0.8	0.267	0.21	0.24	0.06	0.63	118.17
23	115	1.92	0.8	0.267	0.21	0.24	0.06	0.63	118.17
24	120	2.00	0.9	0.300	0.21	0.27	0.09	0.97	220.75
25	125	2.08	0.8	0.267	0.21	0.24	0.06	0.63	118.17
26	130	2.17	0.9	0.300	0.21	0.27	0.09	0.97	220.75
27	135	2.25	0.9	0.300	0.21	0.27	0.09	0.97	220.75
28	140	2.33	0.9	0.300	0.21	0.27	0.09	0.97	220.75
29	145	2.42	0.9	0.300	0.21	0.27	0.09	0.97	220.75
30	150	2.50	0.9	0.300	0.21	0.27	0.09	0.97	220.75
31	155	2.58	0.9	0.300	0.21	0.27	0.09	0.97	220.75
32	160	2.67	0.9	0.300	0.21	0.27	0.09	0.97	220.75
33	165	2.75	1.0	0.334	0.21	0.30	0.13	1.31	323.33
34	170	2.83	1.0	0.334	0.21	0.30	0.13	1.31	323.33
35	175	2.92	1.0	0.334	0.21	0.30	0.13	1.31	323.33
36	180	3.00	1.0	0.334	0.21	0.30	0.13	1.31	323.33
37	185	3.08	1.0	0.334	0.21	0.30	0.13	1.31	323.33
38	190	3.17	1.1	0.367	0.21	0.33	0.16	1.65	425.91
39	195	3.25	1.1	0.367	0.21	0.33	0.16	1.65	425.91
40	200	3.33	1.1	0.367	0.21	0.33	0.16	1.65	425.91
41	205	3.42	1.2	0.400	0.21	0.36	0.19	1.99	528.50
42	210	3.50	1.3	0.434	0.21	0.39	0.23	2.34	631.08
43	215	3.58	1.4	0.467	0.21	0.42	0.26	2.68	733.66
44	220	3.67	1.4	0.467	0.21	0.42	0.26	2.68	733.66
45	225	3.75	1.5	0.500	0.21	0.45	0.29	3.02	836.24
46	230	3.83	1.5	0.500	0.21	0.45	0.29	3.02	836.24
47	235	3.92	1.6	0.534	0.21	0.48	0.33	3.36	938.82
48	240	4.00	1.6	0.534	0.21	0.48	0.33	3.36	938.82
49	245	4.08	1.7	0.567	0.21	0.51	0.36	3.70	1041.41
50	250	4.17	1.8	0.600	0.21	0.54	0.39	4.05	1143.99
51	255	4.25	1.9	0.634	0.21	0.57	0.43	4.39	1246.57
52	260	4.33	2.0	0.667	0.21	0.60	0.46	4.73	1349.15
53	265	4.42	2.1	0.701	0.21	0.63	0.49	5.07	1451.73
54	270	4.50	2.1	0.701	0.21	0.63	0.49	5.07	1451.73
55	275	4.58	2.2	0.734	0.21	0.66	0.53	5.41	1554.32
56	280	4.67	2.3	0.767	0.21	0.69	0.56	5.76	1656.90

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.25
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.05
UNIT TIME-PERCENT OF LAG	244.5
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.206
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.23 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.801	0.21	0.72	0.59	6.10	1759.48
58	290	4.83	2.4	0.801	0.21	0.72	0.59	6.10	1759.48
59	295	4.92	2.5	0.834	0.21	0.75	0.63	6.44	1862.06
60	300	5.00	2.6	0.867	0.21	0.78	0.66	6.78	1964.64
61	305	5.08	3.1	1.034	0.21	0.93	0.83	8.49	2477.55
62	310	5.17	3.6	1.201	0.21	1.08	1.00	10.20	2990.46
63	315	5.25	3.9	1.301	0.21	1.17	1.10	11.23	3298.21
64	320	5.33	4.2	1.401	0.21	1.26	1.20	12.25	3605.96
65	325	5.42	4.7	1.568	0.21	1.41	1.36	13.96	4118.87
66	330	5.50	5.6	1.868	0.21	1.68	1.66	17.04	5042.10
67	335	5.58	1.9	0.634	0.21	0.57	0.43	4.39	1246.57
68	340	5.67	0.9	0.300	0.21	0.27	0.09	0.97	220.75
69	345	5.75	0.6	0.200	0.21	0.18	0.02	0.21	0.00
70	350	5.83	0.5	0.167	0.21	0.15	0.02	0.17	0.00
71	355	5.92	0.3	0.100	0.21	0.09	0.01	0.10	0.00
72	360	6.00	0.2	0.067	0.21	0.06	0.01	0.07	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.59
FLOOD VOLUME (acft)	1.36
FLOOD VOLUME (cuft)	59055.81
REQUIRED STORAGE (acft)	1.23
REQUIRED STORAGE (cuft)	53709.02
PEAK FLOW RATE (cfs)	17.04

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.250	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2058
LAG TIME - MINUTES	2.05	MINIMUM LOSS RATE (for var. loss) - in/hr	0.103
UNIT TIME-PERCENT OF LAG	733.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00191
		PERCOLATION RATE (cfs)	0.23

Unit Time Period	Time		Pattern	Storm	Loss Rate		Effective	Flood	Required
	Minutes	Hours	Percent	Rain in/hr	in/hr		Rain	Hydrograph Flow	Storage
			(Plate E-5.9)		Max	Low	in/hr	cfs	cf
1	15	0.25	0.2	0.036	0.363	0.032	0.004	0.04	0.00
2	30	0.50	0.3	0.054	0.359	0.048	0.005	0.05	0.00
3	45	0.75	0.3	0.054	0.355	0.048	0.005	0.05	0.00
4	60	1.00	0.4	0.072	0.351	0.064	0.007	0.07	0.00
5	75	1.25	0.3	0.054	0.347	0.048	0.005	0.05	0.00
6	90	1.50	0.3	0.054	0.343	0.048	0.005	0.05	0.00
7	105	1.75	0.3	0.054	0.338	0.048	0.005	0.05	0.00
8	120	2.00	0.4	0.072	0.334	0.064	0.007	0.07	0.00
9	135	2.25	0.4	0.072	0.330	0.064	0.007	0.07	0.00
10	150	2.50	0.4	0.072	0.326	0.064	0.007	0.07	0.00
11	165	2.75	0.5	0.089	0.322	0.080	0.009	0.09	0.00
12	180	3.00	0.5	0.089	0.318	0.080	0.009	0.09	0.00
13	195	3.25	0.5	0.089	0.314	0.080	0.009	0.09	0.00
14	210	3.50	0.5	0.089	0.310	0.080	0.009	0.09	0.00
15	225	3.75	0.5	0.089	0.307	0.080	0.009	0.09	0.00
16	240	4.00	0.6	0.107	0.303	0.097	0.011	0.11	0.00
17	255	4.25	0.6	0.107	0.299	0.097	0.011	0.11	0.00
18	270	4.50	0.7	0.125	0.295	0.113	0.013	0.13	0.00
19	285	4.75	0.7	0.125	0.291	0.113	0.013	0.13	0.00
20	300	5.00	0.8	0.143	0.288	0.129	0.014	0.15	0.00
21	315	5.25	0.6	0.107	0.284	0.097	0.011	0.11	0.00
22	330	5.50	0.7	0.125	0.280	0.113	0.013	0.13	0.00
23	345	5.75	0.8	0.143	0.276	0.129	0.014	0.15	0.00
24	360	6.00	0.8	0.143	0.273	0.129	0.014	0.15	0.00
25	375	6.25	0.9	0.161	0.269	0.145	0.016	0.16	0.00
26	390	6.50	0.9	0.161	0.266	0.145	0.016	0.16	0.00
27	405	6.75	1.0	0.179	0.262	0.161	0.018	0.18	0.00
28	420	7.00	1.0	0.179	0.258	0.161	0.018	0.18	0.00
29	435	7.25	1.0	0.179	0.255	0.161	0.018	0.18	0.00
30	450	7.50	1.1	0.197	0.252	0.177	0.020	0.20	0.00
31	465	7.75	1.2	0.215	0.248	0.193	0.021	0.22	0.00
32	480	8.00	1.3	0.232	0.245	0.209	0.023	0.24	5.05
33	495	8.25	1.5	0.268	0.241	0.241	0.027	0.28	39.29
34	510	8.50	1.5	0.268	0.238	0.241	0.030	0.31	70.31
35	525	8.75	1.6	0.286	0.235	0.257	0.052	0.53	266.00
36	540	9.00	1.7	0.304	0.231	0.274	0.073	0.75	461.42
37	555	9.25	1.9	0.340	0.228	0.306	0.112	1.15	821.51
38	570	9.50	2.0	0.358	0.225	0.322	0.133	1.36	1016.37
39	585	9.75	2.1	0.375	0.222	0.338	0.154	1.58	1210.96
40	600	10.00	2.2	0.393	0.218	0.354	0.175	1.79	1405.26
41	615	10.25	1.5	0.268	0.215	0.241	0.053	0.54	279.74
42	630	10.50	1.5	0.268	0.212	0.241	0.056	0.58	308.53
43	645	10.75	2.0	0.358	0.209	0.322	0.149	1.52	1161.74
44	660	11.00	2.0	0.358	0.206	0.322	0.152	1.55	1189.95
45	675	11.25	1.9	0.340	0.203	0.306	0.137	1.40	1052.92
46	690	11.50	1.9	0.340	0.200	0.306	0.140	1.43	1080.54
47	705	11.75	1.7	0.304	0.197	0.274	0.107	1.10	777.97
48	720	12.00	1.8	0.322	0.194	0.290	0.128	1.31	969.93
49	735	12.25	2.5	0.447	0.191	0.402	0.256	2.62	2151.25
50	750	12.50	2.6	0.465	0.188	0.418	0.277	2.84	2342.59
51	765	12.75	2.8	0.501	0.185	0.451	0.315	3.23	2698.57
52	780	13.00	2.9	0.519	0.183	0.467	0.336	3.44	2889.30
53	795	13.25	3.4	0.608	0.180	0.547	0.428	4.39	3739.48
54	810	13.50	3.4	0.608	0.177	0.547	0.431	4.42	3764.62
55	825	13.75	2.3	0.411	0.174	0.370	0.237	2.43	1975.07
56	840	14.00	2.3	0.411	0.172	0.370	0.239	2.45	1999.56
57	855	14.25	2.7	0.483	0.169	0.434	0.314	3.21	2683.50
58	870	14.50	2.6	0.465	0.167	0.418	0.298	3.06	2542.39
59	885	14.75	2.6	0.465	0.164	0.418	0.301	3.08	2565.88
60	900	15.00	2.5	0.447	0.162	0.402	0.285	2.93	2424.08
61	915	15.25	2.4	0.429	0.159	0.386	0.270	2.77	2281.94
62	930	15.50	2.3	0.411	0.157	0.370	0.255	2.61	2139.45
63	945	15.75	1.9	0.340	0.154	0.306	0.185	1.90	1501.78
64	960	16.00	1.9	0.340	0.152	0.306	0.188	1.93	1523.52
65	975	16.25	0.4	0.072	0.150	0.064	0.007	0.07	0.00
66	990	16.50	0.4	0.072	0.147	0.064	0.007	0.07	0.00
67	1005	16.75	0.3	0.054	0.145	0.048	0.005	0.05	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	10.250	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2058
LAG TIME - MINUTES	2.05	MINIMUM LOSS RATE (for var. loss) - in/hr	0.103
UNIT TIME-PERCENT OF LAG	733.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00191
		PERCOLATION RATE (cfs)	0.23

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
68	1020	17.00	0.3	0.054	0.143	0.048	0.005	0.05	0.00
69	1035	17.25	0.5	0.089	0.141	0.080	0.009	0.09	0.00
70	1050	17.50	0.5	0.089	0.139	0.080	0.009	0.09	0.00
71	1065	17.75	0.5	0.089	0.137	0.080	0.009	0.09	0.00
72	1080	18.00	0.4	0.072	0.134	0.064	0.007	0.07	0.00
73	1095	18.25	0.4	0.072	0.133	0.064	0.007	0.07	0.00
74	1110	18.50	0.4	0.072	0.131	0.064	0.007	0.07	0.00
75	1125	18.75	0.3	0.054	0.129	0.048	0.005	0.05	0.00
76	1140	19.00	0.2	0.036	0.127	0.032	0.004	0.04	0.00
77	1155	19.25	0.3	0.054	0.125	0.048	0.005	0.05	0.00
78	1170	19.50	0.4	0.072	0.123	0.064	0.007	0.07	0.00
79	1185	19.75	0.3	0.054	0.122	0.048	0.005	0.05	0.00
80	1200	20.00	0.2	0.036	0.120	0.032	0.004	0.04	0.00
81	1215	20.25	0.3	0.054	0.118	0.048	0.005	0.05	0.00
82	1230	20.50	0.3	0.054	0.117	0.048	0.005	0.05	0.00
83	1245	20.75	0.3	0.054	0.115	0.048	0.005	0.05	0.00
84	1260	21.00	0.2	0.036	0.114	0.032	0.004	0.04	0.00
85	1275	21.25	0.3	0.054	0.113	0.048	0.005	0.05	0.00
86	1290	21.50	0.2	0.036	0.111	0.032	0.004	0.04	0.00
87	1305	21.75	0.3	0.054	0.110	0.048	0.005	0.05	0.00
88	1320	22.00	0.2	0.036	0.109	0.032	0.004	0.04	0.00
89	1335	22.25	0.3	0.054	0.108	0.048	0.005	0.05	0.00
90	1350	22.50	0.2	0.036	0.107	0.032	0.004	0.04	0.00
91	1365	22.75	0.2	0.036	0.106	0.032	0.004	0.04	0.00
92	1380	23.00	0.2	0.036	0.105	0.032	0.004	0.04	0.00
93	1395	23.25	0.2	0.036	0.104	0.032	0.004	0.04	0.00
94	1410	23.50	0.2	0.036	0.104	0.032	0.004	0.04	0.00
95	1425	23.75	0.2	0.036	0.103	0.032	0.004	0.04	0.00
96	1440	24.00	0.2	0.036	0.103	0.032	0.004	0.04	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.71
FLOOD VOLUME (acft)	1.46
FLOOD VOLUME (cuft)	63525.46
REQUIRED STORAGE (acft)	1.18
REQUIRED STORAGE (cuft)	51340.48
PEAK FLOW (cfs)	4.42

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
465	0	0		15000	0	0	0.00
466	1	1	1600	16600	15800	15800	0.36
467	1	2	1650	18250	17425	33225	0.76
468	1	3	1710	19960	19105	52330	1.20
468.5	0.5	3.5	871	20831	10198	62528	1.44

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.23 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.23 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	1.28	384	384	70	314	465.02	314	0.01
2	10	1.28	384	699	70	629	465.04	629	0.01
3	15	0.76	228	857	70	787	465.05	787	0.02
4	20	1.80	541	1,328	70	1,258	465.08	1,258	0.03
5	25	1.80	541	1,799	70	1,729	465.11	1,729	0.04
6	30	2.58	775	2,504	70	2,434	465.15	2,434	0.06
7	35	1.80	541	2,975	70	2,905	465.18	2,905	0.07
8	40	2.58	775	3,681	70	3,611	465.23	3,611	0.08
9	45	2.58	775	4,386	70	4,317	465.27	4,317	0.10
10	50	1.80	541	4,857	70	4,788	465.30	4,788	0.11
11	55	2.06	619	5,406	70	5,337	465.34	5,337	0.12
12	60	2.58	775	6,112	70	6,042	465.38	6,042	0.14
13	65	3.63	1,088	7,131	70	7,061	465.45	7,061	0.16
14	70	3.63	1,088	8,149	70	8,079	465.51	8,079	0.19
15	75	3.63	1,088	9,168	70	9,098	465.58	9,098	0.21
16	80	3.11	932	10,030	70	9,960	465.63	9,960	0.23
17	85	4.67	1,401	11,361	70	11,291	465.71	11,291	0.26
18	90	4.93	1,479	12,771	70	12,701	465.80	12,701	0.29
19	95	4.15	1,245	13,946	70	13,876	465.88	13,876	0.32
20	100	4.93	1,479	15,356	70	15,286	465.97	15,286	0.35
21	105	6.50	1,949	17,235	70	17,165	466.08	17,165	0.39
22	110	5.97	1,792	18,957	70	18,887	466.18	18,887	0.43
23	115	5.45	1,636	20,523	70	20,453	466.27	20,453	0.47
24	120	5.71	1,714	22,168	70	22,098	466.36	22,098	0.51
25	125	5.97	1,792	23,890	70	23,820	466.46	23,820	0.55
26	130	8.84	2,653	26,473	70	26,403	466.61	26,403	0.61
27	135	10.93	3,279	29,682	70	29,612	466.79	29,612	0.68
28	140	7.02	2,105	31,718	70	31,648	466.91	31,648	0.73
29	145	15.62	4,687	36,335	70	36,265	467.16	36,265	0.83
30	150	16.93	5,078	41,343	70	41,273	467.42	41,273	0.95
31	155	19.27	5,782	47,055	70	46,985	467.72	46,985	1.08
32	160	13.28	3,983	50,968	70	50,898	467.93	50,898	1.17
33	165	3.11	932	51,830	70	51,760	467.97	51,760	1.19
34	170	2.58	775	52,536	70	52,466	468.01	52,466	1.20
35	175	2.58	775	53,241	70	53,172	468.04	53,172	1.22
36	180	0.16	47	53,218	70	53,149	468.04	53,149	1.22

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.17	51	51	70	-	465.00	-	0.00
2	10	0.21	62	62	70	-	465.00	-	0.00
3	15	0.21	62	62	70	-	465.00	-	0.00
4	20	0.21	62	62	70	-	465.00	-	0.00
5	25	0.21	62	62	70	-	465.00	-	0.00
6	30	0.28	85	85	70	16	465.00	16	0.00
7	35	0.28	85	101	70	31	465.00	31	0.00
8	40	0.28	85	117	70	47	465.00	47	0.00
9	45	0.28	85	132	70	62	465.00	62	0.00
10	50	0.28	85	148	70	78	465.00	78	0.00
11	55	0.28	85	163	70	94	465.01	94	0.00
12	60	0.63	188	281	70	212	465.01	212	0.00
13	65	0.63	188	400	70	330	465.02	330	0.01
14	70	0.63	188	518	70	448	465.03	448	0.01
15	75	0.63	188	636	70	566	465.04	566	0.01
16	80	0.63	188	754	70	684	465.04	684	0.02
17	85	0.63	188	872	70	803	465.05	803	0.02
18	90	0.63	188	990	70	921	465.06	921	0.02
19	95	0.63	188	1,109	70	1,039	465.07	1,039	0.02
20	100	0.63	188	1,227	70	1,157	465.07	1,157	0.03
21	105	0.63	188	1,345	70	1,275	465.08	1,275	0.03
22	110	0.63	188	1,463	70	1,393	465.09	1,393	0.03
23	115	0.63	188	1,581	70	1,512	465.10	1,512	0.03
24	120	0.97	291	1,802	70	1,732	465.11	1,732	0.04
25	125	0.63	188	1,920	70	1,850	465.12	1,850	0.04
26	130	0.97	291	2,141	70	2,071	465.13	2,071	0.05
27	135	0.97	291	2,362	70	2,292	465.15	2,292	0.05
28	140	0.97	291	2,582	70	2,513	465.16	2,513	0.06
29	145	0.97	291	2,803	70	2,733	465.17	2,733	0.06
30	150	0.97	291	3,024	70	2,954	465.19	2,954	0.07
31	155	0.97	291	3,245	70	3,175	465.20	3,175	0.07
32	160	0.97	291	3,465	70	3,396	465.21	3,396	0.08
33	165	1.31	393	3,789	70	3,719	465.24	3,719	0.09
34	170	1.31	393	4,112	70	4,042	465.26	4,042	0.09
35	175	1.31	393	4,435	70	4,366	465.28	4,366	0.10
36	180	1.31	393	4,759	70	4,689	465.30	4,689	0.11
37	185	1.31	393	5,082	70	5,012	465.32	5,012	0.12
38	190	1.65	496	5,508	70	5,438	465.34	5,438	0.12
39	195	1.65	496	5,934	70	5,864	465.37	5,864	0.13
40	200	1.65	496	6,360	70	6,290	465.40	6,290	0.14
41	205	1.99	598	6,888	70	6,819	465.43	6,819	0.16
42	210	2.34	701	7,519	70	7,450	465.47	7,450	0.17
43	215	2.68	803	8,253	70	8,183	465.52	8,183	0.19
44	220	2.68	803	8,987	70	8,917	465.56	8,917	0.20
45	225	3.02	906	9,823	70	9,753	465.62	9,753	0.22
46	230	3.02	906	10,659	70	10,589	465.67	10,589	0.24
47	235	3.36	1,009	11,598	70	11,528	465.73	11,528	0.26
48	240	3.36	1,009	12,537	70	12,467	465.79	12,467	0.29
49	245	3.70	1,111	13,578	70	13,509	465.85	13,509	0.31
50	250	4.05	1,214	14,722	70	14,652	465.93	14,652	0.34
51	255	4.39	1,316	15,969	70	15,899	466.01	15,899	0.36
52	260	4.73	1,419	17,318	70	17,248	466.08	17,248	0.40
53	265	5.07	1,522	18,770	70	18,700	466.17	18,700	0.43
54	270	5.07	1,522	20,221	70	20,152	466.25	20,152	0.46
55	275	5.41	1,624	21,776	70	21,706	466.34	21,706	0.50

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	5.76	1,727	23,433	70	23,363	466.43	23,363	0.54
57	285	6.10	1,829	25,192	70	25,122	466.53	25,122	0.58
58	290	6.10	1,829	26,952	70	26,882	466.64	26,882	0.62
59	295	6.44	1,932	28,814	70	28,744	466.74	28,744	0.66
60	300	6.78	2,034	30,778	70	30,709	466.86	30,709	0.70
61	305	8.49	2,547	33,256	70	33,186	467.00	33,186	0.76
62	310	10.20	3,060	36,246	70	36,177	467.15	36,177	0.83
63	315	11.23	3,368	39,545	70	39,475	467.33	39,475	0.91
64	320	12.25	3,676	43,151	70	43,081	467.52	43,081	0.99
65	325	13.96	4,189	47,269	70	47,200	467.73	47,200	1.08
66	330	17.04	5,112	52,311	70	52,242	468.00	52,242	1.20
67	335	4.39	1,316	53,558	70	53,488	468.06	53,488	1.23
68	340	0.97	291	53,779	70	53,709	468.07	53,709	1.23
69	345	0.21	62	53,771	70	53,701	468.07	53,701	1.23
70	350	0.17	51	53,752	70	53,682	468.07	53,682	1.23
71	355	0.10	31	53,713	70	53,643	468.06	53,643	1.23
72	360	0.07	21	53,664	70	53,594	468.06	53,594	1.23

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.04	33	33	209	-	465.00	-	0.00
2	30	0.05	49	49	209	-	465.00	-	0.00
3	45	0.05	49	49	209	-	465.00	-	0.00
4	60	0.07	66	66	209	-	465.00	-	0.00
5	75	0.05	49	49	209	-	465.00	-	0.00
6	90	0.05	49	49	209	-	465.00	-	0.00
7	105	0.05	49	49	209	-	465.00	-	0.00
8	120	0.07	66	66	209	-	465.00	-	0.00
9	135	0.07	66	66	209	-	465.00	-	0.00
10	150	0.07	66	66	209	-	465.00	-	0.00
11	165	0.09	82	82	209	-	465.00	-	0.00
12	180	0.09	82	82	209	-	465.00	-	0.00
13	195	0.09	82	82	209	-	465.00	-	0.00
14	210	0.09	82	82	209	-	465.00	-	0.00
15	225	0.09	82	82	209	-	465.00	-	0.00
16	240	0.11	99	99	209	-	465.00	-	0.00
17	255	0.11	99	99	209	-	465.00	-	0.00
18	270	0.13	115	115	209	-	465.00	-	0.00
19	285	0.13	115	115	209	-	465.00	-	0.00
20	300	0.15	132	132	209	-	465.00	-	0.00
21	315	0.11	99	99	209	-	465.00	-	0.00
22	330	0.13	115	115	209	-	465.00	-	0.00
23	345	0.15	132	132	209	-	465.00	-	0.00
24	360	0.15	132	132	209	-	465.00	-	0.00
25	375	0.16	148	148	209	-	465.00	-	0.00
26	390	0.16	148	148	209	-	465.00	-	0.00
27	405	0.18	165	165	209	-	465.00	-	0.00
28	420	0.18	165	165	209	-	465.00	-	0.00
29	435	0.18	165	165	209	-	465.00	-	0.00
30	450	0.20	181	181	209	-	465.00	-	0.00
31	465	0.22	198	198	209	-	465.00	-	0.00
32	480	0.24	214	214	209	5	465.00	5	0.00
33	495	0.28	249	254	209	44	465.00	44	0.00
34	510	0.31	280	324	209	115	465.01	115	0.00
35	525	0.53	475	590	209	381	465.02	381	0.01
36	540	0.75	671	1,051	209	842	465.05	842	0.02
37	555	1.15	1,031	1,873	209	1,664	465.11	1,664	0.04
38	570	1.36	1,226	2,889	209	2,680	465.17	2,680	0.06
39	585	1.58	1,420	4,100	209	3,891	465.25	3,891	0.09
40	600	1.79	1,615	5,506	209	5,296	465.34	5,296	0.12
41	615	0.54	489	5,785	209	5,576	465.35	5,576	0.13
42	630	0.58	518	6,094	209	5,884	465.37	5,884	0.14
43	645	1.52	1,371	7,256	209	7,046	465.45	7,046	0.16
44	660	1.55	1,399	8,446	209	8,236	465.52	8,236	0.19
45	675	1.40	1,262	9,498	209	9,289	465.59	9,289	0.21
46	690	1.43	1,290	10,579	209	10,370	465.66	10,370	0.24
47	705	1.10	987	11,357	209	11,148	465.71	11,148	0.26
48	720	1.31	1,179	12,327	209	12,117	465.77	12,117	0.28
49	735	2.62	2,361	14,478	209	14,269	465.90	14,269	0.33
50	750	2.84	2,552	16,821	209	16,611	466.05	16,611	0.38
51	765	3.23	2,908	19,519	209	19,310	466.20	19,310	0.44
52	780	3.44	3,099	22,409	209	22,199	466.37	22,199	0.51
53	795	4.39	3,949	26,148	209	25,939	466.58	25,939	0.60
54	810	4.42	3,974	29,913	209	29,703	466.80	29,703	0.68
55	825	2.43	2,184	31,888	209	31,678	466.91	31,678	0.73
56	840	2.45	2,209	33,887	209	33,678	467.02	33,678	0.77
57	855	3.21	2,893	36,571	209	36,361	467.16	36,361	0.83
58	870	3.06	2,752	39,113	209	38,904	467.30	38,904	0.89

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	3.08	2,775	41,679	209	41,470	467.43	41,470	0.95
60	900	2.93	2,633	44,103	209	43,894	467.56	43,894	1.01
61	915	2.77	2,491	46,385	209	46,176	467.68	46,176	1.06
62	930	2.61	2,349	48,525	209	48,315	467.79	48,315	1.11
63	945	1.90	1,711	50,026	209	49,817	467.87	49,817	1.14
64	960	1.93	1,733	51,550	209	51,340	467.95	51,340	1.18
65	975	0.07	66	51,406	209	51,197	467.94	51,197	1.18
66	990	0.07	66	51,263	209	51,054	467.93	51,054	1.17
67	1005	0.05	49	51,103	209	50,894	467.92	50,894	1.17
68	1020	0.05	49	50,943	209	50,734	467.92	50,734	1.16
69	1035	0.09	82	50,816	209	50,607	467.91	50,607	1.16
70	1050	0.09	82	50,689	209	50,480	467.90	50,480	1.16
71	1065	0.09	82	50,563	209	50,353	467.90	50,353	1.16
72	1080	0.07	66	50,419	209	50,210	467.89	50,210	1.15
73	1095	0.07	66	50,276	209	50,066	467.88	50,066	1.15
74	1110	0.07	66	50,132	209	49,923	467.87	49,923	1.15
75	1125	0.05	49	49,972	209	49,763	467.87	49,763	1.14
76	1140	0.04	33	49,796	209	49,587	467.86	49,587	1.14
77	1155	0.05	49	49,636	209	49,427	467.85	49,427	1.13
78	1170	0.07	66	49,493	209	49,283	467.84	49,283	1.13
79	1185	0.05	49	49,333	209	49,124	467.83	49,124	1.13
80	1200	0.04	33	49,157	209	48,947	467.82	48,947	1.12
81	1215	0.05	49	48,997	209	48,787	467.81	48,787	1.12
82	1230	0.05	49	48,837	209	48,627	467.81	48,627	1.12
83	1245	0.05	49	48,677	209	48,467	467.80	48,467	1.11
84	1260	0.04	33	48,500	209	48,291	467.79	48,291	1.11
85	1275	0.05	49	48,341	209	48,131	467.78	48,131	1.10
86	1290	0.04	33	48,164	209	47,955	467.77	47,955	1.10
87	1305	0.05	49	48,004	209	47,795	467.76	47,795	1.10
88	1320	0.04	33	47,828	209	47,619	467.75	47,619	1.09
89	1335	0.05	49	47,668	209	47,459	467.75	47,459	1.09
90	1350	0.04	33	47,492	209	47,282	467.74	47,282	1.09
91	1365	0.04	33	47,315	209	47,106	467.73	47,106	1.08
92	1380	0.04	33	47,139	209	46,929	467.72	46,929	1.08
93	1395	0.04	33	46,962	209	46,753	467.71	46,753	1.07
94	1410	0.04	33	46,786	209	46,577	467.70	46,577	1.07
95	1425	0.04	33	46,610	209	46,400	467.69	46,400	1.07
96	1440	0.04	33	46,433	209	46,224	467.68	46,224	1.06

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 100 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 4		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	2.33		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	6.56		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	0.9		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	620		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	70		
30				
31	ELEVATION OF HEADWATER	470.5		
32	ELEVATION OF CONCENTRATION POINT	468		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	2.12		
40	6-HOUR	2.78		
41	24-HOUR	4.47		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		464.5	13730	
45		465.5	15200	
46		466.5	16700	
47		467.5	18270	
48		468	19075	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 4
[3] AREA - ACRES	9.790
[4] L-FEET	620
[5] L-MILES	0.117
[6] La-FEET	70.00
[7] La-MILES	0.013
[8] ELEVATION OF HEADWATER	470.5
[9] ELEVATION OF CONCENTRATION POINT	468
[10] H-FEET	2.5
[11] S-FEET/MILE	21.3
[12] S^0.5	4.61
[13] L*LCA/S^0.5	0.000
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.02
[16] LAG TIME-MINUTES	1.4
[17] 100% OF LAG-MINUTES	1.4
[18] 200% OF LAG-MINUTES	2.8
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.21

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
2.12	9.790	1.00	2.12	2.78	9.790	1.00	2.78	4.47	9.790	1.00	4.47
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	9.79	SUM [7]	2.12	SUM [9]	9.79	SUM [11]	2.78	SUM [13]	9.79	SUM [15]	4.47
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			2.12				2.78				4.47

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.51	1.59	1.71
FLOOD VOLUME	(cu-ft)	53,707	56,587	60,936
	(acre-ft)	1.23	1.30	1.40
REQUIRED STORAGE	(cu-ft)	50,983	51,654	49,570
	(acre-ft)	1.17	1.19	1.14
PEAK FLOW	(cfs)	18.42	16.28	4.23
MAXIMUM WSEL	(ft)	467.67	467.70	467.59

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	2.33	0.238	0.0124
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	6.56	0.670	0.1446
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	0.90	0.092	0.0478
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		9.79	SUM	0.2048

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.102390603
C= 0.00190

Ft=C(24-(T/60))^1.55 = 0.00190 (24-(T/60))^1.55 + 0.10 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period,
T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.79
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.38
UNIT TIME-PERCENT OF LAG	362.1
TOTAL ADJUSTED STORM RAIN-INCHES	2.12
CONSTANT LOSS RATE-in/hr	0.20
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.21 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.331	0.20	0.30	0.13	1.23	306.00
2	10	0.17	1.3	0.331	0.20	0.30	0.13	1.23	306.00
3	15	0.25	1.1	0.280	0.20	0.25	0.08	0.73	156.57
4	20	0.33	1.5	0.382	0.20	0.34	0.18	1.73	455.43
5	25	0.42	1.5	0.382	0.20	0.34	0.18	1.73	455.43
6	30	0.50	1.8	0.458	0.20	0.41	0.25	2.48	679.59
7	35	0.58	1.5	0.382	0.20	0.34	0.18	1.73	455.43
8	40	0.67	1.8	0.458	0.20	0.41	0.25	2.48	679.59
9	45	0.75	1.8	0.458	0.20	0.41	0.25	2.48	679.59
10	50	0.83	1.5	0.382	0.20	0.34	0.18	1.73	455.43
11	55	0.92	1.6	0.407	0.20	0.37	0.20	1.98	530.15
12	60	1.00	1.8	0.458	0.20	0.41	0.25	2.48	679.59
13	65	1.08	2.2	0.560	0.20	0.50	0.35	3.47	978.46
14	70	1.17	2.2	0.560	0.20	0.50	0.35	3.47	978.46
15	75	1.25	2.2	0.560	0.20	0.50	0.35	3.47	978.46
16	80	1.33	2.0	0.509	0.20	0.46	0.30	2.98	829.02
17	85	1.42	2.6	0.661	0.20	0.60	0.46	4.47	1277.32
18	90	1.50	2.7	0.687	0.20	0.62	0.48	4.72	1352.04
19	95	1.58	2.4	0.611	0.20	0.55	0.41	3.97	1127.89
20	100	1.67	2.7	0.687	0.20	0.62	0.48	4.72	1352.04
21	105	1.75	3.3	0.840	0.20	0.76	0.63	6.21	1800.35
22	110	1.83	3.1	0.789	0.20	0.71	0.58	5.72	1650.91
23	115	1.92	2.9	0.738	0.20	0.66	0.53	5.22	1501.48
24	120	2.00	3.0	0.763	0.20	0.69	0.56	5.47	1576.19
25	125	2.08	3.1	0.789	0.20	0.71	0.58	5.72	1650.91
26	130	2.17	4.2	1.068	0.20	0.96	0.86	8.46	2472.80
27	135	2.25	5.0	1.272	0.20	1.14	1.07	10.45	3070.54
28	140	2.33	3.5	0.890	0.20	0.80	0.69	6.71	1949.78
29	145	2.42	6.8	1.730	0.20	1.56	1.53	14.93	4415.45
30	150	2.50	7.3	1.857	0.20	1.67	1.65	16.18	4789.04
31	155	2.58	8.2	2.086	0.20	1.88	1.88	18.42	5461.49
32	160	2.67	5.9	1.501	0.20	1.35	1.30	12.69	3742.99
33	165	2.75	2.0	0.509	0.20	0.46	0.30	2.98	829.02
34	170	2.83	1.8	0.458	0.20	0.41	0.25	2.48	679.59
35	175	2.92	1.8	0.458	0.20	0.41	0.25	2.48	679.59
36	180	3.00	0.6	0.153	0.20	0.14	0.02	0.15	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.51
FLOOD VOLUME (acft)	1.23
FLOOD VOLUME (cuft)	53707.39
REQUIRED STORAGE (acft)	1.17
REQUIRED STORAGE (cuft)	50982.60
PEAK FLOW RATE (cfs)	18.42

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.79
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.38
UNIT TIME-PERCENT OF LAG	362.1
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.205
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.21 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	0.5	0.167	0.20	0.15	0.02	0.16	0.00
2	10	0.17	0.6	0.200	0.20	0.18	0.02	0.20	0.00
3	15	0.25	0.6	0.200	0.20	0.18	0.02	0.20	0.00
4	20	0.33	0.6	0.200	0.20	0.18	0.02	0.20	0.00
5	25	0.42	0.6	0.200	0.20	0.18	0.02	0.20	0.00
6	30	0.50	0.7	0.234	0.20	0.21	0.03	0.28	20.52
7	35	0.58	0.7	0.234	0.20	0.21	0.03	0.28	20.52
8	40	0.67	0.7	0.234	0.20	0.21	0.03	0.28	20.52
9	45	0.75	0.7	0.234	0.20	0.21	0.03	0.28	20.52
10	50	0.83	0.7	0.234	0.20	0.21	0.03	0.28	20.52
11	55	0.92	0.7	0.234	0.20	0.21	0.03	0.28	20.52
12	60	1.00	0.8	0.267	0.20	0.24	0.06	0.61	118.50
13	65	1.08	0.8	0.267	0.20	0.24	0.06	0.61	118.50
14	70	1.17	0.8	0.267	0.20	0.24	0.06	0.61	118.50
15	75	1.25	0.8	0.267	0.20	0.24	0.06	0.61	118.50
16	80	1.33	0.8	0.267	0.20	0.24	0.06	0.61	118.50
17	85	1.42	0.8	0.267	0.20	0.24	0.06	0.61	118.50
18	90	1.50	0.8	0.267	0.20	0.24	0.06	0.61	118.50
19	95	1.58	0.8	0.267	0.20	0.24	0.06	0.61	118.50
20	100	1.67	0.8	0.267	0.20	0.24	0.06	0.61	118.50
21	105	1.75	0.8	0.267	0.20	0.24	0.06	0.61	118.50
22	110	1.83	0.8	0.267	0.20	0.24	0.06	0.61	118.50
23	115	1.92	0.8	0.267	0.20	0.24	0.06	0.61	118.50
24	120	2.00	0.9	0.300	0.20	0.27	0.10	0.93	216.48
25	125	2.08	0.8	0.267	0.20	0.24	0.06	0.61	118.50
26	130	2.17	0.9	0.300	0.20	0.27	0.10	0.93	216.48
27	135	2.25	0.9	0.300	0.20	0.27	0.10	0.93	216.48
28	140	2.33	0.9	0.300	0.20	0.27	0.10	0.93	216.48
29	145	2.42	0.9	0.300	0.20	0.27	0.10	0.93	216.48
30	150	2.50	0.9	0.300	0.20	0.27	0.10	0.93	216.48
31	155	2.58	0.9	0.300	0.20	0.27	0.10	0.93	216.48
32	160	2.67	0.9	0.300	0.20	0.27	0.10	0.93	216.48
33	165	2.75	1.0	0.334	0.20	0.30	0.13	1.26	314.46
34	170	2.83	1.0	0.334	0.20	0.30	0.13	1.26	314.46
35	175	2.92	1.0	0.334	0.20	0.30	0.13	1.26	314.46
36	180	3.00	1.0	0.334	0.20	0.30	0.13	1.26	314.46
37	185	3.08	1.0	0.334	0.20	0.30	0.13	1.26	314.46
38	190	3.17	1.1	0.367	0.20	0.33	0.16	1.59	412.44
39	195	3.25	1.1	0.367	0.20	0.33	0.16	1.59	412.44
40	200	3.33	1.1	0.367	0.20	0.33	0.16	1.59	412.44
41	205	3.42	1.2	0.400	0.20	0.36	0.20	1.91	510.41
42	210	3.50	1.3	0.434	0.20	0.39	0.23	2.24	608.39
43	215	3.58	1.4	0.467	0.20	0.42	0.26	2.57	706.37
44	220	3.67	1.4	0.467	0.20	0.42	0.26	2.57	706.37
45	225	3.75	1.5	0.500	0.20	0.45	0.30	2.89	804.35
46	230	3.83	1.5	0.500	0.20	0.45	0.30	2.89	804.35
47	235	3.92	1.6	0.534	0.20	0.48	0.33	3.22	902.33
48	240	4.00	1.6	0.534	0.20	0.48	0.33	3.22	902.33
49	245	4.08	1.7	0.567	0.20	0.51	0.36	3.55	1000.31
50	250	4.17	1.8	0.600	0.20	0.54	0.40	3.87	1098.28
51	255	4.25	1.9	0.634	0.20	0.57	0.43	4.20	1196.26
52	260	4.33	2.0	0.667	0.20	0.60	0.46	4.53	1294.24
53	265	4.42	2.1	0.701	0.20	0.63	0.50	4.85	1392.22
54	270	4.50	2.1	0.701	0.20	0.63	0.50	4.85	1392.22
55	275	4.58	2.2	0.734	0.20	0.66	0.53	5.18	1490.20
56	280	4.67	2.3	0.767	0.20	0.69	0.56	5.51	1588.18

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.79
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	1.38
UNIT TIME-PERCENT OF LAG	362.1
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.205
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.21 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.801	0.20	0.72	0.60	5.83	1686.15
58	290	4.83	2.4	0.801	0.20	0.72	0.60	5.83	1686.15
59	295	4.92	2.5	0.834	0.20	0.75	0.63	6.16	1784.13
60	300	5.00	2.6	0.867	0.20	0.78	0.66	6.49	1882.11
61	305	5.08	3.1	1.034	0.20	0.93	0.83	8.12	2372.00
62	310	5.17	3.6	1.201	0.20	1.08	1.00	9.75	2861.89
63	315	5.25	3.9	1.301	0.20	1.17	1.10	10.73	3155.83
64	320	5.33	4.2	1.401	0.20	1.26	1.20	11.71	3449.76
65	325	5.42	4.7	1.568	0.20	1.41	1.36	13.35	3939.66
66	330	5.50	5.6	1.868	0.20	1.68	1.66	16.28	4821.46
67	335	5.58	1.9	0.634	0.20	0.57	0.43	4.20	1196.26
68	340	5.67	0.9	0.300	0.20	0.27	0.10	0.93	216.48
69	345	5.75	0.6	0.200	0.20	0.18	0.02	0.20	0.00
70	350	5.83	0.5	0.167	0.20	0.15	0.02	0.16	0.00
71	355	5.92	0.3	0.100	0.20	0.09	0.01	0.10	0.00
72	360	6.00	0.2	0.067	0.20	0.06	0.01	0.07	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.59
FLOOD VOLUME (acft)	1.30
FLOOD VOLUME (cuft)	56587.21
REQUIRED STORAGE (acft)	1.19
REQUIRED STORAGE (cuft)	51653.82
PEAK FLOW RATE (cfs)	16.28

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.790	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2048
LAG TIME - MINUTES	1.38	MINIMUM LOSS RATE (for var. loss) - in/hr	0.102
UNIT TIME-PERCENT OF LAG	1086.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00190
		PERCOLATION RATE (cfs)	0.21

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.036	0.362	0.032	0.004	0.04	0.00
2	30	0.50	0.3	0.054	0.357	0.048	0.005	0.05	0.00
3	45	0.75	0.3	0.054	0.353	0.048	0.005	0.05	0.00
4	60	1.00	0.4	0.072	0.349	0.064	0.007	0.07	0.00
5	75	1.25	0.3	0.054	0.345	0.048	0.005	0.05	0.00
6	90	1.50	0.3	0.054	0.341	0.048	0.005	0.05	0.00
7	105	1.75	0.3	0.054	0.337	0.048	0.005	0.05	0.00
8	120	2.00	0.4	0.072	0.333	0.064	0.007	0.07	0.00
9	135	2.25	0.4	0.072	0.329	0.064	0.007	0.07	0.00
10	150	2.50	0.4	0.072	0.325	0.064	0.007	0.07	0.00
11	165	2.75	0.5	0.089	0.321	0.080	0.009	0.09	0.00
12	180	3.00	0.5	0.089	0.317	0.080	0.009	0.09	0.00
13	195	3.25	0.5	0.089	0.313	0.080	0.009	0.09	0.00
14	210	3.50	0.5	0.089	0.309	0.080	0.009	0.09	0.00
15	225	3.75	0.5	0.089	0.305	0.080	0.009	0.09	0.00
16	240	4.00	0.6	0.107	0.301	0.097	0.011	0.11	0.00
17	255	4.25	0.6	0.107	0.297	0.097	0.011	0.11	0.00
18	270	4.50	0.7	0.125	0.294	0.113	0.013	0.12	0.00
19	285	4.75	0.7	0.125	0.290	0.113	0.013	0.12	0.00
20	300	5.00	0.8	0.143	0.286	0.129	0.014	0.14	0.00
21	315	5.25	0.6	0.107	0.282	0.097	0.011	0.11	0.00
22	330	5.50	0.7	0.125	0.279	0.113	0.013	0.12	0.00
23	345	5.75	0.8	0.143	0.275	0.129	0.014	0.14	0.00
24	360	6.00	0.8	0.143	0.272	0.129	0.014	0.14	0.00
25	375	6.25	0.9	0.161	0.268	0.145	0.016	0.16	0.00
26	390	6.50	0.9	0.161	0.264	0.145	0.016	0.16	0.00
27	405	6.75	1.0	0.179	0.261	0.161	0.018	0.18	0.00
28	420	7.00	1.0	0.179	0.257	0.161	0.018	0.18	0.00
29	435	7.25	1.0	0.179	0.254	0.161	0.018	0.18	0.00
30	450	7.50	1.1	0.197	0.250	0.177	0.020	0.19	0.00
31	465	7.75	1.2	0.215	0.247	0.193	0.021	0.21	0.00
32	480	8.00	1.3	0.232	0.243	0.209	0.023	0.23	13.15
33	495	8.25	1.5	0.268	0.240	0.241	0.028	0.28	55.92
34	510	8.50	1.5	0.268	0.237	0.241	0.031	0.31	85.41
35	525	8.75	1.6	0.286	0.233	0.257	0.053	0.52	272.18
36	540	9.00	1.7	0.304	0.230	0.274	0.074	0.72	458.69
37	555	9.25	1.9	0.340	0.227	0.306	0.113	1.10	802.48
38	570	9.50	2.0	0.358	0.224	0.322	0.134	1.31	988.46
39	585	9.75	2.1	0.375	0.220	0.338	0.155	1.52	1174.18
40	600	10.00	2.2	0.393	0.217	0.354	0.176	1.72	1359.63
41	615	10.25	1.5	0.268	0.214	0.241	0.054	0.53	284.49
42	630	10.50	1.5	0.268	0.211	0.241	0.057	0.56	311.86
43	645	10.75	2.0	0.358	0.208	0.322	0.150	1.46	1126.65
44	660	11.00	2.0	0.358	0.205	0.322	0.153	1.49	1153.47
45	675	11.25	1.9	0.340	0.202	0.306	0.138	1.35	1022.46
46	690	11.50	1.9	0.340	0.199	0.306	0.141	1.38	1048.71
47	705	11.75	1.7	0.304	0.196	0.274	0.108	1.06	759.60
48	720	12.00	1.8	0.322	0.193	0.290	0.129	1.26	942.83
49	735	12.25	2.5	0.447	0.190	0.402	0.257	2.51	2071.00
50	750	12.50	2.6	0.465	0.187	0.418	0.278	2.72	2253.64
51	765	12.75	2.8	0.501	0.185	0.451	0.316	3.09	2593.53
52	780	13.00	2.9	0.519	0.182	0.467	0.337	3.30	2775.58
53	795	13.25	3.4	0.608	0.179	0.547	0.429	4.20	3587.49
54	810	13.50	3.4	0.608	0.176	0.547	0.432	4.23	3611.39
55	825	13.75	2.3	0.411	0.174	0.370	0.238	2.33	1902.04
56	840	14.00	2.3	0.411	0.171	0.370	0.240	2.35	1925.32
57	855	14.25	2.7	0.483	0.168	0.434	0.314	3.08	2578.46
58	870	14.50	2.6	0.465	0.166	0.418	0.299	2.93	2443.57
59	885	14.75	2.6	0.465	0.163	0.418	0.302	2.95	2465.90
60	900	15.00	2.5	0.447	0.161	0.402	0.286	2.80	2330.36
61	915	15.25	2.4	0.429	0.158	0.386	0.271	2.65	2194.50
62	930	15.50	2.3	0.411	0.156	0.370	0.255	2.50	2058.30
63	945	15.75	1.9	0.340	0.153	0.306	0.186	1.82	1449.14
64	960	16.00	1.9	0.340	0.151	0.306	0.189	1.85	1469.81
65	975	16.25	0.4	0.072	0.149	0.064	0.007	0.07	0.00
66	990	16.50	0.4	0.072	0.147	0.064	0.007	0.07	0.00
67	1005	16.75	0.3	0.054	0.144	0.048	0.005	0.05	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.790	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2048
LAG TIME - MINUTES	1.38	MINIMUM LOSS RATE (for var. loss) - in/hr	0.102
UNIT TIME-PERCENT OF LAG	1086.4	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00190
		PERCOLATION RATE (cfs)	0.21

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
68	1020	17.00	0.3	0.054	0.142	0.048	0.005	0.05	0.00
69	1035	17.25	0.5	0.089	0.140	0.080	0.009	0.09	0.00
70	1050	17.50	0.5	0.089	0.138	0.080	0.009	0.09	0.00
71	1065	17.75	0.5	0.089	0.136	0.080	0.009	0.09	0.00
72	1080	18.00	0.4	0.072	0.134	0.064	0.007	0.07	0.00
73	1095	18.25	0.4	0.072	0.132	0.064	0.007	0.07	0.00
74	1110	18.50	0.4	0.072	0.130	0.064	0.007	0.07	0.00
75	1125	18.75	0.3	0.054	0.128	0.048	0.005	0.05	0.00
76	1140	19.00	0.2	0.036	0.126	0.032	0.004	0.04	0.00
77	1155	19.25	0.3	0.054	0.124	0.048	0.005	0.05	0.00
78	1170	19.50	0.4	0.072	0.123	0.064	0.007	0.07	0.00
79	1185	19.75	0.3	0.054	0.121	0.048	0.005	0.05	0.00
80	1200	20.00	0.2	0.036	0.119	0.032	0.004	0.04	0.00
81	1215	20.25	0.3	0.054	0.118	0.048	0.005	0.05	0.00
82	1230	20.50	0.3	0.054	0.116	0.048	0.005	0.05	0.00
83	1245	20.75	0.3	0.054	0.115	0.048	0.005	0.05	0.00
84	1260	21.00	0.2	0.036	0.113	0.032	0.004	0.04	0.00
85	1275	21.25	0.3	0.054	0.112	0.048	0.005	0.05	0.00
86	1290	21.50	0.2	0.036	0.111	0.032	0.004	0.04	0.00
87	1305	21.75	0.3	0.054	0.110	0.048	0.005	0.05	0.00
88	1320	22.00	0.2	0.036	0.108	0.032	0.004	0.04	0.00
89	1335	22.25	0.3	0.054	0.107	0.048	0.005	0.05	0.00
90	1350	22.50	0.2	0.036	0.106	0.032	0.004	0.04	0.00
91	1365	22.75	0.2	0.036	0.105	0.032	0.004	0.04	0.00
92	1380	23.00	0.2	0.036	0.105	0.032	0.004	0.04	0.00
93	1395	23.25	0.2	0.036	0.104	0.032	0.004	0.04	0.00
94	1410	23.50	0.2	0.036	0.103	0.032	0.004	0.04	0.00
95	1425	23.75	0.2	0.036	0.103	0.032	0.004	0.04	0.00
96	1440	24.00	0.2	0.036	0.102	0.032	0.004	0.04	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.71
FLOOD VOLUME (acft)	1.40
FLOOD VOLUME (cuft)	60935.59
REQUIRED STORAGE (acft)	1.14
REQUIRED STORAGE (cuft)	49570.20
PEAK FLOW (cfs)	4.23

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
464.5	0	0		13730	0	0	0.00
465.5	1	1	1470	15200	14465	14465	0.33
466.5	1	2	1500	16700	15950	30415	0.70
467.5	1	3	1570	18270	17485	47900	1.10
468	0.5	3.5	805	19075	9336	57236	1.31

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.21 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.21 cfs

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JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	1.23	370	370	64	306	464.52	306	0.01
2	10	1.23	370	676	64	612	464.54	612	0.01
3	15	0.73	220	832	64	769	464.55	769	0.02
4	20	1.73	519	1,288	64	1,224	464.58	1,224	0.03
5	25	1.73	519	1,743	64	1,679	464.62	1,679	0.04
6	30	2.48	743	2,423	64	2,359	464.66	2,359	0.05
7	35	1.73	519	2,878	64	2,814	464.69	2,814	0.06
8	40	2.48	743	3,558	64	3,494	464.74	3,494	0.08
9	45	2.48	743	4,238	64	4,174	464.79	4,174	0.10
10	50	1.73	519	4,693	64	4,629	464.82	4,629	0.11
11	55	1.98	594	5,223	64	5,159	464.86	5,159	0.12
12	60	2.48	743	5,903	64	5,839	464.90	5,839	0.13
13	65	3.47	1,042	6,881	64	6,817	464.97	6,817	0.16
14	70	3.47	1,042	7,860	64	7,796	465.04	7,796	0.18
15	75	3.47	1,042	8,838	64	8,774	465.11	8,774	0.20
16	80	2.98	893	9,667	64	9,603	465.16	9,603	0.22
17	85	4.47	1,341	10,944	64	10,881	465.25	10,881	0.25
18	90	4.72	1,416	12,296	64	12,233	465.35	12,233	0.28
19	95	3.97	1,192	13,424	64	13,360	465.42	13,360	0.31
20	100	4.72	1,416	14,776	64	14,712	465.52	14,712	0.34
21	105	6.21	1,864	16,577	64	16,513	465.63	16,513	0.38
22	110	5.72	1,715	18,228	64	18,164	465.73	18,164	0.42
23	115	5.22	1,565	19,729	64	19,665	465.83	19,665	0.45
24	120	5.47	1,640	21,305	64	21,241	465.92	21,241	0.49
25	125	5.72	1,715	22,956	64	22,892	466.03	22,892	0.53
26	130	8.46	2,537	25,429	64	25,365	466.18	25,365	0.58
27	135	10.45	3,134	28,500	64	28,436	466.38	28,436	0.65
28	140	6.71	2,014	30,449	64	30,385	466.50	30,385	0.70
29	145	14.93	4,479	34,865	64	34,801	466.75	34,801	0.80
30	150	16.18	4,853	39,654	64	39,590	467.02	39,590	0.91
31	155	18.42	5,525	45,115	64	45,051	467.34	45,051	1.03
32	160	12.69	3,807	48,858	64	48,794	467.55	48,794	1.12
33	165	2.98	893	49,687	64	49,623	467.59	49,623	1.14
34	170	2.48	743	50,367	64	50,303	467.63	50,303	1.15
35	175	2.48	743	51,046	64	50,983	467.67	50,983	1.17
36	180	0.15	45	51,027	64	50,964	467.66	50,964	1.17

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.16	49	49	64	-	464.50	-	0.00
2	10	0.20	59	59	64	-	464.50	-	0.00
3	15	0.20	59	59	64	-	464.50	-	0.00
4	20	0.20	59	59	64	-	464.50	-	0.00
5	25	0.20	59	59	64	-	464.50	-	0.00
6	30	0.28	84	84	64	21	464.50	21	0.00
7	35	0.28	84	105	64	41	464.50	41	0.00
8	40	0.28	84	125	64	62	464.50	62	0.00
9	45	0.28	84	146	64	82	464.51	82	0.00
10	50	0.28	84	166	64	103	464.51	103	0.00
11	55	0.28	84	187	64	123	464.51	123	0.00
12	60	0.61	182	306	64	242	464.52	242	0.01
13	65	0.61	182	424	64	360	464.52	360	0.01
14	70	0.61	182	543	64	479	464.53	479	0.01
15	75	0.61	182	661	64	597	464.54	597	0.01
16	80	0.61	182	780	64	716	464.55	716	0.02
17	85	0.61	182	898	64	834	464.56	834	0.02
18	90	0.61	182	1,017	64	953	464.57	953	0.02
19	95	0.61	182	1,135	64	1,071	464.57	1,071	0.02
20	100	0.61	182	1,254	64	1,190	464.58	1,190	0.03
21	105	0.61	182	1,372	64	1,308	464.59	1,308	0.03
22	110	0.61	182	1,491	64	1,427	464.60	1,427	0.03
23	115	0.61	182	1,609	64	1,545	464.61	1,545	0.04
24	120	0.93	280	1,826	64	1,762	464.62	1,762	0.04
25	125	0.61	182	1,944	64	1,880	464.63	1,880	0.04
26	130	0.93	280	2,161	64	2,097	464.64	2,097	0.05
27	135	0.93	280	2,377	64	2,313	464.66	2,313	0.05
28	140	0.93	280	2,593	64	2,530	464.67	2,530	0.06
29	145	0.93	280	2,810	64	2,746	464.69	2,746	0.06
30	150	0.93	280	3,026	64	2,963	464.70	2,963	0.07
31	155	0.93	280	3,243	64	3,179	464.72	3,179	0.07
32	160	0.93	280	3,459	64	3,395	464.73	3,395	0.08
33	165	1.26	378	3,774	64	3,710	464.76	3,710	0.09
34	170	1.26	378	4,088	64	4,024	464.78	4,024	0.09
35	175	1.26	378	4,403	64	4,339	464.80	4,339	0.10
36	180	1.26	378	4,717	64	4,653	464.82	4,653	0.11
37	185	1.26	378	5,032	64	4,968	464.84	4,968	0.11
38	190	1.59	476	5,444	64	5,380	464.87	5,380	0.12
39	195	1.59	476	5,857	64	5,793	464.90	5,793	0.13
40	200	1.59	476	6,269	64	6,205	464.93	6,205	0.14
41	205	1.91	574	6,779	64	6,716	464.96	6,716	0.15
42	210	2.24	672	7,388	64	7,324	465.01	7,324	0.17
43	215	2.57	770	8,094	64	8,030	465.06	8,030	0.18
44	220	2.57	770	8,801	64	8,737	465.10	8,737	0.20
45	225	2.89	868	9,605	64	9,541	465.16	9,541	0.22
46	230	2.89	868	10,409	64	10,345	465.22	10,345	0.24
47	235	3.22	966	11,312	64	11,248	465.28	11,248	0.26
48	240	3.22	966	12,214	64	12,150	465.34	12,150	0.28
49	245	3.55	1,064	13,214	64	13,150	465.41	13,150	0.30
50	250	3.87	1,162	14,312	64	14,249	465.49	14,249	0.33
51	255	4.20	1,260	15,509	64	15,445	465.56	15,445	0.35
52	260	4.53	1,358	16,803	64	16,739	465.64	16,739	0.38
53	265	4.85	1,456	18,195	64	18,131	465.73	18,131	0.42
54	270	4.85	1,456	19,587	64	19,524	465.82	19,524	0.45
55	275	5.18	1,554	21,078	64	21,014	465.91	21,014	0.48

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JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	5.51	1,652	22,666	64	22,602	466.01	22,602	0.52
57	285	5.83	1,750	24,352	64	24,288	466.12	24,288	0.56
58	290	5.83	1,750	26,038	64	25,974	466.22	25,974	0.60
59	295	6.16	1,848	27,822	64	27,758	466.33	27,758	0.64
60	300	6.49	1,946	29,704	64	29,640	466.45	29,640	0.68
61	305	8.12	2,436	32,076	64	32,012	466.59	32,012	0.73
62	310	9.75	2,926	34,938	64	34,874	466.76	34,874	0.80
63	315	10.73	3,220	38,094	64	38,030	466.94	38,030	0.87
64	320	11.71	3,514	41,544	64	41,480	467.13	41,480	0.95
65	325	13.35	4,004	45,483	64	45,420	467.36	45,420	1.04
66	330	16.28	4,885	50,305	64	50,241	467.63	50,241	1.15
67	335	4.20	1,260	51,501	64	51,437	467.69	51,437	1.18
68	340	0.93	280	51,718	64	51,654	467.70	51,654	1.19
69	345	0.20	59	51,713	64	51,649	467.70	51,649	1.19
70	350	0.16	49	51,698	64	51,634	467.70	51,634	1.19
71	355	0.10	29	51,663	64	51,599	467.70	51,599	1.18
72	360	0.07	20	51,619	64	51,555	467.70	51,555	1.18

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JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.04	32	32	192	-	464.50	-	0.00
2	30	0.05	47	47	192	-	464.50	-	0.00
3	45	0.05	47	47	192	-	464.50	-	0.00
4	60	0.07	63	63	192	-	464.50	-	0.00
5	75	0.05	47	47	192	-	464.50	-	0.00
6	90	0.05	47	47	192	-	464.50	-	0.00
7	105	0.05	47	47	192	-	464.50	-	0.00
8	120	0.07	63	63	192	-	464.50	-	0.00
9	135	0.07	63	63	192	-	464.50	-	0.00
10	150	0.07	63	63	192	-	464.50	-	0.00
11	165	0.09	79	79	192	-	464.50	-	0.00
12	180	0.09	79	79	192	-	464.50	-	0.00
13	195	0.09	79	79	192	-	464.50	-	0.00
14	210	0.09	79	79	192	-	464.50	-	0.00
15	225	0.09	79	79	192	-	464.50	-	0.00
16	240	0.11	95	95	192	-	464.50	-	0.00
17	255	0.11	95	95	192	-	464.50	-	0.00
18	270	0.12	110	110	192	-	464.50	-	0.00
19	285	0.12	110	110	192	-	464.50	-	0.00
20	300	0.14	126	126	192	-	464.50	-	0.00
21	315	0.11	95	95	192	-	464.50	-	0.00
22	330	0.12	110	110	192	-	464.50	-	0.00
23	345	0.14	126	126	192	-	464.50	-	0.00
24	360	0.14	126	126	192	-	464.50	-	0.00
25	375	0.16	142	142	192	-	464.50	-	0.00
26	390	0.16	142	142	192	-	464.50	-	0.00
27	405	0.18	158	158	192	-	464.50	-	0.00
28	420	0.18	158	158	192	-	464.50	-	0.00
29	435	0.18	158	158	192	-	464.50	-	0.00
30	450	0.19	173	173	192	-	464.50	-	0.00
31	465	0.21	189	189	192	-	464.50	-	0.00
32	480	0.23	205	205	192	13	464.50	13	0.00
33	495	0.28	248	261	192	69	464.50	69	0.00
34	510	0.31	277	346	192	154	464.51	154	0.00
35	525	0.52	464	618	192	427	464.53	427	0.01
36	540	0.72	650	1,077	192	885	464.56	885	0.02
37	555	1.10	994	1,879	192	1,688	464.62	1,688	0.04
38	570	1.31	1,180	2,868	192	2,676	464.69	2,676	0.06
39	585	1.52	1,366	4,042	192	3,850	464.77	3,850	0.09
40	600	1.72	1,551	5,402	192	5,210	464.86	5,210	0.12
41	615	0.53	476	5,686	192	5,495	464.88	5,495	0.13
42	630	0.56	504	5,998	192	5,806	464.90	5,806	0.13
43	645	1.46	1,318	7,125	192	6,933	464.98	6,933	0.16
44	660	1.49	1,345	8,278	192	8,087	465.06	8,087	0.19
45	675	1.35	1,214	9,301	192	9,109	465.13	9,109	0.21
46	690	1.38	1,240	10,349	192	10,158	465.20	10,158	0.23
47	705	1.06	951	11,109	192	10,917	465.25	10,917	0.25
48	720	1.26	1,134	12,052	192	11,860	465.32	11,860	0.27
49	735	2.51	2,263	14,123	192	13,931	465.46	13,931	0.32
50	750	2.72	2,445	16,376	192	16,185	465.61	16,185	0.37
51	765	3.09	2,785	18,970	192	18,778	465.77	18,778	0.43
52	780	3.30	2,967	21,746	192	21,554	465.94	21,554	0.49
53	795	4.20	3,779	25,333	192	25,141	466.17	25,141	0.58
54	810	4.23	3,803	28,944	192	28,753	466.40	28,753	0.66
55	825	2.33	2,094	30,846	192	30,655	466.51	30,655	0.70
56	840	2.35	2,117	32,772	192	32,580	466.62	32,580	0.75
57	855	3.08	2,770	35,350	192	35,159	466.77	35,159	0.81
58	870	2.93	2,635	37,794	192	37,602	466.91	37,602	0.86

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	2.95	2,658	40,260	192	40,068	467.05	40,068	0.92
60	900	2.80	2,522	42,590	192	42,398	467.19	42,398	0.97
61	915	2.65	2,386	44,785	192	44,593	467.31	44,593	1.02
62	930	2.50	2,250	46,843	192	46,651	467.43	46,651	1.07
63	945	1.82	1,641	48,292	192	48,100	467.51	48,100	1.10
64	960	1.85	1,661	49,762	192	49,570	467.59	49,570	1.14
65	975	0.07	63	49,633	192	49,442	467.58	49,442	1.14
66	990	0.07	63	49,505	192	49,313	467.58	49,313	1.13
67	1005	0.05	47	49,360	192	49,169	467.57	49,169	1.13
68	1020	0.05	47	49,216	192	49,024	467.56	49,024	1.13
69	1035	0.09	79	49,103	192	48,911	467.55	48,911	1.12
70	1050	0.09	79	48,990	192	48,798	467.55	48,798	1.12
71	1065	0.09	79	48,877	192	48,686	467.54	48,686	1.12
72	1080	0.07	63	48,749	192	48,557	467.54	48,557	1.11
73	1095	0.07	63	48,620	192	48,428	467.53	48,428	1.11
74	1110	0.07	63	48,491	192	48,300	467.52	48,300	1.11
75	1125	0.05	47	48,347	192	48,155	467.51	48,155	1.11
76	1140	0.04	32	48,187	192	47,995	467.51	47,995	1.10
77	1155	0.05	47	48,042	192	47,851	467.50	47,851	1.10
78	1170	0.07	63	47,914	192	47,722	467.49	47,722	1.10
79	1185	0.05	47	47,769	192	47,578	467.48	47,578	1.09
80	1200	0.04	32	47,609	192	47,418	467.47	47,418	1.09
81	1215	0.05	47	47,465	192	47,273	467.46	47,273	1.09
82	1230	0.05	47	47,320	192	47,129	467.46	47,129	1.08
83	1245	0.05	47	47,176	192	46,984	467.45	46,984	1.08
84	1260	0.04	32	47,016	192	46,824	467.44	46,824	1.07
85	1275	0.05	47	46,872	192	46,680	467.43	46,680	1.07
86	1290	0.04	32	46,711	192	46,520	467.42	46,520	1.07
87	1305	0.05	47	46,567	192	46,375	467.41	46,375	1.06
88	1320	0.04	32	46,407	192	46,215	467.40	46,215	1.06
89	1335	0.05	47	46,262	192	46,071	467.40	46,071	1.06
90	1350	0.04	32	46,102	192	45,911	467.39	45,911	1.05
91	1365	0.04	32	45,942	192	45,751	467.38	45,751	1.05
92	1380	0.04	32	45,782	192	45,590	467.37	45,590	1.05
93	1395	0.04	32	45,622	192	45,430	467.36	45,430	1.04
94	1410	0.04	32	45,462	192	45,270	467.35	45,270	1.04
95	1425	0.04	32	45,302	192	45,110	467.34	45,110	1.04
96	1440	0.04	32	45,142	192	44,950	467.33	44,950	1.03

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA, P.E.		
5				
6	PROJECT NAME	CALHOUN AT AVENUE 49 - 100 YEAR EVENT		
7	JOB #			
8				
9	CONCENTRATION POINT DESIGNATION	1		
10	AREA DESIGNATION	SUBAREA 5		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE	1.95		
16	SF - 1 ACRE			
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS	4.71		
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING	2.83		
23	RETENTION BASIN			
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	950		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	310		
30				
31	ELEVATION OF HEADWATER	471		
32	ELEVATION OF CONCENTRATION POINT	467		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	2.12		
40	6-HOUR	2.78		
41	24-HOUR	4.47		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		463.5	17610	
45		464.5	19400	
46		465.5	21240	
47		466.5	23140	
48		467	24110	
49				
50				
51				
52	PERCOLATION RATE (in/hr)	0.67		
53				
54	DRYWELL DATA			
55	NUMBER USED			
56	PERCOLATION RATE (cfs)			

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
BASIC DATA CALCULATION FORM
SHORTCUT METHOD

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
BY ES R. BAZUA, P.E. DATE 1/17/2025

PHYSICAL DATA

[1] CONCENTRATION POINT	1
[2] AREA DESIGNATION	SUBAREA 5
[3] AREA - ACRES	9.490
[4] L-FEET	950
[5] L-MILES	0.180
[6] La-FEET	310.00
[7] La-MILES	0.059
[8] ELEVATION OF HEADWATER	471
[9] ELEVATION OF CONCENTRATION POINT	467
[10] H-FEET	4
[11] S-FEET/MILE	22.2
[12] S^0.5	4.72
[13] L*LCA/S^0.5	0.002
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.05
[16] LAG TIME-MINUTES	2.8
[17] 100% OF LAG-MINUTES	2.8
[18] 200% OF LAG-MINUTES	5.7
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	0.27

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
2.12	9.490	1.00	2.12	2.78	9.490	1.00	2.78	4.47	9.490	1.00	4.47
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	9.49	SUM [7]	2.12	SUM [9]	9.49	SUM [11]	2.78	SUM [13]	9.49	SUM [15]	4.47
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			2.12				2.78				4.47

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.31	1.30	1.28
FLOOD VOLUME	(cu-ft)	45,222	44,840	44,164
	(acre-ft)	1.04	1.03	1.01
REQUIRED STORAGE	(cu-ft)	41,999	39,086	31,405
	(acre-ft)	0.96	0.90	0.72
PEAK FLOW	(cfs)	17.21	15.14	3.54
MAXIMUM WSEL	(ft)	465.64	465.51	465.13

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY MES R. BAZUA, P.E. DATE 1/17/2025

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
B	COMMERCIAL	56	0.52	90%	0.10	0.00	0.000	0.0000
B	PAVING/HARDSCAPE	56	0.52	100%	0.05	1.95	0.205	0.0107
B	SF - 1 ACRE	56	0.52	20%	0.43	0.00	0.000	0.0000
B	SF - 1/2 ACRE	56	0.52	40%	0.33	0.00	0.000	0.0000
B	SF - 1/4 ACRE	56	0.52	50%	0.29	0.00	0.000	0.0000
B	MF - COND0MINIUMS	56	0.52	65%	0.22	4.71	0.496	0.1071
B	MF - APARTMENTS	56	0.52	80%	0.15	0.00	0.000	0.0000
B	MOBILE HOME PARKS	56	0.52	75%	0.17	0.00	0.000	0.0000
B	LANDSCAPING	56	0.52	0%	0.52	2.83	0.298	0.1551
B	RETENTION BASINS	56	0.52	0%	0.52	0.00	0.000	0.0000
B	GOLF COURSE	56	0.52	0%	0.52	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
				SUM		9.49	SUM	0.2729

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.136428767
C= 0.00253

Ft=C(24-(T/60))^1.55 = 0.00253 (24-(T/60))^1.55 + 0.14 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 3 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: IES R. BAZUA, DATE 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.49
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.83
UNIT TIME-PERCENT OF LAG	176.4
TOTAL ADJUSTED STORM RAIN-INCHES	2.12
CONSTANT LOSS RATE-in/hr	0.27
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.27 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	5	0.08	1.3	0.331	0.27	0.30	0.06	0.55	82.80
2	10	0.17	1.3	0.331	0.27	0.30	0.06	0.55	82.80
3	15	0.25	1.1	0.280	0.27	0.25	0.01	0.07	0.00
4	20	0.33	1.5	0.382	0.27	0.34	0.11	1.03	227.65
5	25	0.42	1.5	0.382	0.27	0.34	0.11	1.03	227.65
6	30	0.50	1.8	0.458	0.27	0.41	0.19	1.76	444.94
7	35	0.58	1.5	0.382	0.27	0.34	0.11	1.03	227.65
8	40	0.67	1.8	0.458	0.27	0.41	0.19	1.76	444.94
9	45	0.75	1.8	0.458	0.27	0.41	0.19	1.76	444.94
10	50	0.83	1.5	0.382	0.27	0.34	0.11	1.03	227.65
11	55	0.92	1.6	0.407	0.27	0.37	0.13	1.27	300.08
12	60	1.00	1.8	0.458	0.27	0.41	0.19	1.76	444.94
13	65	1.08	2.2	0.560	0.27	0.50	0.29	2.72	734.65
14	70	1.17	2.2	0.560	0.27	0.50	0.29	2.72	734.65
15	75	1.25	2.2	0.560	0.27	0.50	0.29	2.72	734.65
16	80	1.33	2.0	0.509	0.27	0.46	0.24	2.24	589.79
17	85	1.42	2.6	0.661	0.27	0.60	0.39	3.69	1024.36
18	90	1.50	2.7	0.687	0.27	0.62	0.41	3.93	1096.79
19	95	1.58	2.4	0.611	0.27	0.55	0.34	3.20	879.50
20	100	1.67	2.7	0.687	0.27	0.62	0.41	3.93	1096.79
21	105	1.75	3.3	0.840	0.27	0.76	0.57	5.38	1531.35
22	110	1.83	3.1	0.789	0.27	0.71	0.52	4.89	1386.50
23	115	1.92	2.9	0.738	0.27	0.66	0.46	4.41	1241.64
24	120	2.00	3.0	0.763	0.27	0.69	0.49	4.65	1314.07
25	125	2.08	3.1	0.789	0.27	0.71	0.52	4.89	1386.50
26	130	2.17	4.2	1.068	0.27	0.96	0.80	7.55	2183.20
27	135	2.25	5.0	1.272	0.27	1.14	1.00	9.48	2762.62
28	140	2.33	3.5	0.890	0.27	0.80	0.62	5.86	1676.21
29	145	2.42	6.8	1.730	0.27	1.56	1.46	13.83	4066.32
30	150	2.50	7.3	1.857	0.27	1.67	1.58	15.03	4428.46
31	155	2.58	8.2	2.086	0.27	1.88	1.81	17.21	5080.31
32	160	2.67	5.9	1.501	0.27	1.35	1.23	11.65	3414.47
33	165	2.75	2.0	0.509	0.27	0.46	0.24	2.24	589.79
34	170	2.83	1.8	0.458	0.27	0.41	0.19	1.76	444.94
35	175	2.92	1.8	0.458	0.27	0.41	0.19	1.76	444.94
36	180	3.00	0.6	0.153	0.27	0.14	0.02	0.14	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.31
FLOOD VOLUME (acft)	1.04
FLOOD VOLUME (cuft)	45221.59
REQUIRED STORAGE (acft)	0.96
REQUIRED STORAGE (cuft)	41998.54
PEAK FLOW RATE (cfs)	17.21

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.49
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.83
UNIT TIME-PERCENT OF LAG	176.4
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.273
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.27 cfs

Unit Time Period	Time		Pattern	Storm Rain	Loss Rate in/hr		Effective Rain	Flood Hydrograph Flow	Required Storage
	Minutes	Hours	Percent (Plate E-5.9)	in/hr	Max	Low	in/hr	cfs	cf
1	5	0.08	0.5	0.167	0.27	0.15	0.02	0.16	0.00
2	10	0.17	0.6	0.200	0.27	0.18	0.02	0.19	0.00
3	15	0.25	0.6	0.200	0.27	0.18	0.02	0.19	0.00
4	20	0.33	0.6	0.200	0.27	0.18	0.02	0.19	0.00
5	25	0.42	0.6	0.200	0.27	0.18	0.02	0.19	0.00
6	30	0.50	0.7	0.234	0.27	0.21	0.02	0.22	0.00
7	35	0.58	0.7	0.234	0.27	0.21	0.02	0.22	0.00
8	40	0.67	0.7	0.234	0.27	0.21	0.02	0.22	0.00
9	45	0.75	0.7	0.234	0.27	0.21	0.02	0.22	0.00
10	50	0.83	0.7	0.234	0.27	0.21	0.02	0.22	0.00
11	55	0.92	0.7	0.234	0.27	0.21	0.02	0.22	0.00
12	60	1.00	0.8	0.267	0.27	0.24	0.03	0.25	0.00
13	65	1.08	0.8	0.267	0.27	0.24	0.03	0.25	0.00
14	70	1.17	0.8	0.267	0.27	0.24	0.03	0.25	0.00
15	75	1.25	0.8	0.267	0.27	0.24	0.03	0.25	0.00
16	80	1.33	0.8	0.267	0.27	0.24	0.03	0.25	0.00
17	85	1.42	0.8	0.267	0.27	0.24	0.03	0.25	0.00
18	90	1.50	0.8	0.267	0.27	0.24	0.03	0.25	0.00
19	95	1.58	0.8	0.267	0.27	0.24	0.03	0.25	0.00
20	100	1.67	0.8	0.267	0.27	0.24	0.03	0.25	0.00
21	105	1.75	0.8	0.267	0.27	0.24	0.03	0.25	0.00
22	110	1.83	0.8	0.267	0.27	0.24	0.03	0.25	0.00
23	115	1.92	0.8	0.267	0.27	0.24	0.03	0.25	0.00
24	120	2.00	0.9	0.300	0.27	0.27	0.03	0.26	0.00
25	125	2.08	0.8	0.267	0.27	0.24	0.03	0.25	0.00
26	130	2.17	0.9	0.300	0.27	0.27	0.03	0.26	0.00
27	135	2.25	0.9	0.300	0.27	0.27	0.03	0.26	0.00
28	140	2.33	0.9	0.300	0.27	0.27	0.03	0.26	0.00
29	145	2.42	0.9	0.300	0.27	0.27	0.03	0.26	0.00
30	150	2.50	0.9	0.300	0.27	0.27	0.03	0.26	0.00
31	155	2.58	0.9	0.300	0.27	0.27	0.03	0.26	0.00
32	160	2.67	0.9	0.300	0.27	0.27	0.03	0.26	0.00
33	165	2.75	1.0	0.334	0.27	0.30	0.06	0.58	91.00
34	170	2.83	1.0	0.334	0.27	0.30	0.06	0.58	91.00
35	175	2.92	1.0	0.334	0.27	0.30	0.06	0.58	91.00
36	180	3.00	1.0	0.334	0.27	0.30	0.06	0.58	91.00
37	185	3.08	1.0	0.334	0.27	0.30	0.06	0.58	91.00
38	190	3.17	1.1	0.367	0.27	0.33	0.09	0.89	185.97
39	195	3.25	1.1	0.367	0.27	0.33	0.09	0.89	185.97
40	200	3.33	1.1	0.367	0.27	0.33	0.09	0.89	185.97
41	205	3.42	1.2	0.400	0.27	0.36	0.13	1.21	280.95
42	210	3.50	1.3	0.434	0.27	0.39	0.16	1.53	375.93
43	215	3.58	1.4	0.467	0.27	0.42	0.19	1.84	470.90
44	220	3.67	1.4	0.467	0.27	0.42	0.19	1.84	470.90
45	225	3.75	1.5	0.500	0.27	0.45	0.23	2.16	565.88
46	230	3.83	1.5	0.500	0.27	0.45	0.23	2.16	565.88
47	235	3.92	1.6	0.534	0.27	0.48	0.26	2.48	660.85
48	240	4.00	1.6	0.534	0.27	0.48	0.26	2.48	660.85
49	245	4.08	1.7	0.567	0.27	0.51	0.29	2.79	755.83
50	250	4.17	1.8	0.600	0.27	0.54	0.33	3.11	850.81
51	255	4.25	1.9	0.634	0.27	0.57	0.36	3.43	945.78
52	260	4.33	2.0	0.667	0.27	0.60	0.39	3.74	1040.76
53	265	4.42	2.1	0.701	0.27	0.63	0.43	4.06	1135.73
54	270	4.50	2.1	0.701	0.27	0.63	0.43	4.06	1135.73
55	275	4.58	2.2	0.734	0.27	0.66	0.46	4.38	1230.71
56	280	4.67	2.3	0.767	0.27	0.69	0.49	4.69	1325.69

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 6 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.49
UNIT TIME-MINUTES	5
LAG TIME - MINUTES	2.83
UNIT TIME-PERCENT OF LAG	176.4
TOTAL ADJUSTED STORM RAIN-INCHES	2.78
CONSTANT LOSS RATE-in/hr	0.273
LOW LOSS RATE - PERCENT	90%

TOTAL PERCOLATION RATE (cfs) 0.27 cfs

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
57	285	4.75	2.4	0.801	0.27	0.72	0.53	5.01	1420.66
58	290	4.83	2.4	0.801	0.27	0.72	0.53	5.01	1420.66
59	295	4.92	2.5	0.834	0.27	0.75	0.56	5.33	1515.64
60	300	5.00	2.6	0.867	0.27	0.78	0.59	5.64	1610.61
61	305	5.08	3.1	1.034	0.27	0.93	0.76	7.22	2085.49
62	310	5.17	3.6	1.201	0.27	1.08	0.93	8.81	2560.37
63	315	5.25	3.9	1.301	0.27	1.17	1.03	9.76	2845.30
64	320	5.33	4.2	1.401	0.27	1.26	1.13	10.71	3130.23
65	325	5.42	4.7	1.568	0.27	1.41	1.30	12.29	3605.11
66	330	5.50	5.6	1.868	0.27	1.68	1.60	15.14	4459.89
67	335	5.58	1.9	0.634	0.27	0.57	0.36	3.43	945.78
68	340	5.67	0.9	0.300	0.27	0.27	0.03	0.26	0.00
69	345	5.75	0.6	0.200	0.27	0.18	0.02	0.19	0.00
70	350	5.83	0.5	0.167	0.27	0.15	0.02	0.16	0.00
71	355	5.92	0.3	0.100	0.27	0.09	0.01	0.09	0.00
72	360	6.00	0.2	0.067	0.27	0.06	0.01	0.06	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.30
FLOOD VOLUME (acft)	1.03
FLOOD VOLUME (cuft)	44839.99
REQUIRED STORAGE (acft)	0.90
REQUIRED STORAGE (cuft)	39085.84
PEAK FLOW RATE (cfs)	15.14

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1

BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.490	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2729
LAG TIME - MINUTES	2.83	MINIMUM LOSS RATE (for var. loss) - in/hr	0.136
UNIT TIME-PERCENT OF LAG	529.1	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00253
		PERCOLATION RATE (cfs)	0.27

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
1	15	0.25	0.2	0.036	0.482	0.032	0.004	0.03	0.00
2	30	0.50	0.3	0.054	0.476	0.048	0.005	0.05	0.00
3	45	0.75	0.3	0.054	0.471	0.048	0.005	0.05	0.00
4	60	1.00	0.4	0.072	0.465	0.064	0.007	0.07	0.00
5	75	1.25	0.3	0.054	0.460	0.048	0.005	0.05	0.00
6	90	1.50	0.3	0.054	0.454	0.048	0.005	0.05	0.00
7	105	1.75	0.3	0.054	0.449	0.048	0.005	0.05	0.00
8	120	2.00	0.4	0.072	0.443	0.064	0.007	0.07	0.00
9	135	2.25	0.4	0.072	0.438	0.064	0.007	0.07	0.00
10	150	2.50	0.4	0.072	0.433	0.064	0.007	0.07	0.00
11	165	2.75	0.5	0.089	0.427	0.080	0.009	0.08	0.00
12	180	3.00	0.5	0.089	0.422	0.080	0.009	0.08	0.00
13	195	3.25	0.5	0.089	0.417	0.080	0.009	0.08	0.00
14	210	3.50	0.5	0.089	0.412	0.080	0.009	0.08	0.00
15	225	3.75	0.5	0.089	0.407	0.080	0.009	0.08	0.00
16	240	4.00	0.6	0.107	0.401	0.097	0.011	0.10	0.00
17	255	4.25	0.6	0.107	0.396	0.097	0.011	0.10	0.00
18	270	4.50	0.7	0.125	0.391	0.113	0.013	0.12	0.00
19	285	4.75	0.7	0.125	0.386	0.113	0.013	0.12	0.00
20	300	5.00	0.8	0.143	0.381	0.129	0.014	0.14	0.00
21	315	5.25	0.6	0.107	0.376	0.097	0.011	0.10	0.00
22	330	5.50	0.7	0.125	0.371	0.113	0.013	0.12	0.00
23	345	5.75	0.8	0.143	0.367	0.129	0.014	0.14	0.00
24	360	6.00	0.8	0.143	0.362	0.129	0.014	0.14	0.00
25	375	6.25	0.9	0.161	0.357	0.145	0.016	0.15	0.00
26	390	6.50	0.9	0.161	0.352	0.145	0.016	0.15	0.00
27	405	6.75	1.0	0.179	0.347	0.161	0.018	0.17	0.00
28	420	7.00	1.0	0.179	0.343	0.161	0.018	0.17	0.00
29	435	7.25	1.0	0.179	0.338	0.161	0.018	0.17	0.00
30	450	7.50	1.1	0.197	0.334	0.177	0.020	0.19	0.00
31	465	7.75	1.2	0.215	0.329	0.193	0.021	0.20	0.00
32	480	8.00	1.3	0.232	0.324	0.209	0.023	0.22	0.00
33	495	8.25	1.5	0.268	0.320	0.241	0.027	0.25	0.00
34	510	8.50	1.5	0.268	0.315	0.241	0.027	0.25	0.00
35	525	8.75	1.6	0.286	0.311	0.257	0.029	0.27	0.00
36	540	9.00	1.7	0.304	0.307	0.274	0.030	0.29	13.81
37	555	9.25	1.9	0.340	0.302	0.306	0.037	0.35	73.64
38	570	9.50	2.0	0.358	0.298	0.322	0.060	0.57	263.09
39	585	9.75	2.1	0.375	0.294	0.338	0.082	0.78	452.20
40	600	10.00	2.2	0.393	0.290	0.354	0.104	0.99	640.96
41	615	10.25	1.5	0.268	0.285	0.241	0.027	0.25	0.00
42	630	10.50	1.5	0.268	0.281	0.241	0.027	0.25	0.00
43	645	10.75	2.0	0.358	0.277	0.322	0.080	0.76	441.57
44	660	11.00	2.0	0.358	0.273	0.322	0.085	0.80	476.21
45	675	11.25	1.9	0.340	0.269	0.306	0.071	0.67	357.77
46	690	11.50	1.9	0.340	0.265	0.306	0.075	0.71	391.68
47	705	11.75	1.7	0.304	0.261	0.274	0.043	0.41	119.79
48	720	12.00	1.8	0.322	0.257	0.290	0.065	0.61	305.68
49	735	12.25	2.5	0.447	0.253	0.402	0.194	1.84	1407.47
50	750	12.50	2.6	0.465	0.250	0.418	0.215	2.04	1592.60
51	765	12.75	2.8	0.501	0.246	0.451	0.255	2.42	1930.06
52	780	13.00	2.9	0.519	0.242	0.467	0.276	2.62	2114.43
53	795	13.25	3.4	0.608	0.239	0.547	0.369	3.51	2909.26
54	810	13.50	3.4	0.608	0.235	0.547	0.373	3.54	2940.13
55	825	13.75	2.3	0.411	0.231	0.370	0.180	1.71	1290.76
56	840	14.00	2.3	0.411	0.228	0.370	0.183	1.74	1320.84
57	855	14.25	2.7	0.483	0.224	0.434	0.258	2.45	1961.36
58	870	14.50	2.6	0.465	0.221	0.418	0.244	2.32	1837.90
59	885	14.75	2.6	0.465	0.218	0.418	0.247	2.35	1866.75
60	900	15.00	2.5	0.447	0.214	0.402	0.233	2.21	1742.46
61	915	15.25	2.4	0.429	0.211	0.386	0.218	2.07	1617.74
62	930	15.50	2.3	0.411	0.208	0.370	0.204	1.93	1492.59
63	945	15.75	1.9	0.340	0.205	0.306	0.135	1.28	908.87
64	960	16.00	1.9	0.340	0.201	0.306	0.138	1.31	935.56
65	975	16.25	0.4	0.072	0.198	0.064	0.007	0.07	0.00
66	990	16.50	0.4	0.072	0.195	0.064	0.007	0.07	0.00
67	1005	16.75	0.3	0.054	0.192	0.048	0.005	0.05	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD
100 YEAR - 24 HOUR STORM EVENT

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
CONCENTRATION POINT: 1
BY: JAMES R. BAZ DATE: 1/17/2025

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	9.490	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.2729
LAG TIME - MINUTES	2.83	MINIMUM LOSS RATE (for var. loss) - in/hr	0.136
UNIT TIME-PERCENT OF LAG	529.1	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	4.47	C	0.00253
		PERCOLATION RATE (cfs)	0.27

Unit Time Period	Time Minutes	Time Hours	Pattern Percent (Plate E-5.9)	Storm Rain in/hr	Loss Rate in/hr Max	Loss Rate in/hr Low	Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
68	1020	17.00	0.3	0.054	0.189	0.048	0.005	0.05	0.00
69	1035	17.25	0.5	0.089	0.187	0.080	0.009	0.08	0.00
70	1050	17.50	0.5	0.089	0.184	0.080	0.009	0.08	0.00
71	1065	17.75	0.5	0.089	0.181	0.080	0.009	0.08	0.00
72	1080	18.00	0.4	0.072	0.178	0.064	0.007	0.07	0.00
73	1095	18.25	0.4	0.072	0.176	0.064	0.007	0.07	0.00
74	1110	18.50	0.4	0.072	0.173	0.064	0.007	0.07	0.00
75	1125	18.75	0.3	0.054	0.171	0.048	0.005	0.05	0.00
76	1140	19.00	0.2	0.036	0.168	0.032	0.004	0.03	0.00
77	1155	19.25	0.3	0.054	0.166	0.048	0.005	0.05	0.00
78	1170	19.50	0.4	0.072	0.164	0.064	0.007	0.07	0.00
79	1185	19.75	0.3	0.054	0.161	0.048	0.005	0.05	0.00
80	1200	20.00	0.2	0.036	0.159	0.032	0.004	0.03	0.00
81	1215	20.25	0.3	0.054	0.157	0.048	0.005	0.05	0.00
82	1230	20.50	0.3	0.054	0.155	0.048	0.005	0.05	0.00
83	1245	20.75	0.3	0.054	0.153	0.048	0.005	0.05	0.00
84	1260	21.00	0.2	0.036	0.151	0.032	0.004	0.03	0.00
85	1275	21.25	0.3	0.054	0.149	0.048	0.005	0.05	0.00
86	1290	21.50	0.2	0.036	0.148	0.032	0.004	0.03	0.00
87	1305	21.75	0.3	0.054	0.146	0.048	0.005	0.05	0.00
88	1320	22.00	0.2	0.036	0.145	0.032	0.004	0.03	0.00
89	1335	22.25	0.3	0.054	0.143	0.048	0.005	0.05	0.00
90	1350	22.50	0.2	0.036	0.142	0.032	0.004	0.03	0.00
91	1365	22.75	0.2	0.036	0.141	0.032	0.004	0.03	0.00
92	1380	23.00	0.2	0.036	0.139	0.032	0.004	0.03	0.00
93	1395	23.25	0.2	0.036	0.138	0.032	0.004	0.03	0.00
94	1410	23.50	0.2	0.036	0.138	0.032	0.004	0.03	0.00
95	1425	23.75	0.2	0.036	0.137	0.032	0.004	0.03	0.00
96	1440	24.00	0.2	0.036	0.137	0.032	0.004	0.03	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	1.28
FLOOD VOLUME (acft)	1.01
FLOOD VOLUME (cuft)	44164.39
REQUIRED STORAGE (acft)	0.72
REQUIRED STORAGE (cuft)	31405.17
PEAK FLOW (cfs)	3.54

PROJECT: CALHOUN AT AVENUE 49 - 100 YEAR EVENT
JOB # 0
1

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
463.5	0	0		17610	0	0	0.00
464.5	1	1	1790	19400	18505	18505	0.42
465.5	1	2	1840	21240	20320	38825	0.89
466.5	1	3	1900	23140	22190	61015	1.40
467	0.5	3.5	970	24110	11813	72828	1.67

PERCOLATION CALCULATIONS
PERCOLATION RATE 0.67 in/hr 0.27 cfs

MAXWELL IV DRYWELLS
NUMBER USED 0
RATE/DRYWELL 0 cfs
TOTAL DISSIPATED 0 cfs

TOTAL PERCOLATION RATE 0.27 cfs

1

JOB # 0

100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.55	165	165	82	83	463.50	83	0.00
2	10	0.55	165	248	82	166	463.51	166	0.00
3	15	0.07	20	185	82	104	463.51	104	0.00
4	20	1.03	310	413	82	331	463.52	331	0.01
5	25	1.03	310	641	82	559	463.53	559	0.01
6	30	1.76	527	1,086	82	1,004	463.55	1,004	0.02
7	35	1.03	310	1,313	82	1,231	463.57	1,231	0.03
8	40	1.76	527	1,758	82	1,676	463.59	1,676	0.04
9	45	1.76	527	2,203	82	2,121	463.61	2,121	0.05
10	50	1.03	310	2,431	82	2,349	463.63	2,349	0.05
11	55	1.27	382	2,731	82	2,649	463.64	2,649	0.06
12	60	1.76	527	3,176	82	3,094	463.67	3,094	0.07
13	65	2.72	817	3,911	82	3,829	463.71	3,829	0.09
14	70	2.72	817	4,645	82	4,563	463.75	4,563	0.10
15	75	2.72	817	5,380	82	5,298	463.79	5,298	0.12
16	80	2.24	672	5,970	82	5,888	463.82	5,888	0.14
17	85	3.69	1,106	6,994	82	6,912	463.87	6,912	0.16
18	90	3.93	1,179	8,091	82	8,009	463.93	8,009	0.18
19	95	3.20	961	8,970	82	8,888	463.98	8,888	0.20
20	100	3.93	1,179	10,067	82	9,985	464.04	9,985	0.23
21	105	5.38	1,613	11,598	82	11,517	464.12	11,517	0.26
22	110	4.89	1,468	12,985	82	12,903	464.20	12,903	0.30
23	115	4.41	1,324	14,227	82	14,145	464.26	14,145	0.32
24	120	4.65	1,396	15,541	82	15,459	464.34	15,459	0.35
25	125	4.89	1,468	16,927	82	16,845	464.41	16,845	0.39
26	130	7.55	2,265	19,110	82	19,028	464.53	19,028	0.44
27	135	9.48	2,845	21,873	82	21,791	464.66	21,791	0.50
28	140	5.86	1,758	23,549	82	23,467	464.74	23,467	0.54
29	145	13.83	4,148	27,616	82	27,534	464.94	27,534	0.63
30	150	15.03	4,510	32,044	82	31,962	465.16	31,962	0.73
31	155	17.21	5,162	37,124	82	37,042	465.41	37,042	0.85
32	160	11.65	3,496	40,539	82	40,457	465.57	40,457	0.93
33	165	2.24	672	41,129	82	41,047	465.60	41,047	0.94
34	170	1.76	527	41,573	82	41,492	465.62	41,492	0.95
35	175	1.76	527	42,018	82	41,936	465.64	41,936	0.96
36	180	0.14	43	41,980	82	41,898	465.64	41,898	0.96

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.16	47	47	82	-	463.50	-	0.00
2	10	0.19	57	57	82	-	463.50	-	0.00
3	15	0.19	57	57	82	-	463.50	-	0.00
4	20	0.19	57	57	82	-	463.50	-	0.00
5	25	0.19	57	57	82	-	463.50	-	0.00
6	30	0.22	66	66	82	-	463.50	-	0.00
7	35	0.22	66	66	82	-	463.50	-	0.00
8	40	0.22	66	66	82	-	463.50	-	0.00
9	45	0.22	66	66	82	-	463.50	-	0.00
10	50	0.22	66	66	82	-	463.50	-	0.00
11	55	0.22	66	66	82	-	463.50	-	0.00
12	60	0.25	76	76	82	-	463.50	-	0.00
13	65	0.25	76	76	82	-	463.50	-	0.00
14	70	0.25	76	76	82	-	463.50	-	0.00
15	75	0.25	76	76	82	-	463.50	-	0.00
16	80	0.25	76	76	82	-	463.50	-	0.00
17	85	0.25	76	76	82	-	463.50	-	0.00
18	90	0.25	76	76	82	-	463.50	-	0.00
19	95	0.25	76	76	82	-	463.50	-	0.00
20	100	0.25	76	76	82	-	463.50	-	0.00
21	105	0.25	76	76	82	-	463.50	-	0.00
22	110	0.25	76	76	82	-	463.50	-	0.00
23	115	0.25	76	76	82	-	463.50	-	0.00
24	120	0.26	78	78	82	-	463.50	-	0.00
25	125	0.25	76	76	82	-	463.50	-	0.00
26	130	0.26	78	78	82	-	463.50	-	0.00
27	135	0.26	78	78	82	-	463.50	-	0.00
28	140	0.26	78	78	82	-	463.50	-	0.00
29	145	0.26	78	78	82	-	463.50	-	0.00
30	150	0.26	78	78	82	-	463.50	-	0.00
31	155	0.26	78	78	82	-	463.50	-	0.00
32	160	0.26	78	78	82	-	463.50	-	0.00
33	165	0.58	173	173	82	91	463.50	91	0.00
34	170	0.58	173	264	82	182	463.51	182	0.00
35	175	0.58	173	355	82	273	463.51	273	0.01
36	180	0.58	173	446	82	364	463.52	364	0.01
37	185	0.58	173	537	82	455	463.52	455	0.01
38	190	0.89	268	723	82	641	463.53	641	0.01
39	195	0.89	268	909	82	827	463.54	827	0.02
40	200	0.89	268	1,095	82	1,013	463.55	1,013	0.02
41	205	1.21	363	1,376	82	1,294	463.57	1,294	0.03
42	210	1.53	458	1,752	82	1,670	463.59	1,670	0.04
43	215	1.84	553	2,223	82	2,141	463.62	2,141	0.05
44	220	1.84	553	2,694	82	2,612	463.64	2,612	0.06
45	225	2.16	648	3,259	82	3,177	463.67	3,177	0.07
46	230	2.16	648	3,825	82	3,743	463.70	3,743	0.09
47	235	2.48	743	4,486	82	4,404	463.74	4,404	0.10
48	240	2.48	743	5,147	82	5,065	463.77	5,065	0.12
49	245	2.79	838	5,903	82	5,821	463.81	5,821	0.13
50	250	3.11	933	6,754	82	6,672	463.86	6,672	0.15
51	255	3.43	1,028	7,699	82	7,617	463.91	7,617	0.17
52	260	3.74	1,123	8,740	82	8,658	463.97	8,658	0.20
53	265	4.06	1,218	9,876	82	9,794	464.03	9,794	0.22
54	270	4.06	1,218	11,012	82	10,930	464.09	10,930	0.25
55	275	4.38	1,313	12,242	82	12,160	464.16	12,160	0.28

1

JOB # 0

100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
56	280	4.69	1,408	13,568	82	13,486	464.23	13,486	0.31
57	285	5.01	1,503	14,989	82	14,907	464.31	14,907	0.34
58	290	5.01	1,503	16,409	82	16,327	464.38	16,327	0.37
59	295	5.33	1,598	17,925	82	17,843	464.46	17,843	0.41
60	300	5.64	1,693	19,536	82	19,454	464.55	19,454	0.45
61	305	7.22	2,167	21,621	82	21,539	464.65	21,539	0.49
62	310	8.81	2,642	24,181	82	24,100	464.78	24,100	0.55
63	315	9.76	2,927	27,027	82	26,945	464.92	26,945	0.62
64	320	10.71	3,212	30,157	82	30,075	465.07	30,075	0.69
65	325	12.29	3,687	33,762	82	33,680	465.25	33,680	0.77
66	330	15.14	4,542	38,222	82	38,140	465.47	38,140	0.88
67	335	3.43	1,028	39,168	82	39,086	465.51	39,086	0.90
68	340	0.26	78	39,164	82	39,082	465.51	39,082	0.90
69	345	0.19	57	39,139	82	39,057	465.51	39,057	0.90
70	350	0.16	47	39,104	82	39,022	465.51	39,022	0.90
71	355	0.09	28	39,051	82	38,969	465.51	38,969	0.89
72	360	0.06	19	38,988	82	38,906	465.50	38,906	0.89

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.03	31	31	246	-	463.50	-	0.00
2	30	0.05	46	46	246	-	463.50	-	0.00
3	45	0.05	46	46	246	-	463.50	-	0.00
4	60	0.07	61	61	246	-	463.50	-	0.00
5	75	0.05	46	46	246	-	463.50	-	0.00
6	90	0.05	46	46	246	-	463.50	-	0.00
7	105	0.05	46	46	246	-	463.50	-	0.00
8	120	0.07	61	61	246	-	463.50	-	0.00
9	135	0.07	61	61	246	-	463.50	-	0.00
10	150	0.07	61	61	246	-	463.50	-	0.00
11	165	0.08	76	76	246	-	463.50	-	0.00
12	180	0.08	76	76	246	-	463.50	-	0.00
13	195	0.08	76	76	246	-	463.50	-	0.00
14	210	0.08	76	76	246	-	463.50	-	0.00
15	225	0.08	76	76	246	-	463.50	-	0.00
16	240	0.10	92	92	246	-	463.50	-	0.00
17	255	0.10	92	92	246	-	463.50	-	0.00
18	270	0.12	107	107	246	-	463.50	-	0.00
19	285	0.12	107	107	246	-	463.50	-	0.00
20	300	0.14	122	122	246	-	463.50	-	0.00
21	315	0.10	92	92	246	-	463.50	-	0.00
22	330	0.12	107	107	246	-	463.50	-	0.00
23	345	0.14	122	122	246	-	463.50	-	0.00
24	360	0.14	122	122	246	-	463.50	-	0.00
25	375	0.15	137	137	246	-	463.50	-	0.00
26	390	0.15	137	137	246	-	463.50	-	0.00
27	405	0.17	153	153	246	-	463.50	-	0.00
28	420	0.17	153	153	246	-	463.50	-	0.00
29	435	0.17	153	153	246	-	463.50	-	0.00
30	450	0.19	168	168	246	-	463.50	-	0.00
31	465	0.20	183	183	246	-	463.50	-	0.00
32	480	0.22	199	199	246	-	463.50	-	0.00
33	495	0.25	229	229	246	-	463.50	-	0.00
34	510	0.25	229	229	246	-	463.50	-	0.00
35	525	0.27	244	244	246	-	463.50	-	0.00
36	540	0.29	260	260	246	14	463.50	14	0.00
37	555	0.35	319	333	246	87	463.50	87	0.00
38	570	0.57	509	596	246	351	463.52	351	0.01
39	585	0.78	698	1,049	246	803	463.54	803	0.02
40	600	0.99	887	1,689	246	1,444	463.58	1,444	0.03
41	615	0.25	229	1,673	246	1,427	463.58	1,427	0.03
42	630	0.25	229	1,656	246	1,410	463.58	1,410	0.03
43	645	0.76	687	2,098	246	1,852	463.60	1,852	0.04
44	660	0.80	722	2,574	246	2,328	463.63	2,328	0.05
45	675	0.67	604	2,932	246	2,686	463.65	2,686	0.06
46	690	0.71	637	3,323	246	3,077	463.67	3,077	0.07
47	705	0.41	366	3,443	246	3,197	463.67	3,197	0.07
48	720	0.61	551	3,749	246	3,503	463.69	3,503	0.08
49	735	1.84	1,653	5,156	246	4,910	463.77	4,910	0.11
50	750	2.04	1,838	6,749	246	6,503	463.85	6,503	0.15
51	765	2.42	2,176	8,679	246	8,433	463.96	8,433	0.19
52	780	2.62	2,360	10,793	246	10,547	464.07	10,547	0.24
53	795	3.51	3,155	13,703	246	13,457	464.23	13,457	0.31
54	810	3.54	3,186	16,643	246	16,397	464.39	16,397	0.38
55	825	1.71	1,537	17,933	246	17,688	464.46	17,688	0.41
56	840	1.74	1,567	19,254	246	19,008	464.52	19,008	0.44
57	855	2.45	2,207	21,216	246	20,970	464.62	20,970	0.48
58	870	2.32	2,084	23,054	246	22,808	464.71	22,808	0.52

1

JOB # 0

100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
59	885	2.35	2,113	24,920	246	24,674	464.80	24,674	0.57
60	900	2.21	1,988	26,663	246	26,417	464.89	26,417	0.61
61	915	2.07	1,864	28,280	246	28,035	464.97	28,035	0.64
62	930	1.93	1,738	29,773	246	29,527	465.04	29,527	0.68
63	945	1.28	1,155	30,682	246	30,436	465.09	30,436	0.70
64	960	1.31	1,181	31,618	246	31,372	465.13	31,372	0.72
65	975	0.07	61	31,433	246	31,187	465.12	31,187	0.72
66	990	0.07	61	31,248	246	31,002	465.12	31,002	0.71
67	1005	0.05	46	31,048	246	30,802	465.11	30,802	0.71
68	1020	0.05	46	30,848	246	30,602	465.10	30,602	0.70
69	1035	0.08	76	30,679	246	30,433	465.09	30,433	0.70
70	1050	0.08	76	30,509	246	30,263	465.08	30,263	0.69
71	1065	0.08	76	30,340	246	30,094	465.07	30,094	0.69
72	1080	0.07	61	30,155	246	29,909	465.06	29,909	0.69
73	1095	0.07	61	29,970	246	29,724	465.05	29,724	0.68
74	1110	0.07	61	29,786	246	29,540	465.04	29,540	0.68
75	1125	0.05	46	29,586	246	29,340	465.03	29,340	0.67
76	1140	0.03	31	29,370	246	29,125	465.02	29,125	0.67
77	1155	0.05	46	29,170	246	28,925	465.01	28,925	0.66
78	1170	0.07	61	28,986	246	28,740	465.00	28,740	0.66
79	1185	0.05	46	28,786	246	28,540	464.99	28,540	0.66
80	1200	0.03	31	28,570	246	28,325	464.98	28,325	0.65
81	1215	0.05	46	28,370	246	28,125	464.97	28,125	0.65
82	1230	0.05	46	28,170	246	27,925	464.96	27,925	0.64
83	1245	0.05	46	27,970	246	27,725	464.95	27,725	0.64
84	1260	0.03	31	27,755	246	27,509	464.94	27,509	0.63
85	1275	0.05	46	27,555	246	27,309	464.93	27,309	0.63
86	1290	0.03	31	27,340	246	27,094	464.92	27,094	0.62
87	1305	0.05	46	27,140	246	26,894	464.91	26,894	0.62
88	1320	0.03	31	26,925	246	26,679	464.90	26,679	0.61
89	1335	0.05	46	26,725	246	26,479	464.89	26,479	0.61
90	1350	0.03	31	26,509	246	26,264	464.88	26,264	0.60
91	1365	0.03	31	26,294	246	26,048	464.87	26,048	0.60
92	1380	0.03	31	26,079	246	25,833	464.86	25,833	0.59
93	1395	0.03	31	25,864	246	25,618	464.85	25,618	0.59
94	1410	0.03	31	25,648	246	25,402	464.84	25,402	0.58
95	1425	0.03	31	25,433	246	25,187	464.83	25,187	0.58
96	1440	0.03	31	25,218	246	24,972	464.82	24,972	0.57

IV STREET FLOWRATE CAPACITY

On-site street curb and gutter systems will be designed to convey runoff to the on-site retention basin systems via surface flow. The project site will be designed to ensure that surface runoff generated during the 100 year storm event can be contained within the street right of way per City of Coachella drainage standards

In terms of on-site drainage, the site is divided into 4 separate quadrants, each draining to a separate surface retention basin. Within each quadrant, the maximum tributary area contributing runoff to any single street is 5 acres. Rational method calculations based on the 100 year design storm for 5 acres drainage area are provided in this section to quantify the maximum flowrate (Q) that must be conveyed by any on-site interior street. Manning's equation for open channel flow has then been used to show that the 100 year maximum flowrate (Q) can be contained within the street section right of way.

Q(100) MAX. = 10.92 CFS

MAX. STREET CAPACITY = 13.86 CFS

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2005 Version 7.1
Rational Hydrology Study Date: 09/25/24
File:CALHOUN100STREET.out

CALHOUN 100 YEAR - 5 ACRE STUDY

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6253

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

2 year, 1 hour precipitation = 0.350(In.)
100 year, 1 hour precipitation = 1.330(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.330(In/Hr)
Slope of intensity duration curve = 0.5900

++

Process from Point/Station 100.000 to Point/Station 200.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 450.000(Ft.)
Bottom (of initial area) elevation = 446.500(Ft.)
Difference in elevation = 3.500(Ft.)
Slope = 0.00350 s(percent)= 0.35
TC = k(0.370)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 18.171 min.
Rainfall intensity = 2.691(In/Hr) for a 100.0 year storm

```
CONDOMINIUM subarea type
Runoff Coefficient = 0.812
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.350; Impervious fraction =  0.650
Initial subarea runoff =     10.922(CFS)
Total initial stream area =        5.000(Ac.)
Pervious area fraction = 0.350
End of computations, total study area =            5.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.350
Area averaged RI index number =  56.0
```

100 YEAR STREET CAPACITY

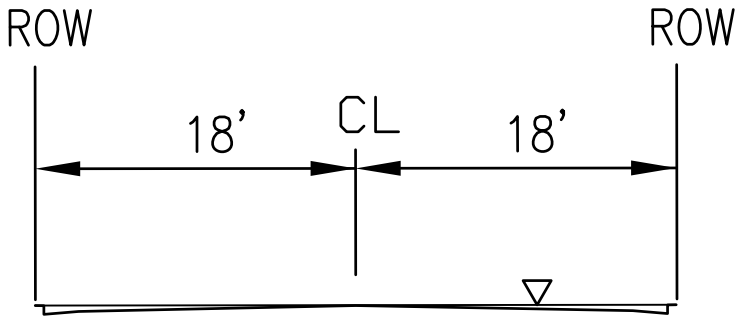
WITHIN PROJECT HALF STREET (NO CURB GUTTER AND SIDEWALK IMPROVEMENTS ON NON-PROJECT SIDE)

n=0.016

S=0.0035

R=A/P= 0.196

$Q=(1.49/n)AR^{2/3}S^{1/2}$ = 13.86cfs



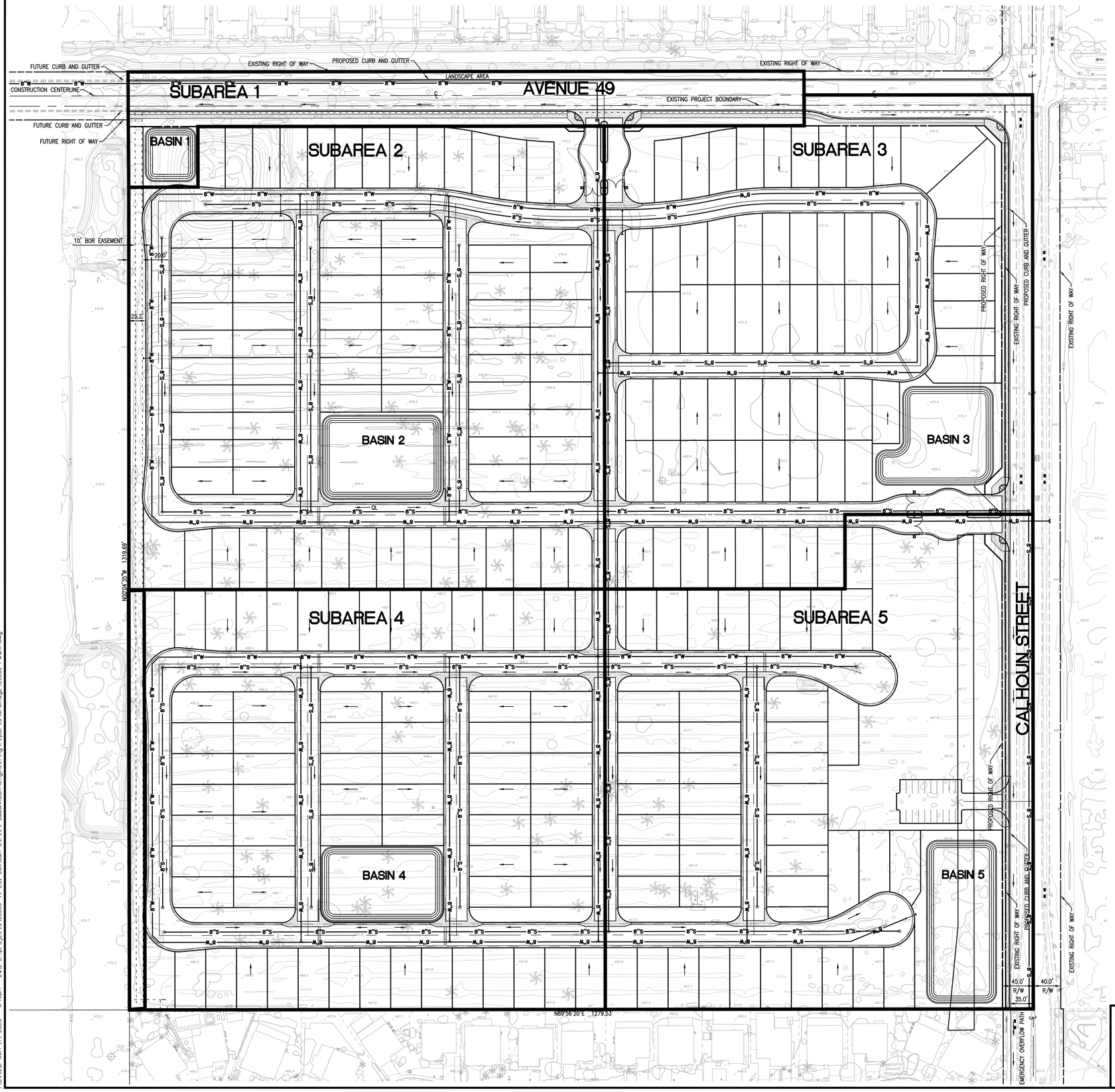
WETTED PERIMETER (P)=38.02

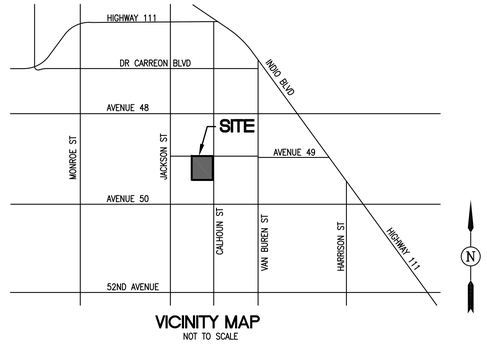
CROSS SECTION AREA (A)=7.46

V APPENDIX

PRELIMINARY HYDROLOGY/WATER QUALITY MANAGEMENT MAP

IN THE CITY OF COACHELLA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA





VICINITY MAP
NOT TO SCALE

LEGEND

SUBAREA BOUNDARY

DIRECTIONAL DRAINAGE ARROWS

NOAA POINT RAINFALL DATA

2 YEAR – 1 HR = 0.35 IN.
10 YEAR – 1 HR = 0.70 IN. 100 YEAR – 1 HR = 1.37 IN.
10 YEAR – 3 HR = 1.04 IN. 100 YEAR – 3 HR = 2.12 IN.
10 YEAR – 6 HR = 1.36 IN. 100 YEAR – 6 HR = 2.78 IN.
10 YEAR – 24 HR = 2.23 IN. 100 YEAR – 24 HR = 4.47 IN.

INFILTRATION RATE

DESIGN INFILTRATION RATE = 0.67 IN/HR

HYDROLOGIC SOIL GROUP

HYDROLOGIC SOIL GROUP "B"

SITE DATA

PROJECT SITE AREA: 38.8 AC.
PROJECT SITE & OFFSITE IMPROVEMENT AREA: 42.50 AC.

SUBAREA 1

AREA: 2.01 AC.

EXISTING IMPERVIOUS AREA: 0.0 AC. = 0.0%
EXISTING PERVIOUS AREA: 2.01 AC. = 100%

PROPOSED IMPERVIOUS AREA: 1.18 AC. = 59%
PROPOSED PERVIOUS AREA: 0.83 AC. = 41%

RETENTION VOLUME REQUIRED = 9,580 C.F.
RETENTION VOLUME PROVIDED = 12,250 C.F.

100 YR STORED W.S. DEPTH = 2.45'
10 YR STORED W.S. DEPTH = 0.72'

SUBAREA 2

AREA: 10.57 AC.

EXISTING IMPERVIOUS AREA: 0.0 AC. = 0.0%
EXISTING PERVIOUS AREA: 9.36 AC. = 100%

PROPOSED IMPERVIOUS AREA: 7.36 AC. = 70%
PROPOSED PERVIOUS AREA: 3.21 AC. = 30%

RETENTION VOLUME REQUIRED = 57,661 C.F.
RETENTION VOLUME PROVIDED = 64,193 C.F.

100 YR STORED W.S. DEPTH = 3.19'
10 YR STORED W.S. DEPTH = 0.99'

SUBAREA 3

AREA: 9.36 AC.

EXISTING IMPERVIOUS AREA: 0.34 AC. = 4%
EXISTING PERVIOUS AREA: 9.02 AC. = 96%

PROPOSED IMPERVIOUS AREA: 6.88 AC. = 74%
PROPOSED PERVIOUS AREA: 2.48 AC. = 26%

RETENTION VOLUME REQUIRED = 53,709 C.F.
RETENTION VOLUME PROVIDED = 62,528 C.F.

100 YR STORED W.S. DEPTH = 3.07'
10 YR STORED W.S. DEPTH = 0.94'

SUBAREA 4

AREA: 9.79 AC.

EXISTING IMPERVIOUS AREA: 0.0 AC. = 0.0%
EXISTING PERVIOUS AREA: 9.79 AC. = 100%

PROPOSED IMPERVIOUS AREA: 6.59 AC. = 67%
PROPOSED PERVIOUS AREA: 3.20 AC. = 33%

RETENTION VOLUME REQUIRED = 51,654 C.F.
RETENTION VOLUME PROVIDED = 57,236 C.F.

100 YR STORED W.S. DEPTH = 3.20'
10 YR STORED W.S. DEPTH = 0.99'

SUBAREA 5

AREA: 9.49 AC.

EXISTING IMPERVIOUS AREA: 0.53 AC. = 6%
EXISTING PERVIOUS AREA: 8.96 AC. = 94%

PROPOSED IMPERVIOUS AREA: 5.01 AC. = 53%
PROPOSED PERVIOUS AREA: 4.48 AC. = 47%

RETENTION VOLUME REQUIRED = 41,999 C.F.
RETENTION VOLUME PROVIDED = 72,828 C.F.

100 YR STORED W.S. DEPTH = 2.14'
10 YR STORED W.S. DEPTH = 0.54'

N

GRAPHIC SCALE
SCALE 1"=60'
0 30 60 120 180 240

PREPARED BY:
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ENGINEERING | PLANNING | SURVEY | ENVIRONMENTAL

CITY OF COACHELLA, CALIFORNIA

PRELIMINARY HYDROLOGY/
WATER QUALITY MANAGEMENT PLAN

FOR: CALHOUN STREET SUBDIVISION

SHEET NO.

Plotted: Jan 17, 2025 - 3:43pm DWG: L:\projects\C1530 49-251 Calhoun Street Subdivision\engineering\reports\drainage\C1530 PWQMP.dwg

NOAA Atlas 14, Volume 6, Version 2
Location name: Coachella, California, USA*
Latitude: 33.6909°, Longitude: -116.2099°
Elevation: -31 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.064** (0.053-0.077)	**0.100** (0.083-0.121)	**0.152** (0.126-0.184)	**0.198** (0.163-0.242)	**0.266** (0.212-0.338)	**0.325** (0.253-0.421)	**0.390** (0.297-0.518)	**0.464** (0.343-0.634)	**0.576** (0.408-0.821)	**0.674** (0.461-0.997)
10-min	**0.092** (0.076-0.111)	**0.143** (0.119-0.173)	**0.217** (0.181-0.264)	**0.283** (0.233-0.347)	**0.382** (0.304-0.484)	**0.466** (0.363-0.604)	**0.559** (0.425-0.743)	**0.665** (0.491-0.909)	**0.825** (0.584-1.18)	**0.967** (0.661-1.43)
15-min	**0.111** (0.092-0.134)	**0.173** (0.144-0.210)	**0.263** (0.218-0.319)	**0.343** (0.282-0.420)	**0.462** (0.368-0.586)	**0.564** (0.439-0.730)	**0.676** (0.514-0.899)	**0.804** (0.594-1.10)	**0.998** (0.706-1.42)	**1.17** (0.799-1.73)
30-min	**0.160** (0.134-0.194)	**0.251** (0.209-0.304)	**0.381** (0.316-0.463)	**0.496** (0.409-0.608)	**0.669** (0.533-0.848)	**0.816** (0.636-1.06)	**0.979** (0.745-1.30)	**1.16** (0.860-1.59)	**1.44** (1.02-2.06)	**1.69** (1.16-2.50)
60-min	**0.225** (0.188-0.272)	**0.352** (0.293-0.426)	**0.534** (0.444-0.649)	**0.696** (0.573-0.853)	**0.938** (0.747-1.19)	**1.14** (0.892-1.48)	**1.37** (1.04-1.83)	**1.63** (1.21-2.23)	**2.03** (1.44-2.89)	**2.38** (1.62-3.51)
2-hr	**0.311** (0.260-0.377)	**0.462** (0.385-0.560)	**0.687** (0.571-0.835)	**0.891** (0.734-1.09)	**1.21** (0.961-1.53)	**1.48** (1.15-1.92)	**1.79** (1.36-2.38)	**2.14** (1.58-2.93)	**2.69** (1.90-3.83)	**3.17** (2.17-4.68)
3-hr	**0.375** (0.313-0.454)	**0.547** (0.456-0.663)	**0.806** (0.669-0.979)	**1.04** (0.861-1.28)	**1.42** (1.13-1.80)	**1.74** (1.36-2.26)	**2.12** (1.61-2.82)	**2.55** (1.88-3.49)	**3.22** (2.28-4.60)	**3.82** (2.61-5.65)
6-hr	**0.495** (0.413-0.599)	**0.715** (0.596-0.866)	**1.05** (0.871-1.27)	**1.36** (1.12-1.66)	**1.84** (1.47-2.34)	**2.28** (1.78-2.95)	**2.78** (2.11-3.69)	**3.36** (2.48-4.59)	**4.27** (3.02-6.08)	**5.08** (3.47-7.51)
12-hr	**0.598** (0.499-0.724)	**0.883** (0.736-1.07)	**1.31** (1.09-1.59)	**1.70** (1.40-2.09)	**2.31** (1.84-2.93)	**2.85** (2.22-3.69)	**3.46** (2.63-4.60)	**4.17** (3.08-5.70)	**5.27** (3.73-7.52)	**6.25** (4.27-9.23)
24-hr	**0.751** (0.665-0.866)	**1.14** (1.01-1.32)	**1.72** (1.51-1.98)	**2.23** (1.95-2.60)	**3.02** (2.56-3.64)	**3.71** (3.08-4.56)	**4.47** (3.63-5.63)	**5.34** (4.22-6.91)	**6.67** (5.06-8.97)	**7.83** (5.75-10.9)
2-day	**0.871** (0.770-1.00)	**1.34** (1.18-1.55)	**2.02** (1.78-2.34)	**2.63** (2.30-3.06)	**3.53** (2.99-4.26)	**4.30** (3.57-5.29)	**5.15** (4.18-6.48)	**6.10** (4.82-7.89)	**7.53** (5.71-10.1)	**8.74** (6.42-12.2)
3-day	**0.933** (0.825-1.08)	**1.44** (1.28-1.67)	**2.18** (1.92-2.52)	**2.82** (2.47-3.30)	**3.79** (3.21-4.56)	**4.60** (3.82-5.65)	**5.49** (4.46-6.91)	**6.49** (5.12-8.38)	**7.96** (6.04-10.7)	**9.21** (6.76-12.8)
4-day	**0.983** (0.870-1.13)	**1.52** (1.34-1.76)	**2.29** (2.02-2.65)	**2.97** (2.60-3.47)	**3.98** (3.37-4.79)	**4.82** (4.01-5.93)	**5.75** (4.66-7.23)	**6.78** (5.35-8.75)	**8.29** (6.29-11.2)	**9.58** (7.03-13.3)
7-day	**1.04** (0.923-1.20)	**1.61** (1.42-1.86)	**2.41** (2.12-2.79)	**3.12** (2.73-3.64)	**4.16** (3.52-5.01)	**5.03** (4.18-6.18)	**5.98** (4.85-7.52)	**7.03** (5.55-9.08)	**8.57** (6.50-11.5)	**9.88** (7.25-13.7)
10-day	**1.08** (0.955-1.24)	**1.66** (1.47-1.92)	**2.48** (2.19-2.87)	**3.21** (2.80-3.74)	**4.27** (3.62-5.14)	**5.16** (4.29-6.34)	**6.13** (4.97-7.71)	**7.19** (5.68-9.30)	**8.76** (6.65-11.8)	**10.1** (7.40-14.0)
20-day	**1.15** (1.02-1.33)	**1.78** (1.58-2.06)	**2.68** (2.36-3.10)	**3.46** (3.03-4.04)	**4.61** (3.91-5.55)	**5.56** (4.62-6.84)	**6.60** (5.35-8.30)	**7.73** (6.10-9.99)	**9.38** (7.12-12.6)	**10.8** (7.90-15.0)
30-day	**1.20** (1.06-1.38)	**1.88** (1.66-2.17)	**2.86** (2.52-3.31)	**3.71** (3.25-4.33)	**4.97** (4.21-5.98)	**6.00** (4.98-7.38)	**7.12** (5.77-8.95)	**8.33** (6.58-10.8)	**10.1** (7.66-13.6)	**11.5** (8.47-16.0)
45-day	**1.30** (1.15-1.49)	**2.07** (1.83-2.39)	**3.18** (2.80-3.68)	**4.14** (3.62-4.83)	**5.56** (4.72-6.70)	**6.74** (5.60-8.28)	**8.00** (6.49-10.1)	**9.36** (7.39-12.1)	**11.3** (8.59-15.2)	**12.9** (9.50-18.0)
60-day	**1.36** (1.21-1.57)	**2.21** (1.95-2.55)	**3.42** (3.01-3.96)	**4.48** (3.92-5.22)	**6.03** (5.11-7.26)	**7.31** (6.07-8.98)	**8.68** (7.04-10.9)	**10.2** (8.03-13.1)	**12.3** (9.33-16.5)	**14.0** (10.3-19.5)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

Appendix G

AGREEMENTS – CC&RS, COVENANT AND AGREEMENTS, BMP MAINTENANCE AGREEMENTS AND/OR OTHER MECHANISMS FOR ENSURING ONGOING OPERATION, MAINTENANCE, FUNDING AND TRANSFER OF REQUIREMENTS FOR THIS PROJECT-SPECIFIC WQMP

N/A

Appendix H

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT – SUMMARY OF SITE REMEDIATION CONDUCTED AND USE RESTRICTIONS

The Altum Group
44-600 Village Court, Suite 100
Palm Desert, California 92260

Proposal for
Geotechnical Engineering Feasibility Report and
Phase I Environmental Site Assessment
Vandenburg
APN: 612-260-010-6
Coachella, Riverside County, California

August 1, 2023

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August 1, 2023 Proposal No.: BER-23-8-001

The Altum Group
44-600 Village Court, Suite 100
Palm Desert, California 92260

Attention: Rich Malacoff, AICP, Principal Planner

Subject: **Geotechnical Engineering Feasibility Report and Phase I Environmental Site Assessment**

Project: **Vandenburg**
APN: 612-260-010-6
Coachella, Riverside County, California

Earth Systems Pacific [Earth Systems] is pleased to submit this proposal to provide geotechnical services and a Phase I Environmental Site Assessment for the above referenced project. Since 1969, the Earth Systems group of companies has provided expert geo-professional services to assist our clients through all aspects of geotechnical and geologic engineering, environmental engineering, and construction related materials testing and inspection services. Our dedicated staff understands the diverse geotechnical, geologic, and construction-related issues that may affect the proposed project and will work to develop practical and economical geotechnical engineering solutions through innovative approaches. We have prepared this proposal based on our understanding of preliminary project information provided by the client. We have estimated the total number of borings and our fees based on preliminary information provided by the client. We also understand that the proposed structure/s will be developed under the regulation of the current California Building Code [CBC] (2022). Based upon the anticipated conditions, the following sections describe our understanding of the project and our anticipated scope of services in order to meet the above requirements.

This project will be managed by Mr. Kevin Paul, GE 2930, who will also oversee the engineering evaluation and report preparation, and be the Principal on the project. Mr. Mark Spykerman, EG 1174, will also oversee the interpretation of the site geologic conditions.

Environmental work on this project will be performed under the direct supervision of an Environmental Professional [EP], in accordance with the US EPA AAI and ASTM E-1527-13 requirements.

SITE AREA AND PROJECT UNDERSTANDING

We understand the proposed project is contained within one accessor parcel number located southwest corner of Avenue 49 and Calhoun Street, Riverside County, California. The legal address is APNs: 612-260-010-6. The project is bounded by future extension of Avenue 49 to the north, Calhoun Street to the east, abandoned date palm farmland to the south and west. The APN report states the area is approximately 38.8 acres and has a high potential for liquefaction. The site appears to have been used as a former date tree farm.

The client provided site plan shows multiple improvements on the project site. The following improvements are noted:

- Three subareas containing apartment buildings, total 15.2 acres.
- Residential Lots.
- Park site totaling 1.5 acres.
- Two retention basins along Calhoun Street

Note, plans showing actual building locations and other improvements have not been provided to Earth Systems at the time of drafting this proposal; hence, the reason for "feasibility level" geotechnical report. Earth Systems shall review the 100 percent concept plans to determine if the report can become a "full level" geotechnical report. The client should understand that Earth Systems could require additional exploration, lab testing, and report addendums based on the comparison of the now and future Concept Plans and other project plans.

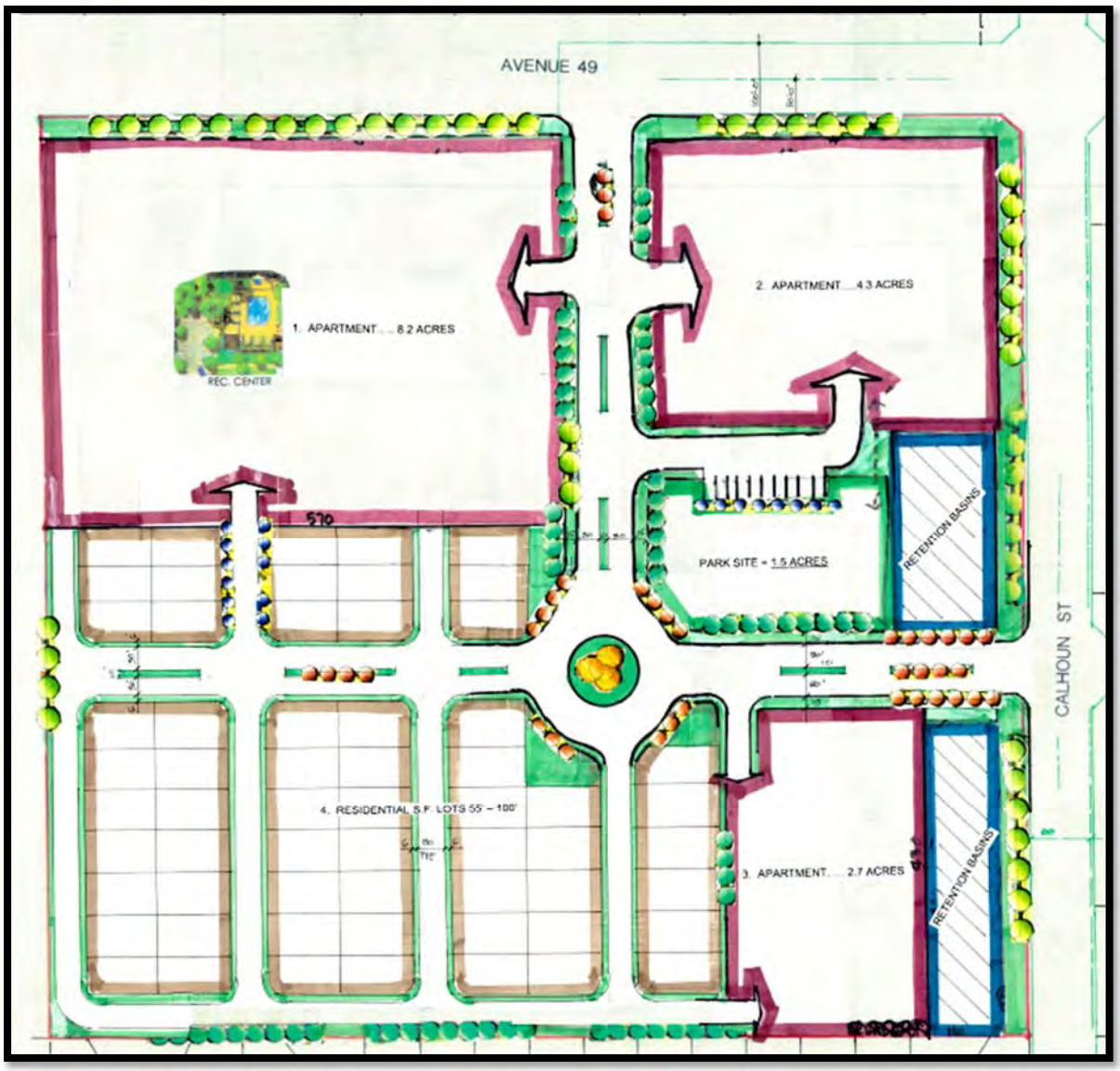


Figure 1 Conceptual Site Plan

Earth Systems assumes any new structure will be one to two-story with slab on grade construction. Earth Systems also assumes the structure will be made of wood or metal frame construction with shallow conventional foundation. Below grade basement levels are not anticipated. We assume column loads are anticipated not to exceed approximately 50 kips for spread footings and 3 kip/LF for wall loads. Based on the type of development, appurtenant site work is anticipated to include perimeter walls, trash enclosure, asphaltic pavement, driveway approaches, PCC sidewalk, underground utilities and landscaping. If all weather roads consisting of gravel is desired, please contact Earth Systems for these design recommendations.

Preliminary grading elevations were not available at this time. We assumed that proposed grades will be approximately (+/-3 feet) those of existing site grades. Site soils are expected to be coarse grained soils. Bedrock is not expected to be within the limits of the borings (maximum depth of 50 feet). However, groundwater may be near the 50-foot depth of search required by the California Building Code.

The purpose of our study will be to explore the subsurface conditions and provide geotechnical recommendations for project design. Two locations will be selected prior to field explorations to perform shallow boring percolation tests for proposed storm basin infiltration. This proposal contains a brief project description, our proposed approach to the project based upon our initial assessment of site conditions and readily available information, our proposed scope of services, schedule, and proposed fee. Since detailed services may involve greater expense, we ask that our clients participate in determining the level of service, which provides adequate information for their purposes. Please review this information and our proposed scope. If you should have any questions or suggested revisions to our scope, please do not hesitate to contact the signatory of this proposal. Our proposal is based upon the assumption that we will be provided full access to the site during normal business hours (M-F, 7 am to 6 pm) to complete field activities and that drilling with a gasoline powered drill rig equipped with a 140-pound hammer to drive the soil samplers can be used at the site.

PROPOSED SCOPE OF GEOTECHNICAL SERVICES

Our scope will include performing subsurface exploration, laboratory testing, and preparing one report of our findings and recommendations regarding geotechnical and geologic aspects of the project. Specific tasks are as follows:

Task 1 - Literature Review

We propose to begin our services by reviewing select geologic and geotechnical literature pertaining to the project. This will include a review of various hazard, fault and geologic maps prepared by the U.S. Geological Survey, Riverside County, and other governmental agencies as they relate to the site.

Task 2 - Utility Coordination, USA Layout

Each of our proposed field exploration locations will be located and marked in the field and cleared with known utility lines as identified by Underground Service Alert [USA]. Our proposed exploration locations will be located in the field by hand measuring devices such as tape or a

wheel, based on the control provided, and a consumer grade hand-held GPS (accuracy +- 15 feet). The accuracy of location will be governed by the method used.

Task 3 – Field Exploration

We propose to evaluate the general subsurface conditions at the site by utilizing a rubber track rig-mounted drill utilizing hollow-stem auger type techniques. Borings will be performed to collect field data and soil samples to evaluate the general nature of the anticipated site soils. Our proposed exploration locations will be selected based on client provided information of the proposed improvements. Additionally, backhoe test pits on the order of 5 to 10 feet deep will be excavated to observe the depth of date palm roots.

Our planned boring exploration will include approximately five (5) exploration borings. Boring depths vary between 10 and 50 feet (50-foot depth) in depth below the ground surface or practical refusal. Boring and pit depths are measured below the existing ground surface and will be excavated to the approximate stated depth or to practical refusal, whichever occurs first. Boring and pit depths may be adjusted depending on conditions encountered.

A representative from Earth Systems will maintain a log of the subsurface conditions encountered and will obtain samples for visual observation, classification and laboratory testing. Soils will be logged in general accordance with the Unified Soil Classification System. Our typical sampling interval within the borings will be approximately every 2½ to 5 feet to the full depth explored; however, sampling intervals may be adjusted depending on the materials encountered. Bulk samples of the soil materials will be obtained. The number of blows necessary to drive either a Standard Penetration Test [SPT] sampler or a modified California-type sampler within the borings will be recorded. The depth to groundwater will be measured, if encountered. Borings will be backfilled with the soils from the cuttings and tamped upon completion. Controlled compaction of the backfill is not proposed. Our field exploration will be provided under the direction of a Registered Engineer from our firm.

In the event that unusual site conditions not presently anticipated are encountered during the exploration, we will bring it to your attention and will discuss with you the effect of these conditions on both the estimated cost and timing of the report.

Task 4 - Laboratory Testing

Laboratory tests will be performed on selected samples to evaluate the physical characteristics of the materials encountered during our field exploration. We anticipate laboratory testing may include moisture content, dry unit weight, maximum density/optimum moisture content, sieve analysis, Expansion Index, R-value, and consolidation/collapse potential. Testing will be performed in general accordance with American Society for Testing and Materials [ASTM] or appropriate test procedure. Selected samples will also be tested for a screening level of corrosion potential (pH, electrical resistivity, water-soluble sulfates, and water-soluble chlorides). Earth Systems does not practice corrosion engineering; however, these test results may be used by a qualified engineer in designing an appropriate corrosion control plan for the project. The tests selected and the frequency of testing may be modified and will be based on the subsurface conditions encountered.

Task 5 – Analysis and Report

Earth Systems will analyze the field data obtained, perform preliminary engineering analyses, and provide recommended design parameters for earthwork and foundations for the proposed structure/s. The results of our field exploration and engineering analysis will be summarized in a report prepared under the supervision of a Registered Engineer. Four copies of this report will be provided to the client. We anticipate that our report will include:

- A description of the proposed project including a site plan showing the approximate boring locations.
- A description of the surface and subsurface site conditions including groundwater conditions, as encountered in our field exploration.
- A description of the site geologic setting and possible associated geology-related hazards, including liquefaction, subsidence, and seismic settlement analysis.
- A discussion of regional geology and site seismicity.
- A description of local and regional active faults.
- A discussion of other geologic hazards such as ground shaking, landslides, flooding, and tsunamis.
- A discussion of site conditions, including the geotechnical suitability of the site for the general type of construction proposed.
- A "General Procedure" seismic analysis including geotechnical seismic design coefficients in accordance with the 2022 CBC.
- Recommendations for imported fill (if required) for use in compacted fills.
- Recommendations for foundation design including parameters for shallow foundations and building pad and subgrade preparation.
- Anticipated total and differential settlements for the recommended foundation system.
- Preliminary recommendations for the mitigation of seismic induced settlement.
- Recommendations for lateral earth pressures (active, at-rest, and passive) for retaining walls, including drainage requirements, coefficients of friction and seismic earth pressures.
- Recommendations for site preparation, earthwork, and fill compaction specifications.
- Discussion of anticipated excavation conditions, including shrinkage and/or bulking.
- Recommendations for underground utility trench backfill and import soils.
- Recommendations for stability of temporary trench excavations.
- Recommendations for slabs-on-grade (building slabs and walkways), including recommendations for reducing the potential for moisture transmission through interior slabs.

- Asphalt concrete pavement and Portland cement driveway recommendations for auto, driveways, and fire lanes (Traffic Index values of 5.0 for parking areas and 7.0 for driveways, and 5.0 for fire lanes).
- Recommendations for collapsible or expansive soils (if applicable).
- Recommendations for location specific storm water infiltration rates. Note, infiltration rates will be provided in the geotechnical report.
- A discussion of the corrosion potential of the near-surface soils encountered during our field exploration.
- An appendix, which will include a summary of the field exploration and laboratory testing program.

Task 6 – Percolation Testing for Basin Infiltration

In addition to the geotechnical explorations, two (2) borings will be drilled and used for percolation testing and soil classification. The percolation testing borings will extend no deeper than 5 feet below the ground surface. Drilling must be performed in conjunction with the geotechnical engineering exploration during our field exploration and these will be used for percolation testing in proposed infiltration systems (location to be determined by the hydraulic engineer prior to drilling operations). The percolation test values will be converted to infiltration values based on Porchet Method defined in Riverside County (accepted by San Bernardino County) Low Impact Development BMP Design Handbook: Shallow Percolation Test. Test holes will extend vertically to maximum depth of 5 feet below the existing ground surface representing the assumed bottom of the drainage facility. Perforated PVC pipe and gravel and sock will be placed into the test hole to hold it open during the test, and the test holes will be pre-soaked and allowed to sit overnight if required.

Percolation testing will consist of adding up to 3 feet of clean water to the test holes. Adding the water will allow measuring the rate at which the water percolates into the subsurface by periodically measuring the drop in water surface over time. The tests will take about one hour if a sandy protocol is used, and will last about six hours if a clayey protocol is used (in general conformance with the standards of the Riverside County Low Impact Development BMP Design Handbook: Shallow Percolation Test. For the clayey protocol, the testing will be performed the day after the hole has been presoaked; for the sandy protocol, the testing can be performed two hours after the hole has been presoaked. Based on knowledge of the surface soils designated as sandy, we anticipate that the sandy testing protocol may apply. The tests can be performed concurrently in the various test holes.

Optional Task 7 – Private Utility Locating

As USA does not locate utilities on private property. We offer, as an optional task item, to perform private utility locating at the proposed boring locations if utility plans are not available from the owner and they would like greater assurance of not encountering a buried utility during the drilling.

GEOTECHNICAL FEES

We propose to complete the proposed scope of work presented above assuming typical site conditions on a fixed-fee basis as detailed below:

Geotechnical Engineering Report and Seismic Hazards Evaluation and Percolation Testing (Tasks 1-6)	$19,900.00
Private Utility Locating (Optional Task 7)	$ 1,500.00

Typical site conditions assume reasonable accessibility for a truck mounted drill rig, permits are not required, monitoring by third parties are not required, and minimal delays for utility clearances. In the event that unusual site conditions not presently anticipated are encountered during the exploration, we will bring it to your attention and will discuss with you the effect of these conditions on both the estimated cost and timing of the reports.

Other services not included are private utility locating (unless option selected), percolation testing for leach private sewage, temporary traffic control plans & permit & devices & device setup, plan reviews, response to reviews, meetings, testing or observation during construction, or any other service not expressly detailed. If required, services in addition to the scope of work described above will be billed on a time-and-expense basis, based upon the Fee Schedule in effect at the time the services are provided.

Our proposal is based on the understanding that our services, as outlined in this proposal, are not subject to Prevailing Wage Law for non-professional field staff (i.e. drillers and helpers). In the event that the Department of Industrial Relations determines that additional Prevailing Wage Law applies to the project, (client) agrees to pay to Consultant any additional compensation necessary to adjust Consultant's employees' wages to conform to the Prevailing Wage Law on this project.

GEOTECHNICAL SCHEDULE

Based on the requested information, we feel confident that we can provide the geotechnical engineering report as outlined in this proposal in an expeditious manner. Typically, once authorization to enter the property and a signed contract and retainer are received, we will mark respective boring locations in the field. Subsequent to field marking, we will contact Underground Service Alert which requires 48 hours notification prior to any underground excavation or drilling. Depending on subcontractor availability, we anticipate excavating our field borings within one to two weeks after the minimum 48 hour wait required by Underground Service Alert. Drilling operations will take approximately one day to complete.

Laboratory testing is anticipated to take three weeks to complete after drilling is completed. This time frame is governed by the type of testing performed as certain tests anticipated for this project require at least two weeks to run. Normal time frames from receipt of authorization to report submittal is typically about six to eight weeks. If requested, we can provide preliminary design data in the interim period before the report is finalized.

PROPOSED SCOPE OF ENVIRONMENTAL SERVICES

Our environmental scope will include performing a standard Phase I Environmental Site Assessment. No additional environmental services are proposed. The purpose of an ESA is to evaluate the potential for soil or groundwater contamination at a site due to the possible past use, storage, or handling of hazardous materials or petroleum products on or near the site, based on a visit to the site and a review of readily obtainable information concerning site activities and conditions. The scope of work is based on United States Environmental Protection Agency Final All Appropriate Inquiry Rule (2006) [US EPA AAI] and ASTM Standard E-1527-13, *Standard Practice for Environmental Site Assessments*. Our cost estimate is based on performing the following scope of services:

Site Reconnaissance: This will include a visual reconnaissance of the site, noting physical evidence of potential contamination or possible sources of contamination. The client/owner, tenants, and/or site personnel will be interviewed (if possible) regarding current and past site usage. The site will be photographed to document current conditions. Adjacent site uses will also be observed to evaluate their possible impact on the subject property.

Site History Investigation: The history of the site will be researched to identify past land use at and near the site related to the storage, production, or use of hazardous materials. If possible, persons with knowledge of past site uses will be interviewed. Documents to be reviewed may include the following:

- Historical aerial photographs
- Topographic maps
- Munger Oil maps
- Fire insurance maps
- Land title information
- Local street directories
- Zoning/land use records
- Interviews with current and/or former owners, occupants, and operators
- Engineering and institutional controls, such as deed restrictions and restrictive zoning to a radius of ½-mile, if contained in publicly available lists/registries
- Tribal records of subject property and adjoining properties (if tribal land)
- Local government records such as building department files
- Environmental cleanup liens
- Prior investigative reports (non-Earth Systems reports must be provided by the client)

Regulatory Agency Record Review: Many regulatory agencies compile information concerning sites that generate, store, use, and/or have released hazardous materials. This information will be accessed by obtaining a report from a firm that specializes in maintaining a database of this type of information. The search radii for this review will be in accordance with the US EPA AAI and ASTM standard E-1527-13 (plus an additional distance to accommodate large sites, as appropriate). In addition, personnel at select government agencies will be contacted for information they may have regarding

environmental conditions at the site or in the site vicinity. If the site or an adjacent property is known to have had a release of hazardous materials, the agency files for that site will be reviewed (if readily obtainable). We have assumed that this review will take no more than 2 hours.

Report Preparation: A report summarizing the results of the assessment will be prepared and sent to the client. The report will present our findings regarding past land use on and around the site, our opinion regarding the potential for soil or groundwater contamination at the site, and our recommendations for additional assessment of the site (if deemed appropriate). The US EPA AAI and ASTM standard E1527-13 require the identification of gaps in the data used in evaluating the site. Data gaps encountered in the project, and their significance to the project, will be summarized. The report is normally provided in digital form (as a pdf). Up to three paper copies of the report can be provided upon request at no additional cost.

Note that the collection or analysis of samples of building materials, soil, groundwater, or air is not typically included in the scope of an ESA and is not proposed here. Assessment for the presence of molds is also not included. We do not propose to determine the degree or extent of any contamination that may be identified during this phase of work. If needed, these evaluations would normally be performed as part of a subsequent "Phase II" investigation, at an additional fee.

ENVIRONMENTAL FEES

We propose to conduct this Phase I with a normal turnaround time of 4 weeks and on a fixed-fee basis.

Phase I Environmental Site Assessment – site has past use	$4,900.00

In lieu of requesting a credit application and performing a credit check, we will invoice you for this amount when we receive authorization to proceed. That invoice must be paid before the report will be issued.

ENVIRONMENTAL SCHEDULE

Phase I ESA's typically require about four weeks to complete. Please note that some of the information required to complete the ESA may not be available within the project time-frame. Significant information that does not arrive by the time of publication will be reported as a data gap.

TERMS FOR SERVICE

The following terms and conditions shall be incorporated into the agreement for services and form the basis for the fees developed within. Contract terms more onerous than presented within or insurance greater than $1,000,000 typical limit could incur greater fee.

1. STUDY, MONITORING & INSPECTION: If the services include monitoring or inspection of soil, construction and/or materials, Client shall authorize and pay for Consultant to provide sufficient observation and professional inspection to permit Consultant to form opinions according to accepted statistical sampling methods as to whether the work has been performed

in accordance with recommendations. Such opinions, while statistically valid, do not guaranty uniformity of conditions or materials. Similarly, soils and geology investigations do not guaranty uniformity of subsurface conditions. Client hereby represents and warrants that it has provided and shall provide to Consultant all information and sufficient advance notice necessary in order for Consultant to perform the appropriate level of services. No statement or action of Consultant can relieve Client's contractors of their obligation to perform their work properly. Consultant has no authority to supervise or stop the work of others.

2. SITE ACCESS & UTILITIES: Client has sole responsibility for securing site access, locating utilities, and any repair.

3. BILLING AND PAYMENT: Client will pay Consultant the proposal amount or, if none is stated, according to the fee schedule in effect at the time our services are provided. Prior to initiation of fieldwork, a retainer may be required. This retainer shall be maintained throughout the project and shall be applied to the final invoice. Payment is due on presentation of invoices, and is delinquent if Consultant has not received payment within 30-days from date of an invoice. Client will pay an additional charge of 1-1/2 (1.5) percent per month (or the maximum percentage allowed by law, whichever is lower) on any delinquent amount. Each payment will first be applied to accrued interest, costs and fees and then to the principal unpaid amount. All time spent and expenses incurred (including any in-house or outside attorney's fees) in connection with collection of any delinquent amount will be paid by the Client to Consultant per Consultant's current fee schedule. Payment by Credit Card is subject to a 3% additional fee.

4. OWNERSHIP OF DOCUMENTS: Consultant owns all documents it creates and grants Client limited license to use the documents for the purposes stated in the documents. Consultant reserves the right to withhold delivery of documents to Client until payment in full of current invoices has been received.

5. TERMINATION: This agreement may be terminated by either party effective seven (7) days from the date of written notice, or if the client suspends the work for three (3) months. In the event of termination, Consultant will be paid for services performed prior to the date of termination plus reasonable termination expenses. If Consultant has not received payment for any invoice within 30 days from the date of the invoice, or in the event of anticipatory breach by Client, Consultant may suspend performance of its services immediately and may terminate this contract.

6. RISK ALLOCATION: In order for Client to obtain the benefit of a fee which includes a lesser allowance for compensating Consultant for its litigation risk, Client agrees to indemnify, hold harmless and defend Consultant, its agents, employees, or officers, from and against any and all loss, claim, expenses, including attorney's fees, injury, damages, liability or costs arising out of non-design services (i.e., services other than as defined by Civil Code Section 2784) performed by Consultant on this project, except where such loss injury, damage, liability, cost, expenses or claims are the result of the sole negligence or willful misconduct of Consultant. Client further agrees to limit the total aggregate liability of Consultant, its agents, employees, and officers to Client on the entire project, to the greater of $25,000.00 or total fees charged by Consultant, except that Consultant's liability for willful misconduct shall not be limited. These terms may be negotiable depending on the particular facts of your project. You should consult with an attorney experienced in construction contracts and litigation regarding this provision.

7. HAZARDOUS MATERIALS: Consultant is responsible only for hazardous materials brought by Consultant onto the site. Client retains ownership and responsibility in all respects for other hazardous materials and associated damage.

8. ASSIGNS AND THIRD PARTIES: This Contract is intended only to benefit the parties hereto. No person who is not a signatory to this Contract shall have any rights hereunder to rely on this Contract or on any of Consultant's services or reports without the express written authorization of Consultant. This Contract shall not be assigned by Client without the Consultant's written consent. This Contract is binding on any successor companies to Client or Consultant, and on the surviving corporation in the event of a merger or acquisition.

9. STANDARD OF CARE: Consultant agrees to strive to perform its services that are intended solely for the use of the Client, in a proper and professional manner in accordance with current standards of environmental practice in this community at this time. The Client agrees to pay for and look to Consultant only for such performances. No warranty or guarantee is expressed or implied. Consultant and the Client agree that there are risks of earth movement and property damage inherent in land development and repair and that Consultant has not been authorized to perform the exhaustive and economically unfeasible investigation necessary to eliminate such risks.

10. EFFECTS OF SITE EXPLORATION: It is understood that in the normal course of providing these services, Consultant may be required to access the site to perform field exploration. All boreholes will be backfilled at completion; however, some settlement should be anticipated. Consultant will attempt to minimize the effects of the exploration operations on the site. However, it must be understood that some damage to existing roadways, vegetation, or other improvements may occur. Consultant does not propose to restore the site to the same condition as was present prior to the exploration operations.

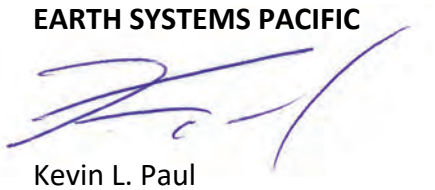
11. GOVERNING LAW, SURVIVAL AND FORUM SELECTION: The contract shall be governed by laws of the State of California. If any of the provisions contained in this agreement are held invalid, the enforceability of the remaining provisions will not be impaired. Limitations of liability, indemnities, representations and warranties by Client will survive termination of this agreement. The signatories represent and warrant that they are authorized by the entities on whose behalf they sign to enter into this contract and that their principals have filed fictitious business name statements, if required. All disputes between Consultant and client related to this agreement will be submitted to the court of the county where Consultant's principal place of business is located and client waives the right to remove the action to any other county or judicial jurisdiction.

CLOSURE

If the proposed Scope of Services, Terms for Service and Fee are satisfactory, **please sign in the space provided. Please return one copy to our office with the Owner Information Form.** This will constitute authorization for us to proceed with work on the project. Our fee will be billed subsequent to the submission of our final report to the client. Based on the passing of Assembly Bill No. 2629, services may not commence until the execution of a written contract. This agreement can be terminated by either party by notification in writing. Earth Systems responsibility for the project will end upon completion of the services described herein or termination of the agreement, unless authorization to perform additional work and agreement for payment thereof is provided by the client. This proposal is valid for a period of 90 days. If authorized after 90 days, Earth Systems reserves the right to reconsider the fees presented herein. We look forward to assisting you on this project and we thank you for the opportunity to submit this proposal.

If you have any questions or require additional information, please do not hesitate to contact the undersigned at (760) 345-1588.

Respectfully submitted,
EARTH SYSTEMS PACIFIC



Kevin L. Paul
Vice President

AGREED TO AND ACCEPTED

_____
CLIENT NAME (IN PRINT)

_____
SIGNATURE AND TITLE

PLEASE RETURN A SIGNED COPY TO EARTH SYSTEMS PACIFIC

_____
TIN/SSN (Tax ID No. /Social Security No.)
(This information and signature above authorizes us to review Client credit history.)

Proposal/ac/cgj/klp/mh

_____
DATE

Check Below to Authorize Services:

☐ Geotechnical Engineering Feasibility Report

☐ Optional Task 7 – Private Utility Locating

☐ Phase I Environmental Site Assessment

Attachments: Owner Information Form

Distribution: 1/Rich Malacoff: rich.malacoff@thealtumgroup.com
1/BER File

Earth Systems

Request for Owner Information for California Preliminary Notice

Project Name: _____ **Project No:** _____

Scope of Work: _____ **Estimated Value: $**_____

Address: _____

Tract and/or Lot # and APN #: _____
(Legal Description)

Party Retaining Services (i.e. Client): _____
(Legal Entity)

Attention: _____

Address: _____

Phone: _____ **Fax:** _____ **Cell Phone:** _____

Property Owner: _____
(Owner or Reputed Owner)

Address: _____

Phone:_____ **Fax:** _____ **Cell Phone:** _____

General Contractor (if applicable): _____
(General Contractor or Reputed Contractor)

Address: _____

Phone:_____ **Fax:** _____ **Cell Phone:** _____

Lender: (if applicable): _____
(Construction Lender, or Reputed Construction Lender, if any)

Address: _____

Phone:_____ **Fax:** _____ **Cell Phone:** _____

Pursuant to California Civil Code Section 8208, we request that you provide us with the above information to be used in a Preliminary Notice of work performed to the job site identified above. The statute requires that this information be furnished uponyour receipt of this request.

Return completed form to: _____

Appendix I

PROJECT-SPECIFIC WQMP SUMMARY DATA FORM

Project-Specific WQMP Summary Data Form

Applicant Information	
Name and Title	Rod Vandenburg
Company	Pacific Coast Properties
Phone	(760) 779 - 8227
Email	
Project Information	
Project Name (as shown on project application/project-specific WQMP)	Calhoun Street Subdivision
Street Address	49-251 Calhoun Street, Coachella, CA
Nearest Cross Streets	Avenue 49 and Calhoun Street
Municipality (City or Unincorporated County)	City of Coachella
Zip Code	92236
Tract Number(s) and/or Assessor Parcel Number(s)	612-260-010
Other (other information to help identify location of project)	
Watershed	Whitewater River

Indicate type of project.		**Priority Development Projects (Use an "X" in cell preceding project type):**
		SF hillside residence; impervious area ≥ 10,000 sq. ft.; Slope ≥ 25%
		SF hillside residence; impervious area ≥ 10,000 sq. ft.; Slope ≥ 10% & erosive soils
		Commercial or Industrial ≥ 100,000 sq. ft.
		Automotive repair shop
		Retail Gasoline Outlet disturbing > 5,000 sq. ft.
		Restaurant disturbing > 5,000 sq. ft.
	X	Home subdivision ≥ 10 housing units
		Parking lot ≥ 5,000 sq. ft. or ≥ 25 parking spaces

Date Project-Specific PWQMP Submitted	
Size of Project Area (nearest 0.1 acre)	39.98 acres
Project Area managed with Site Design or Low Impact Development (LID) BMPs (nearest 0.1 acre)	100%
Is the project subject to onsite retention by ordinance or policy?	Yes
Are Treatment Control BMPs required?	No
Name of the entity that will implement, operate, and maintain the post-construction BMPs	Pacific Coast Properties
Contact Name	Ron Vandenburg
Street or Mailing Address	43-584 Via Magellan Drive, Palm Desert, CA 92201
City	Palm Desert
Zip Code	92201
Phone	(760) 779 - 8227
Space Below for Use by City/County Staff Only	
Preceding Information Verified by (consistent with information in project-specific WQMP)	**Name:** **Date:**
Date Project-Specific WQMP Approved:	
Data Entered by	**Name:** **Date:**
Other Comments	

Appendix F
Calhoun Street Housing Development Traffic Impact Analysis

URBAN | CROSSROADS

CALHOUN STREET SUBDIVISION

TRAFFIC ANALYSIS

PREPARED BY: Janette Cachola | jcachola@urbanxroads.com
Marlie Whiteman, P.E. | mwhiteman@urbanxroads.com
John Kain, AICP | jkain@urbanxroads.com

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CAMUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
EAP	Existing Plus Ambient Plus Project
EAPC	Existing Plus Ambient Plus Project Plus Cumulative
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
PHF	Peak Hour Factor
Project	Calhoun Street Subdivision
sf	Square Feet
TA	Traffic Analysis

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1 INTRODUCTION

This report presents the results of the traffic analysis (TA) for Calhoun Street Subdivision ("Project"), located at the southwest corner of Calhoun Street and Avenue 49 in the City of Coachella, as shown on Exhibit 1-1.

The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and recommend improvements to achieve acceptable circulation system operational conditions. This TA has been prepared based in accordance with the County of Riverside's Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled (December 2020), as the City of Coachella utilizes the County guidelines. (1) Urban Crossroads, Inc. prepared a traffic study scoping package (included in Appendix 1.1) which was reviewed by City's consultant prior to the preparation of this report.

1.1 PROJECT OVERVIEW

The Project is proposed to consist of 259 single family residential units and a 1.5-acre park on approximately 40 acres. It is anticipated that the Project would be developed by year 2026. A preliminary site plan of the proposed Project is shown in Exhibit 1-1. Access to the Project will be provided via Access 1 at Calhoun Street (full access) and Access 2 at Avenue 49 (full access).

In order to develop the traffic characteristics of the proposed Project, trip-generation rates provided in the *Institute of Transportation Engineers (ITE) Trip Generation* (11th Edition, 2021) are utilized.

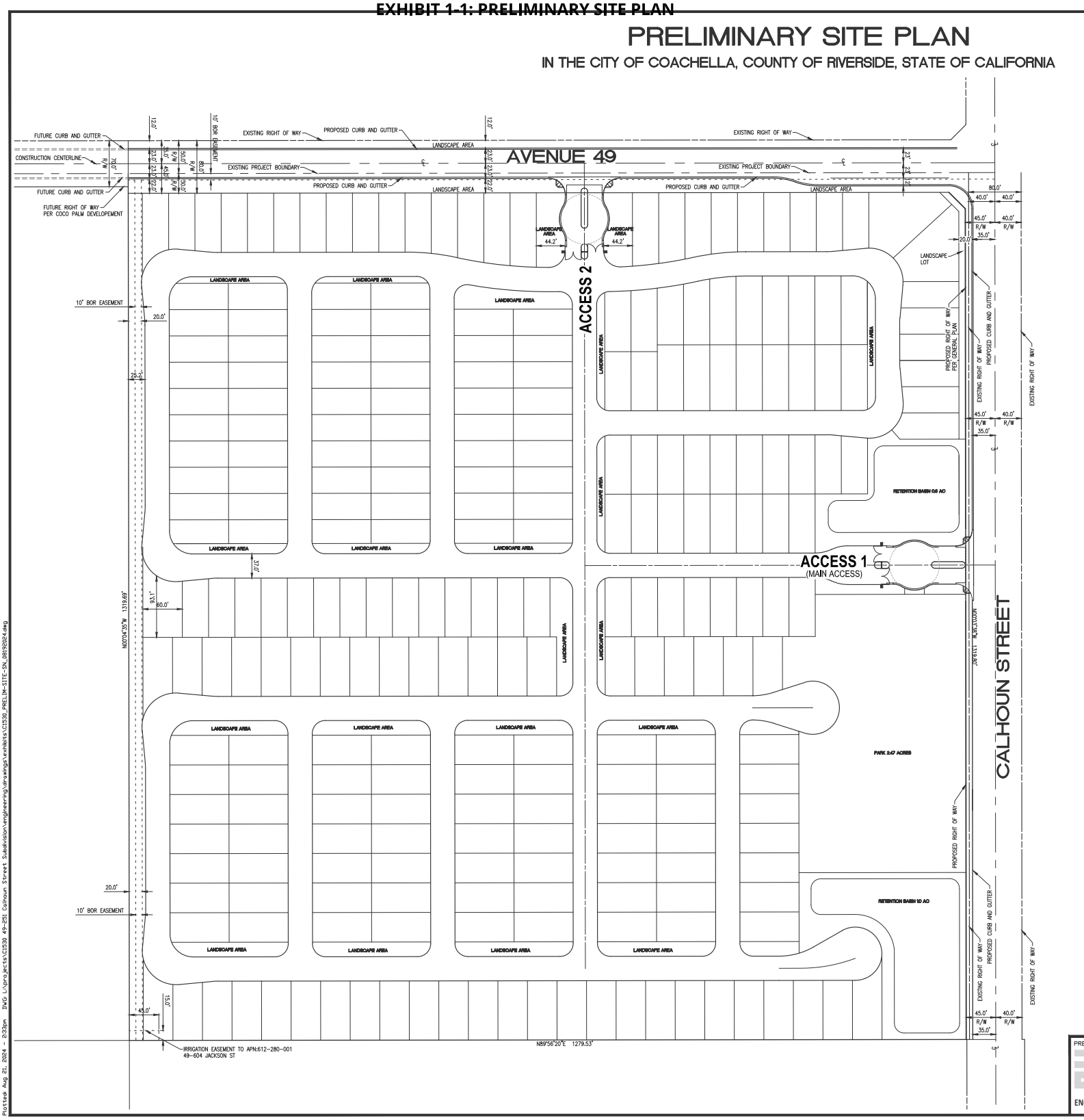
The Project is anticipated to generate a total of 2,517 trip-ends per day with 192 AM peak hour trips and 250 PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.2 ANALYSIS SCENARIOS

For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2024) Conditions
- Existing plus Ambient plus Project (EAP) (2026) Conditions
- Existing plus Ambient plus Project plus Cumulative (EAPC) (2026) Conditions

EXHIBIT 1-1: PRELIMINARY SITE PLAN



For the existing study area intersections, traffic count data has been collected in January and June, 2024 during the AM peak period of 7:00 AM to 9:00 AM and PM peak period of 4:00 PM to 6:00 PM.

The Existing plus Ambient plus Project (EAP) conditions analysis determines the potential near-term cumulative circulation system deficiencies with the Project but without known cumulative projects. To account for background traffic growth, an ambient growth factor from Existing conditions of 4.04% (2% per year, compounded annually over 2 years) is included for EAP (2026) traffic conditions. The ambient growth is consistent with the growth used by other projects within the City of Coachella.

The Existing plus Ambient plus Project plus Cumulative (EAPC) (2026) traffic conditions analysis determines the potential cumulative circulation system deficiencies, including the Project and other known cumulative projects. The cumulative project list was compiled from information provided in the City of Coachella website.

1.3 STUDY AREA

The Project study area was defined in coordination with the City of Coachella. Exhibit 1-2 presents the study area and intersection analysis locations. The intersections listed in Table 1-1 were selected for this TA with City of Coachella technical staff concurrence.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection	#	Intersection
1	Calhoun St. / Dr. Carreon Bl.	5	Jackson St. / Avenue 49 - Odlum Dr.
2	Calhoun St. / Avenue 48	6	Calhoun St. / Access 1
3	Calhoun St. / Avenue 49	7	Access 2 / Avenue 49
4	Calhoun St. / Avenue 50		

1.4 ANALYSIS FINDINGS

This section provides a summary of the analysis results for Existing (2024), EAP (2026), and EAPC (2026) conditions. Table 1-2 presents a summary of study area LOS conditions for each analysis scenario.

1.4.1 EXISTING (2024) CONDITIONS

For Existing (2024) traffic conditions the unsignalized study area intersections of Calhoun Street / Dr. Carreon Boulevard (#1), Calhoun Street / Avenue 49 (#3), and Jackson Street / Avenue 49 – Odlum Drive (#5) are operating at unacceptable level of service (LOS "E" or worse). Each of these three locations meet the traffic volume warrants for installation of a traffic signal based upon existing traffic counts.

EXHIBIT 1-2: TRAFFIC ANALYSIS STUDY AREA

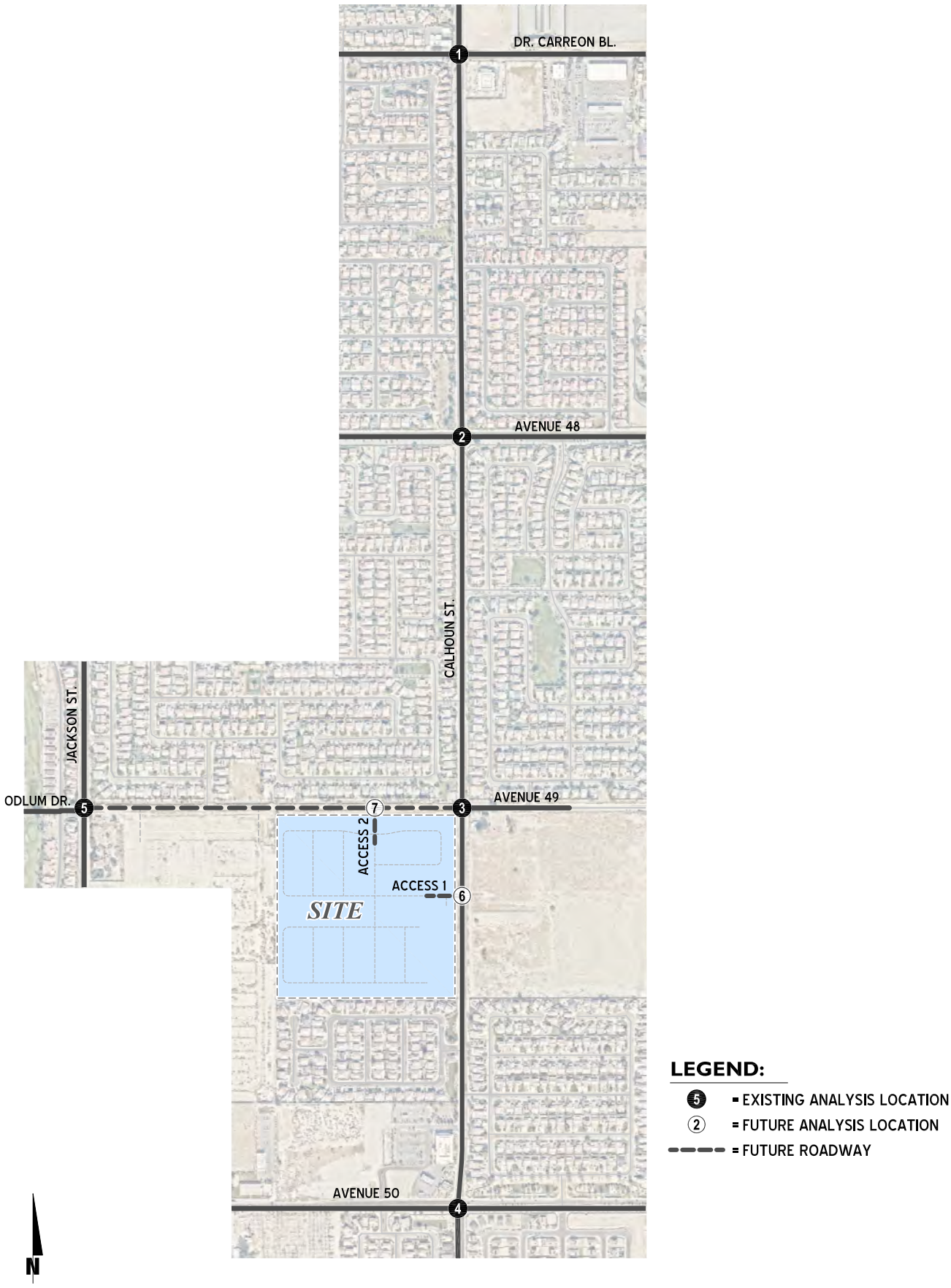


TABLE 1-2: LEVEL OF SERVICE (LOS) SUMMARY

#	Intersection	Existing (2024) AM	Existing (2024) PM	EAP (2026) AM	EAP (2026) PM	EAPC (2026) AM	EAPC (2026) PM
1	Calhoun St. / Dr. Carreon Bl.						
	- Without Improvements	F	A - D	F	E	F	F
	- With Improvements	N/A	N/A	A - D	A - D	A - D	A - D
2	Calhoun St. / Avenue 48	A - D	A - D	A - D	A - D	A - D	A - D
3	Calhoun St. / Avenue 49						
	- Without Improvements	F	A - D	F	E	F	F
	- With Improvements	N/A	N/A	A - D	A - D	A - D	A - D
4	Calhoun St. / Avenue 50	A - D	A - D	A - D	A - D	A - D	A - D
5	Jackson St. / Avenue 49 - Odlum Dr.						
	- Without Improvements	F	A - D	F	A - D	F	E
	- With Improvements	N/A	N/A	A - D	A - D	A - D	A - D
6	Calhoun St. / Access 1	N/A	N/A	A - D	A - D	A - D	A - D
7	Access 2 / Avenue 49	N/A	N/A	A - D	A - D	A - D	A - D

Legend:

A - D = A - D E = E F = F

F:\UXRjobs_15600_16000_15800\15830\02_LOS\Excel\[15830 - Report.xlsx]1-2_LOS Summary

1.4.2 EXISTING PLUS AMBIENT PLUS PROJECT (EAP) (2026) CONDITIONS

For EAP (2026) traffic conditions, there are no additional intersections anticipated to operate at unacceptable LOS during peak hours beyond the three locations which have existing deficiencies. Installation of a traffic signal at each of the deficient intersections of Calhoun Street / Dr. Carreon Boulevard (#1), Calhoun Street / Avenue 49 (#3), and Jackson Street / Avenue 49 – Odlum Drive (#5) are anticipated to address intersection operational deficiencies.

Although the intersection of Calhoun Street / Access 1 (#6) operates at an acceptable LOS for EAP conditions, this location meets the volume warrants for installation of a traffic signal.

1.4.3 EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE (EAPC) (2026) CONDITIONS

For EAPC (2026) traffic conditions, there are no additional intersections anticipated to operate at unacceptable LOS during peak hours. Similar to EAP conditions, installation of traffic signal at the three deficient unsignalized intersections are anticipated to address intersection operational deficiencies.

Detailed Project fair share calculations, for each peak hour, are provided in Table 7-1 for the three locations where traffic signals are warranted for all analysis scenarios (existing, EAP, and EAPC).

Site-adjacent improvements are listed in Section 7.2 and include the following:

- Project to construct Avenue 49 as a 2-lane roadway (40 feet curb-to-curb width) from Jackson Street to the Project's westerly site boundary.
- Project to construct Avenue 49 at its ultimate southerly half section width as a Primary Arterial with bicycle facility from the Project's westerly site boundary to the Project's easterly site boundary (Calhoun Street).
- Project to widen Calhoun Street at its ultimate westerly half-section width as a Collector Roadway with Bicycle facility from Project's northerly site boundary (Avenue 49) to the Project's southerly boundary.
- Project to implement a new traffic signal at the Calhoun Street / Avenue 49 (#3) intersection, with potential future reimbursement contingent upon cumulative development activity.
- Access to the adjacent public park to be provided from Calhoun Street, subject to park development access and parking plans (to be determined).

1.4.4 VEHICLE MILES TRAVELED (VMT)

Appendix 1.2 contains the approved VMT screening analysis which was performed in a separate document (Calhoun Street Subdivision Vehicle Miles Traveled (VMT) Screening, Urban Crossroads, June 18, 2024) and no further VMT is required.

2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with the County of Riverside TIA Guidelines. (1)

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors, such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near Capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 7th Edition Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (2)The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Coachella requires signalized intersection operations analysis based on the methodology described in the HCM. (2) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is related to the average control delay per vehicle and is correlated to a LOS designation as described on Table 2-1.

The traffic modeling and signal timing optimization software package Synchro (Version 12) has been utilized to analyze signalized intersections. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and Capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

The peak hour traffic volumes are adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour.

The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g. PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (2)

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Serice, V/C ≤ 1.0[1]
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and indvidual cycle failures are noticeable.	35.01 to 55.00	D
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F

Source: HCM, 7th Edition

[1] if V/C is greater than 1.0 then LOS is F per HCM

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Coachella requires the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (2) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2). At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Delay for the intersection is reported for the worst individual movement at a two-way stop-controlled intersection.

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Serice, V/C ≤ 1.0[1]
Little or no delays.	0 to 10.00	A
Short traffic delays.	10.01 to 15.00	B
Average traffic delays.	15.01 to 25.00	C
Long traffic delays.	25.01 to 35.00	D
Very long traffic delays.	35.01 to 50.00	E
Extreme traffic delays with intersections capacity exceeded.	>50.00	F

Source: HCM, 7th Edition

[1] if V/C is greater than 1.0 then LOS is F per HCM

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or determine the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (3)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (3) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions and for all future analysis scenarios for existing unsignalized intersections. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics. For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection. Urban warrants have been used as posted speed limits on the major roadways with unsignalized intersections are 40 miles per hour or below and rural warrants have been used on roadways with speeds greater than 40 miles per hour.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets. Similarly, the speed limit has been used as the basis for determining the use of Urban and Rural warrants.

Traffic signal warrant analyses were performed for the following unsignalized study area intersections shown in Table 2-3:

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

#	Intersection	#	Intersection
1	Calhoun St. / Dr. Carreon Bl.	6	Calhoun St. / Access 1
3	Calhoun St. / Avenue 49	7	Access 2 / Avenue 49
5	Jackson St. / Avenue 49 - Odlum Dr.		

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 EAP *(2026) Traffic Conditions* and Section 6 *EAPC (2026) Traffic Conditions* of this report.

It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

For the purposes of this analysis, the following thresholds of significance have been applied to study area intersections located within the City of Coachella to identify significant impacts through a comparison of Existing and EAP traffic conditions:

- If an intersection is projected to operate at an acceptable level of service (i.e., LOS D or better) under Existing traffic conditions and the addition of project traffic is expected to cause the intersection to operate at an unacceptable level of service (LOS E or F), the impact is considered significant;
- If an intersection is projected to operate at LOS E or LOS F under Existing, and the addition of project traffic, the impact is considered significant.

Cumulative traffic impacts are deficiencies that are not directly caused by the Project, but occur as a result of regional growth combined with that or other nearby cumulative development projects. The Project's contribution to a particular cumulative transportation deficiency is deemed cumulatively considerable if the Project adds significant traffic to the forecasted deficiency. A Project's contribution to a cumulatively considerable impact can be reduced to less than significant if the Project is required to implement or fund its fair share of improvements designed to alleviate the potential cumulative impact. If full funding of future cumulative improvements is not reasonably assured, a temporary unmitigated cumulative impact may occur until the needed improvement is fully funded and constructed.

3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Coachella General Plan Circulation Network, and a review of existing peak hour intersection operations and traffic signal warrant analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the Project scope (Appendix 1.1), the study area includes 5 existing intersections as shown previously on Exhibit 1-2, which have been agreed upon with City staff. Exhibit 3-1 illustrates the number of through traffic lanes for existing roadways and traffic controls for study area intersections.

3.2 CITY OF COACHELLA GENERAL PLAN CIRCULATION ELEMENT

As noted previously, the Project site is located at the southwest corner of Tyler Street and Avenue 53 in the City of Coachella. Exhibit 3-2 shows the City of Coachella General Plan Circulation Element, with planned roadway classifications. Exhibit 3-3 illustrates the City of Coachella General Plan roadway cross-sections.

Calhoun Street is classified as a Collector with Bicycle Facility in the study area.

Dr. Carreon Boulevard and Avenue 49 are classified as a Primary Arterial with Bicycle Facility in the study area.

Avenue 48 and Avenue 50 are classified as a Major Arterial with Bicycle Facility in the study area.

3.3 TRANSIT SERVICE

The City of Coachella is currently served by the SunLine Transit Agency; currently, Route 8 is located along Calhoun Street (between Avenue 48 and Avenue 50), Dr. Carreon Boulevard (between Jackson Street & Van Buren Street), Avenue 48 (between Calhoun Street & Van Buren Street), Avenue 50 (east of Calhoun Street) in the study area. Transit service is reviewed and updated by Sunline periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

3.4 PEDESTRIAN AND BICYCLE FACILITIES

The existing pedestrian facilities within the study area are shown on Exhibit 3-4. As shown on Exhibit 3-4, existing on-street bike lanes are located along the Calhoun Street, Avenue 48, and Avenue 50. Sidewalks generally exist on Avenue 48 and Avenue 50. Some portions of the sidewalk exist on Calhoun Street, Jackson Street, Dr. Carreon Boulevard, Odlum Drive, and Avenue 49.

EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS

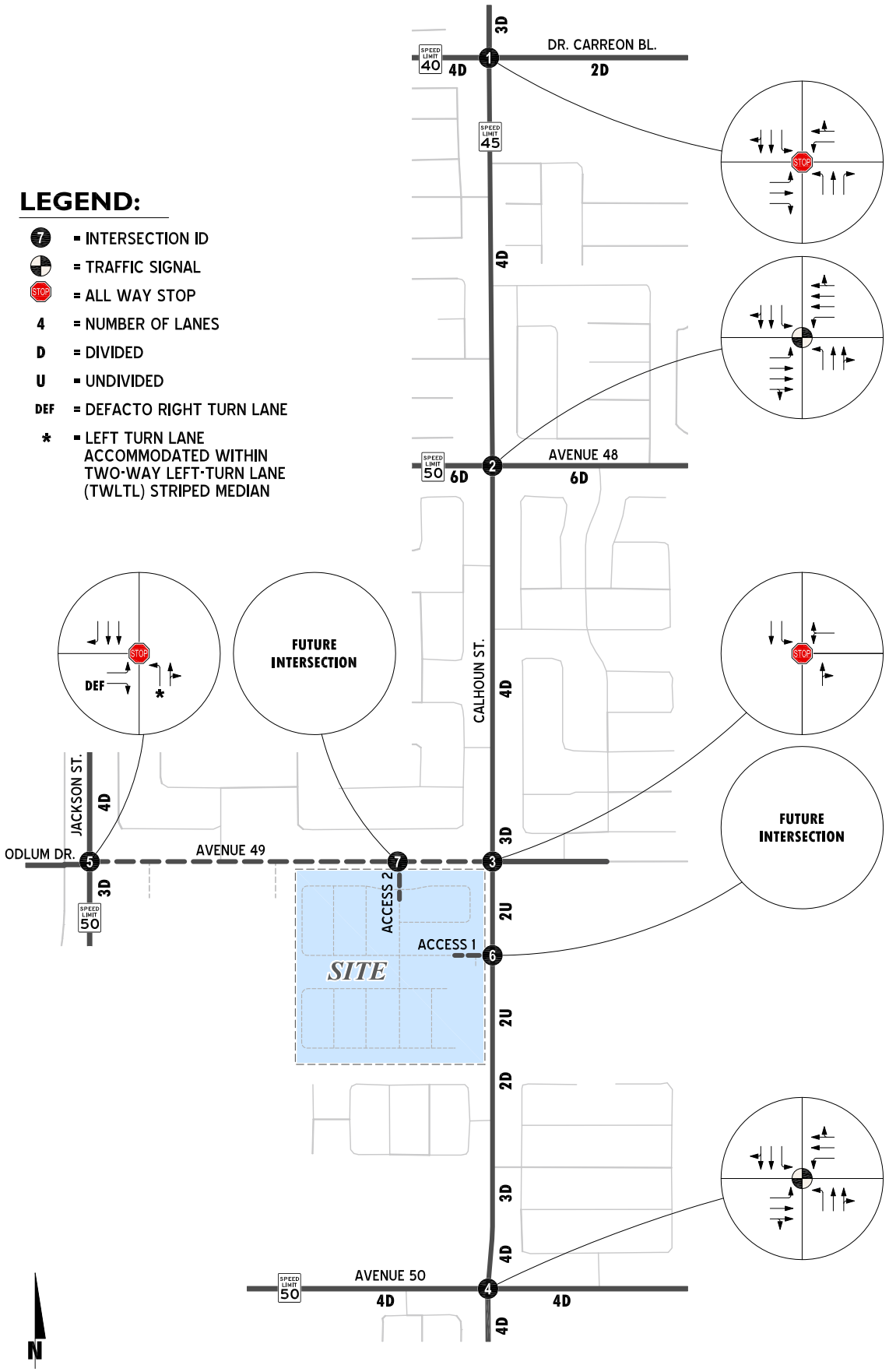
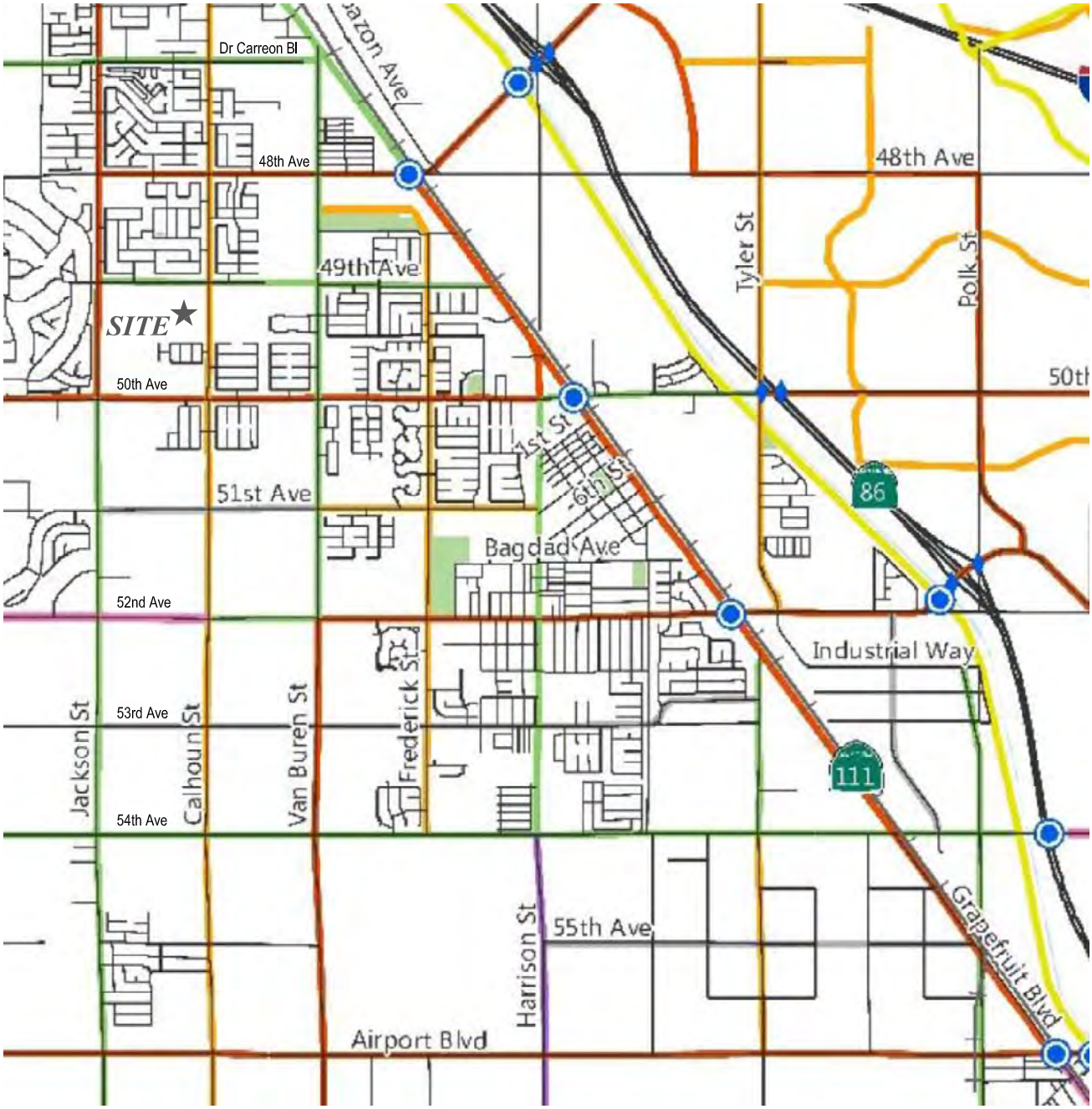


EXHIBIT 3-2: CITY OF COACHELLA GENERAL PLAN CIRCULATION ELEMENT



SOURCE: CITY OF COACHELLA

LEGEND:

3 = EXISTING ANALYSIS LOCATION

N

EXHIBIT 3-3: CITY OF COACHELLA GENERAL PLAN ROADWAY CROSS-SECTIONS

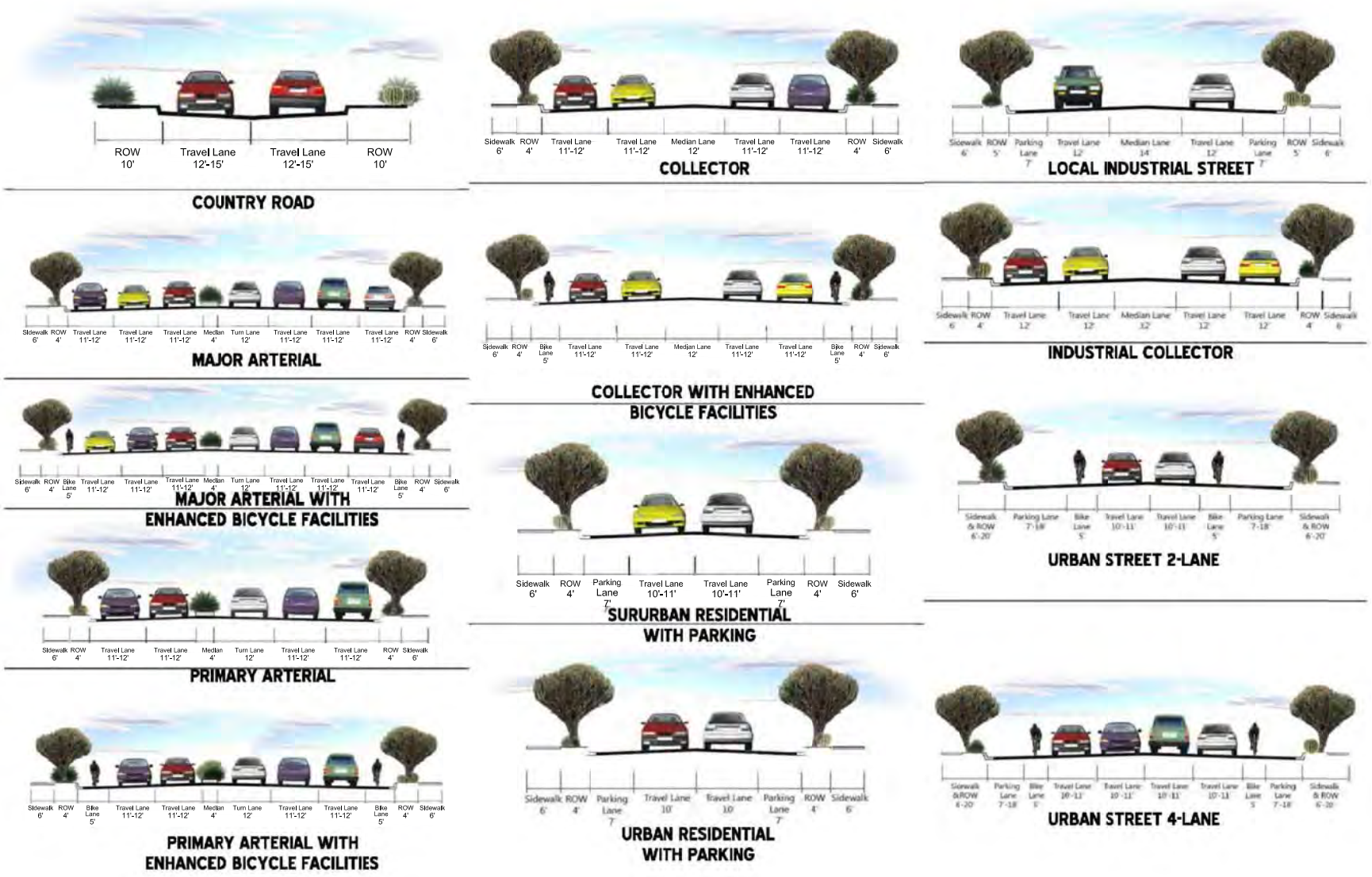
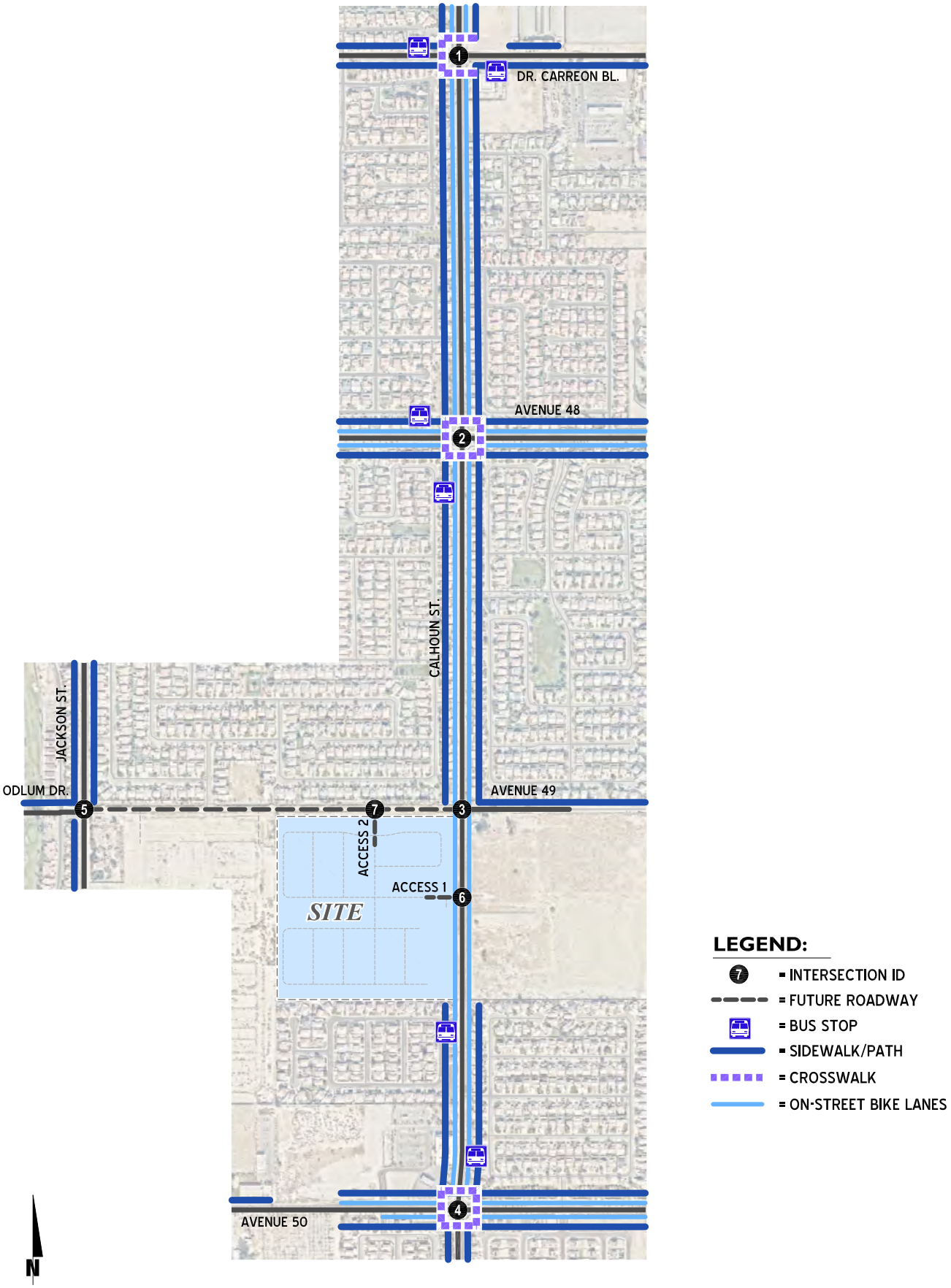


EXHIBIT 3-4: EXISTING PEDESTRIAN AND BIKE FACILITIES



3.5 EXISTING (2024) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in August 2024. The City of Coachella experiences seasonal population variations over the course of the year, with relatively higher populations during the winter months from January to the end of March. To compensate for the discrepancy, counts not taken during this peak winter period (January 2 to March 31) require seasonal adjustments. A 20% increase is applied to counts taken in August to estimate peak season. This factor is consistent with other nearby jurisdictions within the Coachella Valley area.

The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

The weekday AM and PM peak hour count data are representative of typical peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity that would prevent or limit roadway access and detour routes. These raw turning volumes have been flow conserved between intersections with limited access, no access and where there are currently no uses generating traffic. Existing weekday peak hour intersection volumes are shown on Exhibit 3-5.

Existing weekday ADT volumes are also shown on Exhibit 3-5. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 12.658 = Leg Volume

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 7.90 percent. As such, the above equation utilizing a factor of 12.658 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 7.90 percent (i.e., 1/0.070 = 12.658) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses.

3.6 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized on Table 3-1, which indicates that no study area intersections operate at unacceptable LOS (LOS "E" or worse). The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

EXHIBIT 3-5: EXISTING (2024) TRAFFIC VOLUMES

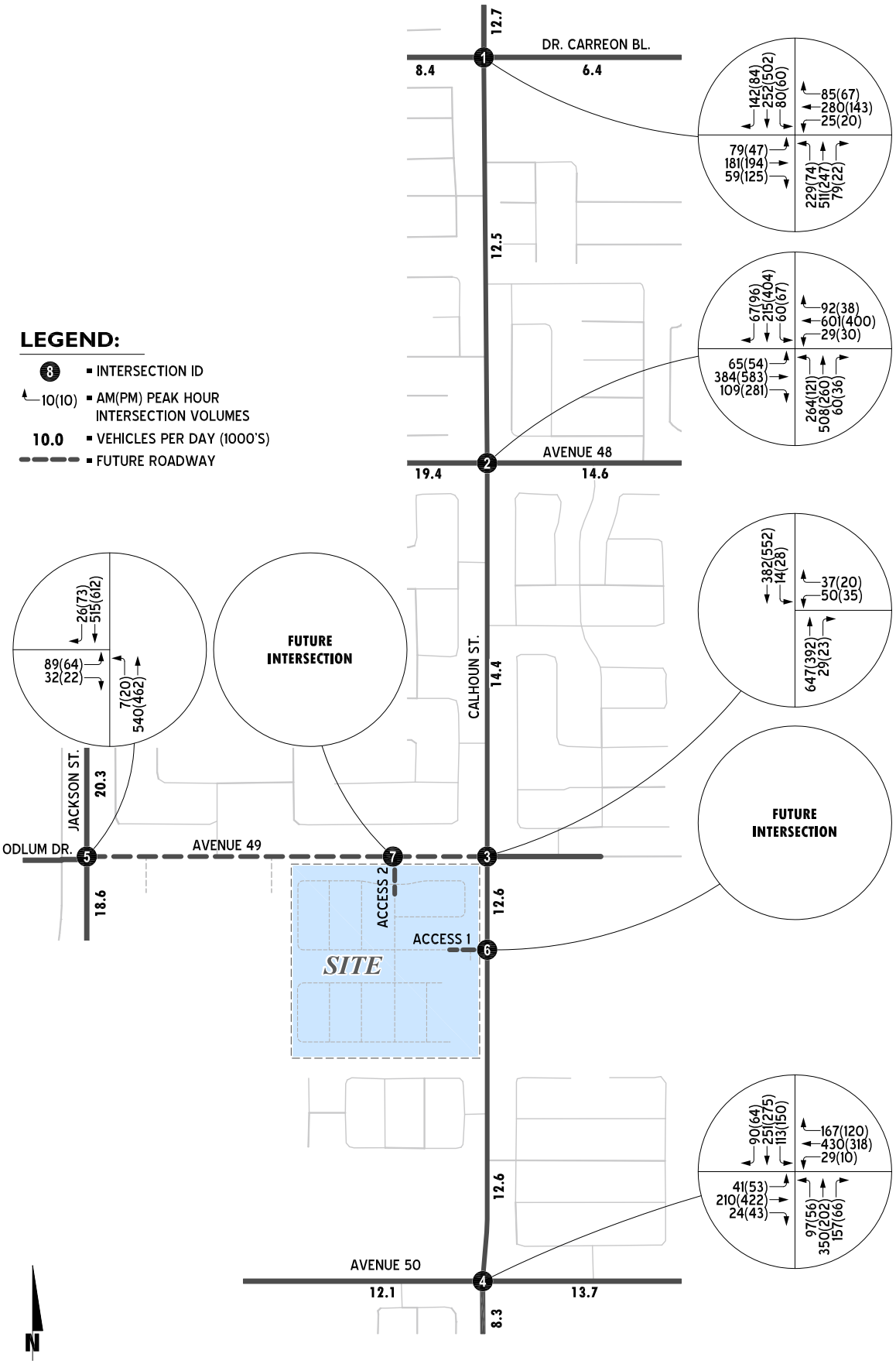


TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2023) CONDITIONS

#	Intersection	Traffic Control[1]	Intersection Approach Lanes[2]												Delay[3] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Calhoun St. / Dr. Carreon Bl.	AWS	1	1	1	1	2	0	1	1	1	1	1	0	>80	28.7	F	D
2	Calhoun St. / Avenue 48	TS	1	2	0	1	2	0	1	3	0	1	3	0	32.5	28.6	C	C
3	Calhoun St. / Avenue 49	AWS	0	1	0	1	1	1	0	0	0	0	1!	0	51.2	20.3	F	C
4	Calhoun St. / Avenue 50	TS	1	2	0	1	2	0	1	2	0	1	2	0	33.1	28.5	C	C
5	Jackson St. / Avenue 49 - Odlum Dr.	AWS	1*	1	0	0	2	1	1	0	d	0	0	0	51.9	23.0	F	C
6	Calhoun St. / Access 1		Future Intersection												-	-		
7	Access 2 / Avenue 49		Future Intersection												-	-		

[1] TS = Traffic Signal; AWS = All Way Stop

[2] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; 0.5 = Shared Lane; 1! = Shared Left/Through/Right lane;
* = Left-Turn accommodated within two-way left turn lane (TWLTL) striped median

[3] Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

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3.7 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on 2024 peak hour intersection turning volumes (see Appendix 3.3). For Existing (2024) traffic conditions, the following three unsignalized study area intersections currently meets traffic volume warrants for installation of a traffic signal.

- Calhoun Street / Dr. Carreon Boulevard (#1)
- Calhoun Street / Avenue 49 (#3)
- Jackson Street / Avenue 49 – Odlum Drive (#5)

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4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network.

The Project is proposed to consist of 259 single family residential units and a 1.5-acre park with dog run on approximately 40 acres.

It is anticipated that the Project will be operational by year 2026. Access to the Project will be provided via Access 1 at Calhoun Street (full access) and Access 2 at Avenue 49 (full access)

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

In order to develop the traffic characteristics of the proposed project, the trip generation rates provided in the *Institute of Transportation Engineers (ITE) Trip Generation* (11th Edition, 2021) have been utilized (4).

Table 4-1 shows the vehicle trip generation rates for the Project, as well as the vehicle trip generation summary with daily and peak hour trip generation estimates. As shown on Table 4-1, the Project is anticipated to generate a total of 2,517 trip-ends per day with 192 AM peak hour trips and 250 PM peak hour trips.

TABLE 4-1: PROJECT TRIP GENERATION SUMMARY

Trip Generation Rates[1]

Land Use	ITE LU Code	Quantity[2]		AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Single Family Detached	210	259	DU	0.18	0.52	0.70	0.59	0.35	0.94	9.43
Park with Dog Run[3]	--	1.5	AC	3.25	3.25	6.50	2.25	2.25	4.50	50.00

Trip Generation Results

Land Use	ITE LU Code	Quantity[2]		AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Single Family Detached	210	259	DU	47	135	182	153	91	244	2,442
Park with Dog Run	--	1.5	AC	5	5	10	3	3	6	75
TOTAL				**52**	**140**	**192**	**156**	**94**	**250**	**2,517**

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).
[2] DU = Dwelling Unit; AC = Acre
[3] Since ITE does not have trip rates for a park with dog run, similar use based on SANDAG's City park is utilized to account for higher park activity related to the dog run use.

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4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and proximity to the surrounding highway network. Trip distribution patterns proposed for the Project are illustrated on Exhibit 4-1.

4.3 MODAL SPLIT

The potential for Project trips to be reduced by the use of public transit, walking or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes.

4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project weekday ADT and weekday peak hour intersection turning movement volumes are shown on Exhibit 4-2.

4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year for 2026 traffic conditions. The total ambient growth is 4.04% for 2026 traffic conditions. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in conjunction with traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

Exhibit 4-3 illustrates the cumulative development location map. The cumulative projects listed are those that would generate traffic and would contribute traffic to study area intersections. A summary of cumulative development projects and their proposed land uses are shown on Table 4-2. If applicable, the traffic generated by individual cumulative projects was manually added to the EAP forecasts to ensure that traffic generated by the listed cumulative development projects on Table 4-2 are reflected as part of the background traffic.

The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- EAP (2026)
  - Existing (2024) volumes
  - Ambient growth traffic (4.04% over 2 years)
  - Project traffic
- EAPC (2026)
  - Existing (2024) volumes
  - Ambient growth traffic (4.04% over 2 years)
  - Project traffic
  - Cumulative development traffic

EXHIBIT 4-1: PROJECT TRIP DISTRIBUTION

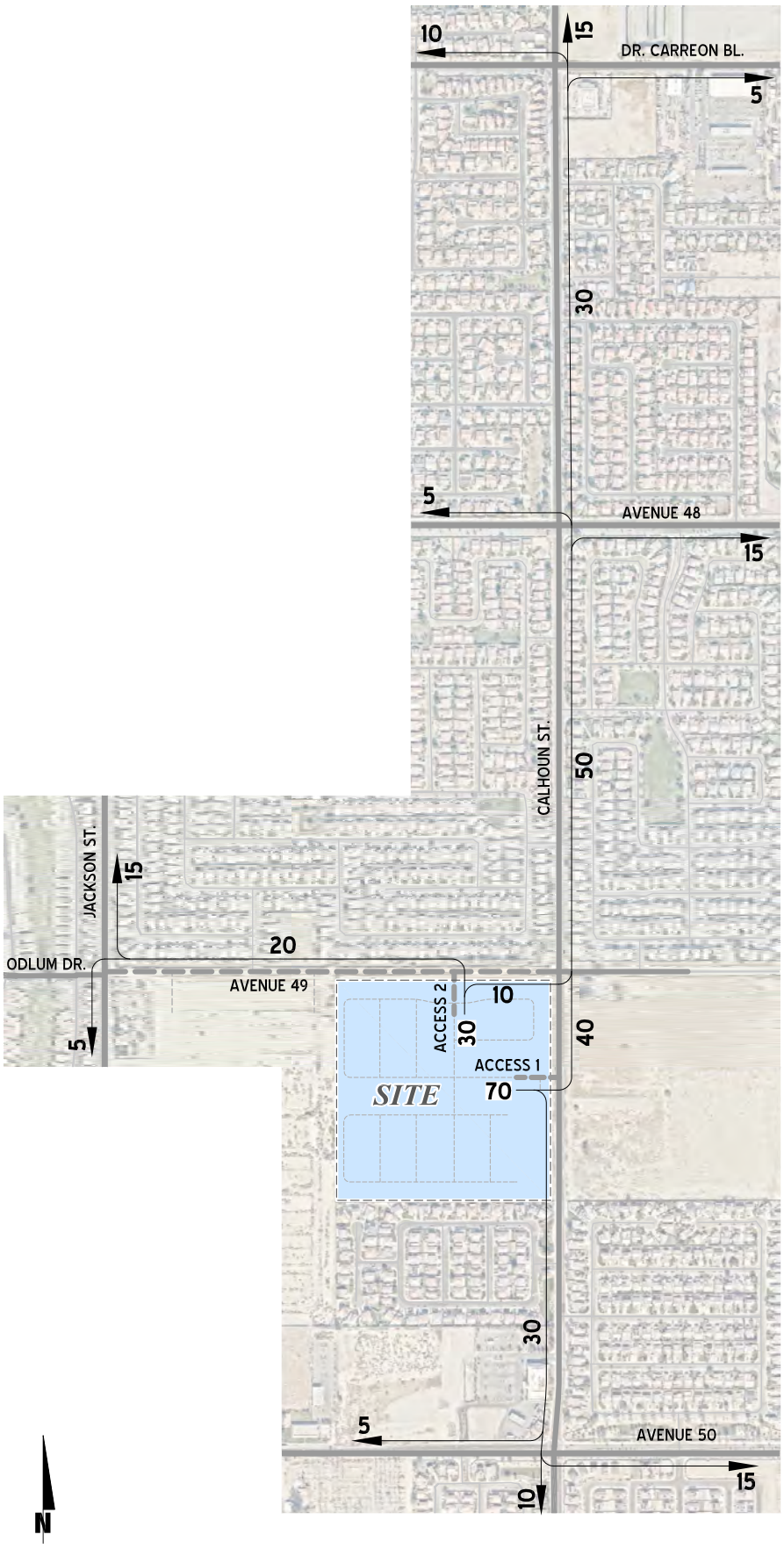


EXHIBIT 4-2: PROJECT ONLY TRAFFIC VOLUMES

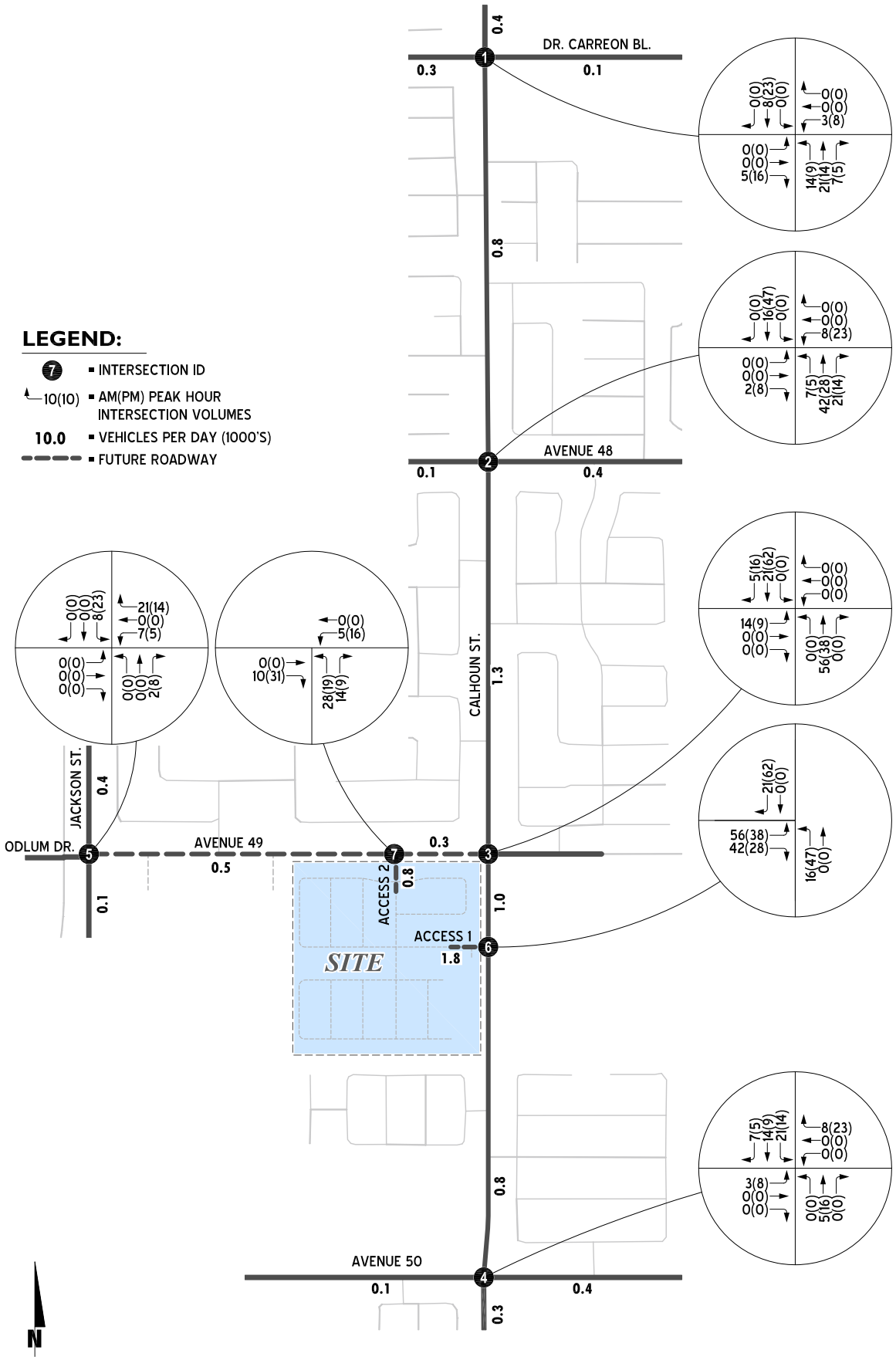


EXHIBIT 4-3: CUMULATIVE DEVELOPMENT MAP

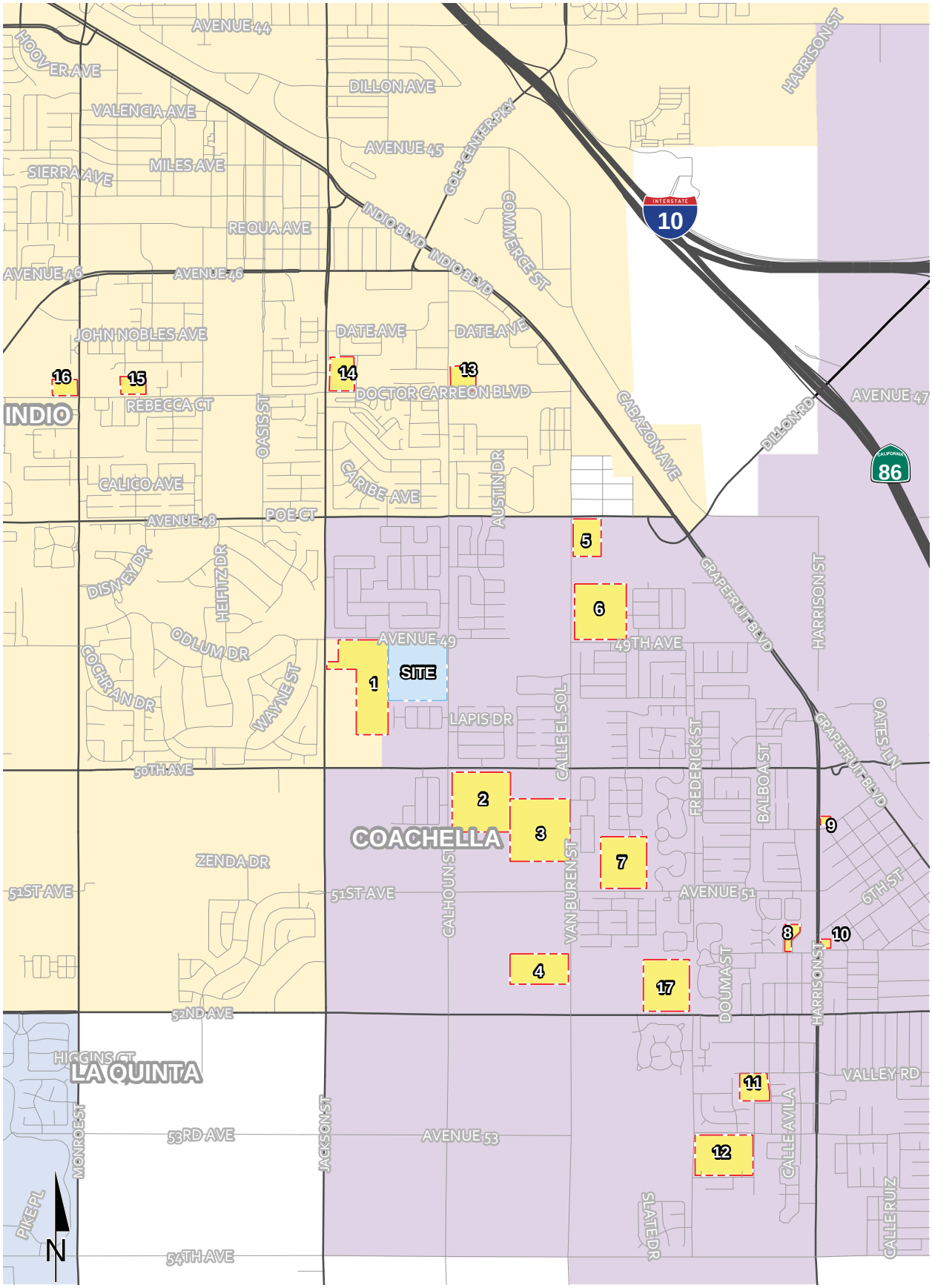


TABLE 4-2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

TAZ	Project	Land Use	Quantity	Units[1]
1	TT 38072	Single Family Residential	173	DU
2	Mariposa Pointe	Single Family Residential	155	DU
3	Sevilla II	Single Family Residential	204	DU
4	Encanto	Single Family Residential	112	DU
5	Glenroy Hotel Project	Resort casitas/bungalows	620	RM
		Hotel	130	RM
		Restaurant	3.6	TSF
		Retail Cannabis	3.12	TSF
		General Store	2.5	TSF
		Coffee shop with drive thru	2.5	TSF
6	Rancho Flores 2	Single Family Residential	124	DU
7	Sevilla by Pulte	Single Family Residential	232	DU
8	Placita Dolores Huerta	Multifamily Residential	110	DU
9	Fountainhead Plaza (NEC 1st St. & Cesar Chavez St.)	Supermarket	20.422	TSF
		Fast-Food Restaurant	2.6	TSF
		Coffee Shop w/ Restaurant	2.1	TSF
10	Tripoli Mixed-Use	Multifamily Residential	108	DU
11	Villa Verde Apartments	Multifamily Residential	152	DU
12	Bellissima (Tract 31978)	Single Family Residential	111	DU
13	West Coast Self Storage	Self-Storage Facility	62	TSF
14	Indio Public Safety Campus (NEC Jackson St. & Dr. Carreon Bl.)	Fire Station Expansion	4.1	TSF
		Police Headquarters Expansion	44	EMP
		Government Office Complex	30.1	TSF
15	Coachella Medical Center (North of Dr. Carreon Bl., b/w Monroe & Arabia)	Skilled Nursing Facility	288	Beds
16	Tower Market	Convenience Mkt. w/ Pumps	12	VFP
17	Frederick St. Residential (NWC Frederick/Ave. 52)	Single Family Residential	256	DU

[1] DU = Dwelling Units; TSF = Thousand Square Feet; RM = Rooms; EMP = Employees; VFP = Vehicle Fueling Positions

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5 EAP (2026) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Existing plus Ambient plus Project (EAP) conditions and the resulting intersection operations and traffic signal warrant analyses.

The lane configurations and traffic controls assumed to be in place for EAP (2026) conditions are consistent with those shown previously on Exhibit 3-1, with the exception driveways and those facilities assumed to be constructed by the project to provide site access are assumed to be in place for EAP (2026) conditions (e.g., intersection and roadway improvements at the projects' frontage and driveways).

5.1 EAP TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 4.04% and the addition of project traffic. The weekday ADT and weekday peak hour intersection turning movement volumes which can be expected for EAP (2026) traffic conditions are shown on Exhibit 5-1.

5.2 INTERSECTION OPERATIONS ANALYSIS

EAP peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 Methodologies of this TA.

The intersection analysis results summarized in Table 5-1, indicate that the following intersections are anticipated to continue to operate at an unacceptable LOS during peak hours under EAP conditions, without installation of the traffic signal that is currently warranted for existing conditions.

- Calhoun Street / Dr. Carreon Boulevard (#1)
- Calhoun Street / Avenue 49 (#3)
- Jackson Street / Avenue 49 – Odlum Drive (#5)

The intersection operations analysis worksheets for EAP traffic conditions are included in Appendix 5.1 of this TA.

5.3 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAP (2026) traffic conditions provided in Appendix 3.3. For EAP conditions, the intersection of Calhoun Street / Access 1 (#6) meets the volume warrants for installation of a traffic signal (see Appendix 3.3).

As mentioned previously, it is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS.

An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

Installation of a traffic signal is currently not recommended at Calhoun Street / Access 1 (#6) intersection for the following reasons:

- This intersection is anticipated to operate at an acceptable LOS for EAP (2026) conditions with cross-street stop control.
- Access to the Project site is also provided at the Access 2 / Avenue 49 (#7) intersection, which is anticipated to operate at LOS "A" during peak hours for both EAP and EAPC conditions.
- This intersection is also anticipated to operate at an acceptable LOS for EAPC (2026) conditions with cross-street stop control.

EXHIBIT 5-1: EXISTING PLUS AMBIENT PLUS PROJECT (2026) TRAFFIC VOLUMES

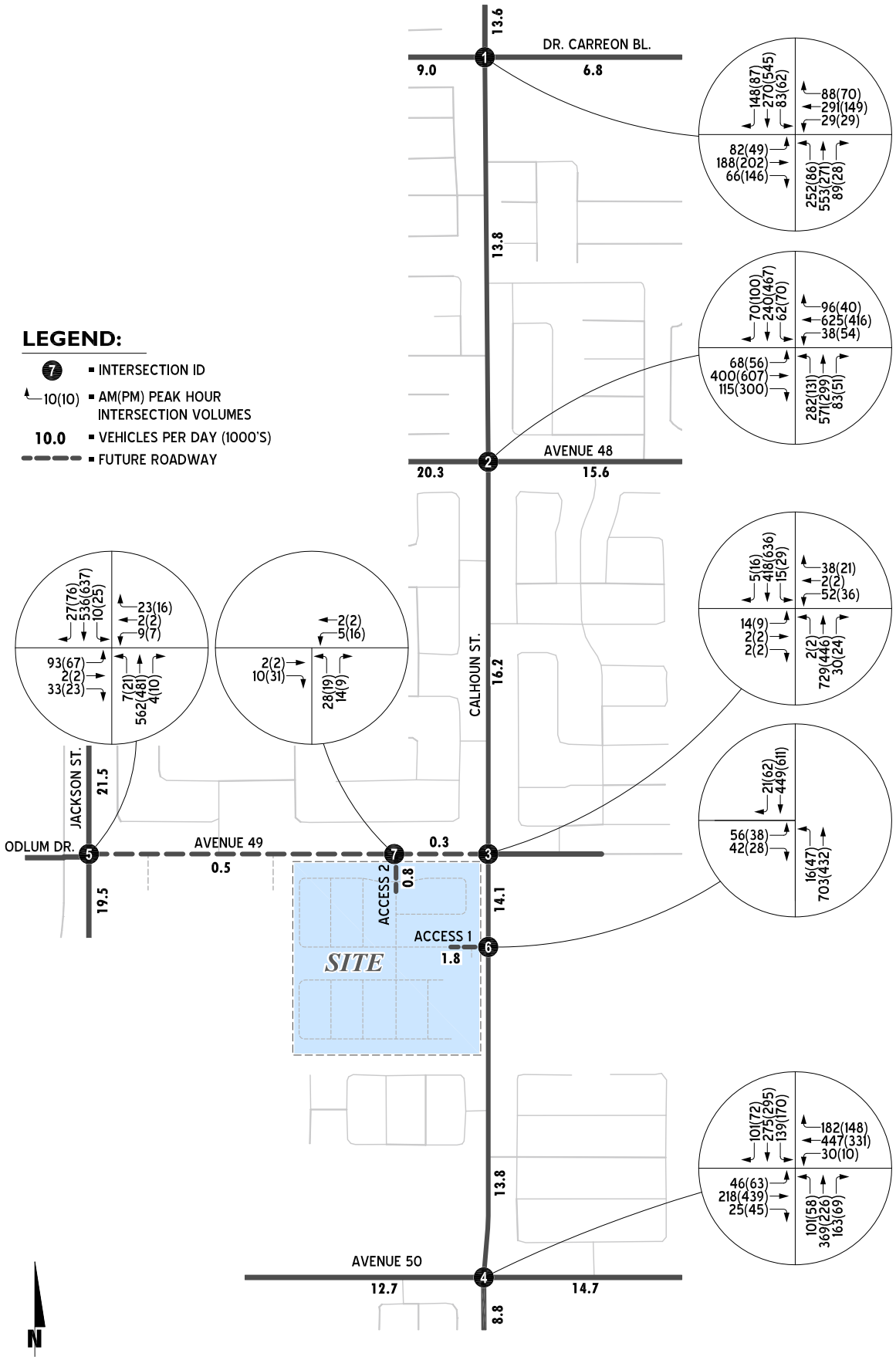


TABLE 5-1: INTERSECTION ANALYSIS FOR EAP (2026) CONDITIONS

#	Intersection	Traffic Control[1]	Intersection Approach Lanes[2] Northbound L	T	R	Southbound L	T	R	Eastbound L	T	R	Westbound L	T	R	Delay[3] (secs.) AM	PM	Level of Service AM	PM
1	Calhoun St. / Dr. Carreon Bl.																	
	- With Existing All-Way Stop	AWS	1	1	1	1	2	0	1	1	1	1	1	0	>80	41.7	F	E
	- With Traffic Signal Improvement	**TS**	1	1	1	1	2	0	1	1	1	1	1	0	39.0	31.9	D	C
2	Calhoun St. / Avenue 48	TS	1	2	0	1	2	0	1	3	0	1	3	0	33.7	30.3	C	C
3	Calhoun St. / Avenue 49																	
	- With Existing All-Way Stop	AWS	**1**	1	0	1	1	**1**	0	**1!**	0	0	1!	0	>80	46.2	F	E
	- With Traffic Signal Improvement	**TS**	**1**	1	0	1	1	**1**	0	**1!**	0	0	1!	0	10.4	7.9	B	A
4	Calhoun St. / Avenue 50	TS	1	2	0	1	2	0	1	**2**	0	1	2	0	34.3	29.3	C	C
5	Jackson St. / Avenue 49 - Odlum Dr.																	
	- With Existing All-Way Stop	AWS	1*	1	0	1*	2	1	1	0	d	0	**1!**	0	74.2	35.0	F	D
	- With Traffic Signal Improvement	**TS**	**1**	1	0	**1**	2	1	0.5	0.5	d	0	**1!**	0	12.4	9.2	B	A
6	Calhoun St. / Access 1	**CSS**	**1**	1	0	0	1	0	0	**1!**	0	0	0	0	27.3	25.1	D	D
7	Access 2 / Avenue 49	**CSS**	0	**1!**	0	0	0	0	0	**1**	0	**0.5**	**0.5**	0	8.7	8.8	A	A

[1] TS = Traffic Signal; CSS = Cross-Street Stop; AWS = All Way Stop

[2] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; 0.5 = Shared Lane; 1! = Shared Left/Through/Right lane;
* = Left-Turn accommodated within two-way left turn lane (TWLTL) striped median; **1** = Improvement

[3] Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

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6 EAPC (2026) TRAFFIC CONDITIONS

This section discusses the methods used to develop Existing plus Ambient plus Project plus Cumulative (EAPC) (2026) traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

The lane configurations and traffic controls assumed to be in place for EAPC (2026) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAPC conditions (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- If applicable, driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for EAPC conditions (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways).

6.1 EAPC (2026) TRAFFIC VOLUME FORECASTS

This scenario consists of existing traffic volumes plus an ambient growth factor of 4.04% plus traffic from pending and approved but not yet constructed known development projects in the area plus the Project.

The weekday ADT and weekday peak hour volumes which can be expected for EAPC (2026) traffic conditions are shown on Exhibit 6-1.

6.2 INTERSECTION OPERATIONS ANALYSIS

The intersection analysis results summarized in Table 6-1, indicate that the following intersections are anticipated to continue to operate at an unacceptable LOS during peak hours under EAPC conditions, without installation of the traffic signal that are currently warranted for existing conditions.

- Calhoun Street / Dr. Carreon Boulevard (#1)
- Calhoun Street / Avenue 49 (#3)
- Jackson Street / Avenue 49 – Odlum Drive (#5)

The intersection operations analysis worksheets for EAPC traffic conditions are included in Appendix 6.1 of this TA.

EXHIBIT 6-1: EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE (2026) TRAFFIC VOLUMES

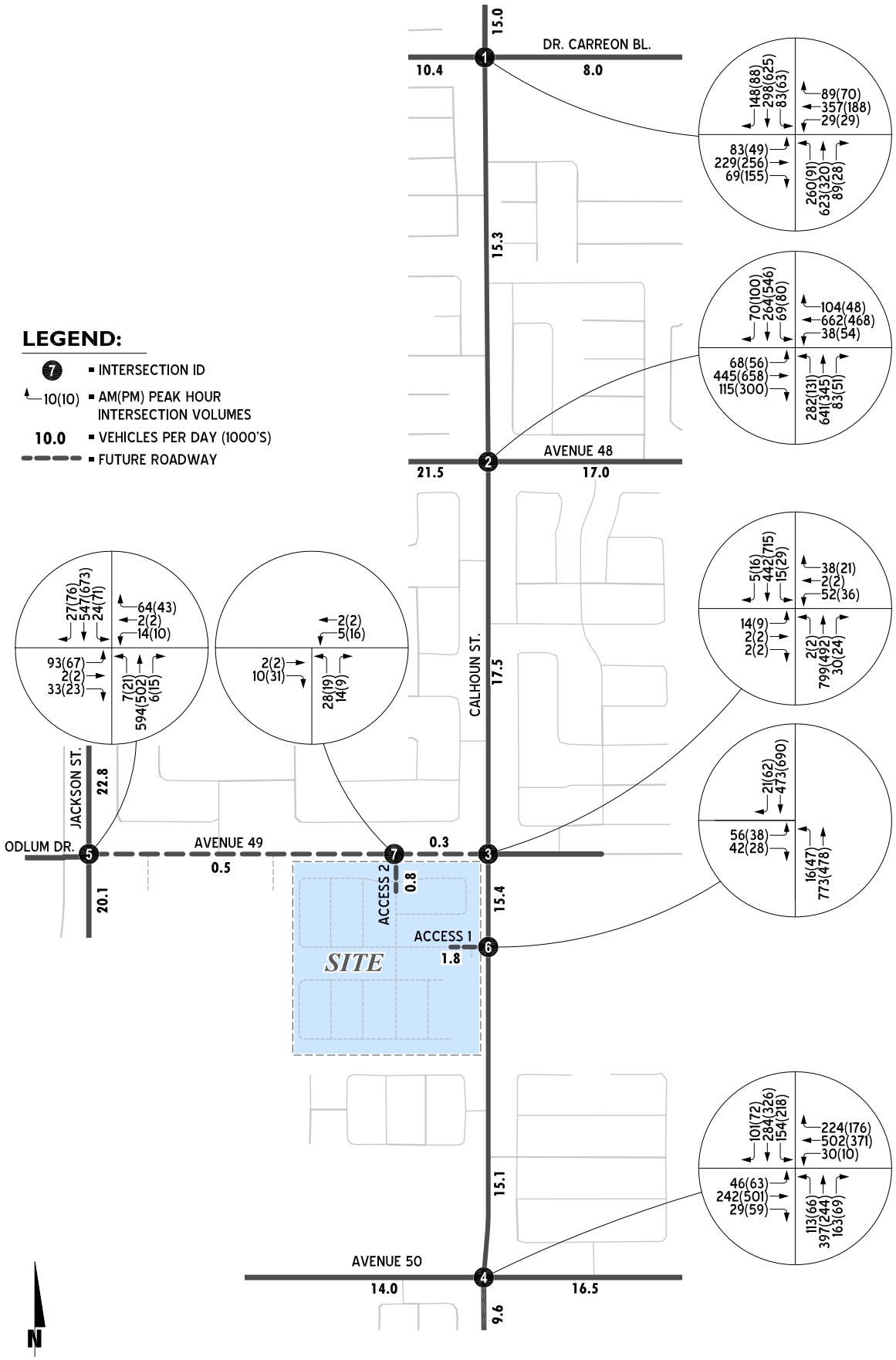


TABLE 6-1: INTERSECTION ANALYSIS FOR EAPC (2026) CONDITIONS

#	Intersection	Traffic Control[1]	Intersection Approach Lanes[2]												Delay[3] (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
1	Calhoun St. / Dr. Carreon Bl.																	
	- With Existing All-Way Stop	AWS	1	1	1	1	2	0	1	1	1	1	1	0	>80	>80	F	F
	- With Traffic Signal Improvement	**TS**	1	1	1	1	2	0	1	1	1	1	1	0	43.6	32.6	D	C
2	Calhoun St. / Avenue 48	TS	1	2	0	1	2	0	1	3	0	1	3	0	34.7	31.0	C	C
3	Calhoun St. / Avenue 49																	
	- With Existing All-Way Stop	AWS	**1**	1	0	1	1	**1**	0	**1!**	0	0	1!	0	>80	75.4	F	F
	- With Traffic Signal Improvement	**TS**	**1**	1	0	1	1	**1**	0	**1!**	0	0	1!	0	10.9	7.8	B	A
4	Calhoun St. / Avenue 50	TS	1	2	0	1	2	0	1	**2**	0	1	2	0	37.8	30.5	D	C
5	Jackson St. / Avenue 49 - Odlum Dr.																	
	- With Existing All-Way Stop	AWS	1*	1	0	1*	2	1	1	0	d	0	**1!**	0	>80	47.9	F	E
	- With Traffic Signal Improvement	**TS**	**1**	1	0	**1**	2	1	0.5	0.5	d	0	**1!**	0	15.7	11.9	B	B
6	Calhoun St. / Access 1	**CSS**	**1**	1	0	0	1	0	0	**1!**	0	0	0	0	32.2	30.6	D	D
7	Access 2 / Avenue 49	**CSS**	0	**1!**	0	0	0	0	0	**1**	0	**0.5**	**0.5**	0	8.7	8.8	A	A

[1] TS = Traffic Signal; CSS = Cross-Street Stop; AWS = All Way Stop

[2] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; 0.5 = Shared Lane; 1! = Shared Left/Through/Right lane;
* = Left-Turn accommodated within two-way left turn lane (TWLTL) striped median; **1** = Improvement

[3] Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

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6.3 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis worksheets for EAPC (2026) traffic conditions are provided in Appendix 3.3. For EAPC conditions, no additional study area intersections meet the volume warrants for installation of a traffic signal (see Appendix 3.3).

As mentioned previously, a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

Installation of a traffic signal at the intersection of Calhoun Street / Access 1 (which was previously warranted under EAP 2026 conditions) is not currently recommended since this intersection is anticipated to continue to operate at an acceptable LOS under EAPC (2026) conditions as a cross-street stop controlled intersection.

6.4 CUMULATIVE IMPROVEMENTS

The provision of traffic signal control addresses the off-site intersection operational deficiency for EAPC (2026) conditions at the intersections of Calhoun Street / Dr. Carreon Boulevard (#1), Calhoun Street / Avenue 49 (#3), and Jackson Street / Avenue 49 – Odlum Drive (#5). The effectiveness of this recommended signal improvement at the abovementioned intersections are presented in Table 6-1 for EAPC (2026) traffic conditions.

The intersection operations analysis worksheets for EAPC (2026) traffic conditions, with this traffic signal improvement, are included in Appendix 6.1 of this TA.

7 CUMULATIVE AND SITE ACCESS IMPROVEMENTS

7.1 RECOMMENDED CUMULATIVE IMPROVEMENTS

The provision of traffic signal control addresses the off-site intersection operational deficiency for EAPC (2026) conditions at the intersections of Calhoun Street / Dr. Carreon Boulevard (#1), Calhoun Street / Avenue 49 (#3), and Jackson Street / Avenue 49 – Odlum Drive (#5).

Detailed fair share calculations, for each peak hour, are provided below (see Table 7-1).

TABLE 7-1: EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE (EAPC) FAIR SHARE CALCULATIONS

#	Intersection	Existing (2024) Traffic	EAPC (2026) Traffic[3]	Project Only Traffic	Total New Traffic[1]	Project Fair Share (%)[2]
1	Calhoun St. / Dr. Carreon Bl.					
	• AM Peak Hour	2,002	2,357	58	355	16.3%
	• PM Peak Hour	1,585	1,962	75	377	**19.9%**
3	Calhoun St. / Avenue 49					
	• AM Peak Hour	1,159	1,403	96	244	39.3%
	• PM Peak Hour	1,050	1,350	125	300	**41.7%**
5	Jackson St. / Avenue 49 - Odlum Dr.					
	• AM Peak Hour	1,209	1,413	38	204	18.6%
	• PM Peak Hour	1,253	1,505	50	252	**19.8%**

[1] Total New Traffic = (EAPC 2026 - Existing Traffic)

[2] Project Fair Share % = (Project Only Traffic / Total New Traffic)

[3] Existing Plus Ambient Plus Project Plus Cumulative (2026) Conditions

F:\UXRjobs_15600_16000_15800\15830\02_LOS\Excel\[15830 - Report.xlsx]7-1 FairShare

7.2 ON-SITE AND SITE-ADJACENT IMPROVEMENTS

The following recommendations are based on the minimum improvements needed to accommodate site access and maintain acceptable peak hour operations for the proposed Project. On-site and site adjacent recommendations are shown on Exhibit 7-1.

- Project to construct Avenue 49 as a 2-lane roadway (40 feet curb-to-curb width) from Jackson Street to the Project's westerly site boundary.
- Project to construct Avenue 49 at its ultimate southerly half section width as a Primary Arterial with bicycle facility from the Project's westerly site boundary to the Project's easterly site boundary (Calhoun Street).

- Project to widen Calhoun Street at its ultimate westerly half-section width as a Collector Roadway with Bicycle facility from Project's northerly site boundary (Avenue 49) to the Project's southerly boundary.
- Project to implement a new traffic signal at the Calhoun Street / Avenue 49 (#3) intersection, with potential future reimbursement contingent upon cumulative development activity.
- Access to the adjacent public park to be provided from Calhoun Street, subject to park development access and parking plans (to be determined).

Exhibit 7-2 shows the following site access and site adjacent intersection improvements:

#3 – Calhoun Street / Avenue 49

- Provide a separate northbound left turn lane.
- Modify southbound approach striping to provide a separate southbound right turn lane.
- Provide a shared eastbound left/thru/right lane.

#6 – Calhoun Street / Access 1

- Provide a separate northbound left turn lane.
- Provide a shared eastbound left/right turn lane.

#7 – Access 1 / Avenue 49

- Provide a shared northbound left/right turn lane.
- Provide a shared eastbound thru/right turn lane.
- Provide a shared westbound left/thru lane.

EXHIBIT 7-1: SITE ACCESS RECOMMENDATIONS

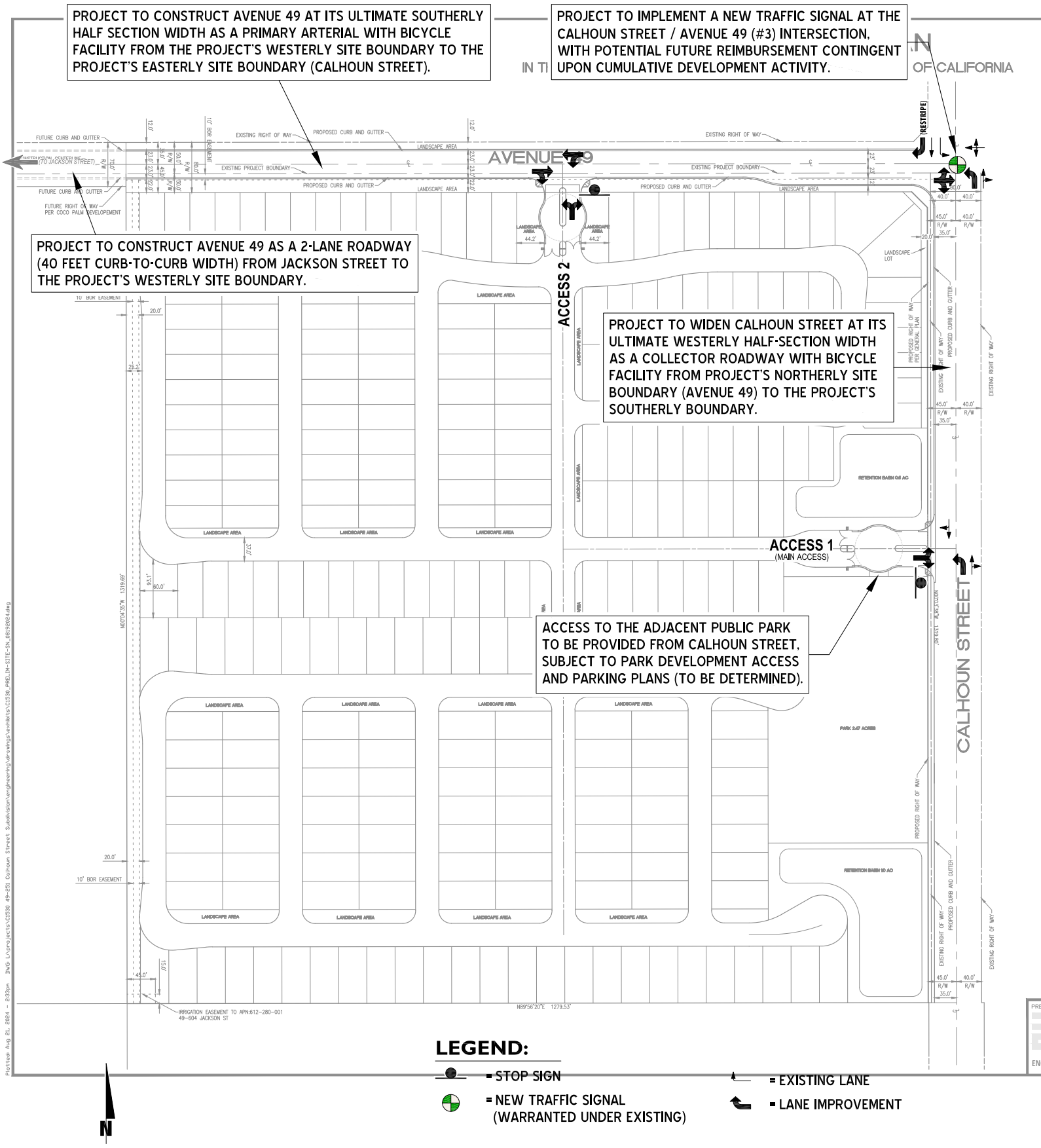
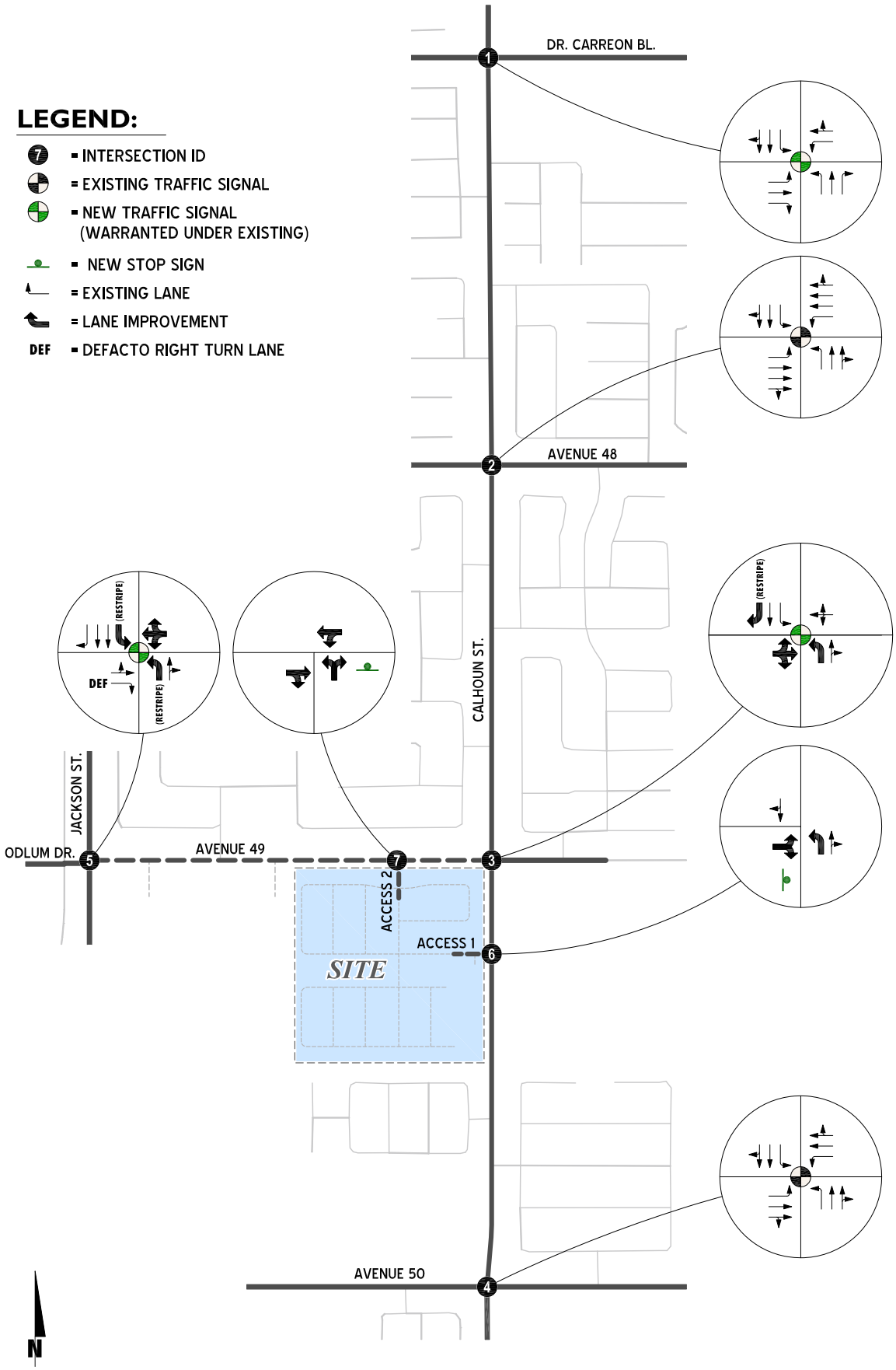


EXHIBIT 7-2: RECOMMENDED INTERSECTION IMPROVEMENTS FOR EAP (2026) AND EAPC (2026) CONDITIONS



8 REFERENCES

1. **Riverside County.** *Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled.* Riverside County : s.n., December 2020.
2. **Transportation Research Board.** *Highway Capacity Manual (HCM), 7th Edition.* s.l. : National Academy of Sciences, 2022.
3. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CA MUTCD).* 2014, Updated March 30, 2021 (Revision 6).
4. **Institute of Transportation Engineers.** Trip Generation Manual. 11th Edition, 2021.

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APPENDIX 1.1: TRAFFIC STUDY SCOPE

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SCOPING AGREEMENT FOR TRANSPORTATION LOS ANALYSIS

This letter acknowledges the Riverside County Transportation Department requirements for transportation level of service analysis of the following project. The analysis must follow the Riverside County Transportation Department Transportation Analysis Guidelines, December 2020.

Case No.	
Related Cases	
Project Name:	Calhoun Street Subdivision
Project Address:	Southwest corner of Calhoun Street and Avenue 49
Project Description:	258 single family detached residential units and 1.5 acre park with dog run

	Traffic Consultant	Applicant/Developer
Name:	Marlie Whiteman, P.E., Urban Crossroads, Inc.	Terra Nova Planning & Research, Inc. - Nicole Criste
Address:	1133 Camelback St. #8329	42635 Melanie Place, Ste 101
	Newport Beach, CA 92658	Palm Desert, CA. 92211
Telephone:	714.585.0574	(760) 341-4800
E-mail:	mwhiteman@urbanxroads.com	ncriste@terranovaplanning.com

Current GP Land Use: Suburban Neighborhood
Current Zoning: Suburban Neighborhood (S-N)
Proposed Land Use: Suburban Neighborhood
Proposed Zoning: Suburban Neighborhood (S-N)

A. Trip Generation Source: ITE Trip Generation 11th Edition (see Table 1)

	Current Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	
AM Trips/Saturday Morning				51	139	190
PM Trips/Sunday Afternoon				155	93	248

Internal Trip Allowance ☐ Yes ☑ No (____ % Trip Discount)
Pass-By Trip Allowance ☐ Yes ☑ No (____ % Trip Discount)

A pass-by trip discount of 25% is allowed for appropriate land uses. The pass-by trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution: (attach exhibit for detailed assignment)

N %	S %	E %	W %
See Exhibit 3			

C. Background Traffic

Project Build-out Year:	2026	Annual Ambient Growth Rate:	2 %
Phase Year(s)	Not Applicable		
Other projects to be analyzed:	To be provided by the City. Initial list provided in Exhibit 8 and Table 2.		
Model/Forecast methodology	Not Applicable		

D. Study intersections: *(NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)*

1. Calhoun St. / Dr. Carreon Bl.
2. Calhoun St. / Avenue 48
3. Calhoun St. / Avenue 49
4. Calhoun St. / Avenue 50
5. Jackson St. / Odlum Dr.
6. Access 2 / Avenue 49 (Future)
7. Calhoun St. / Access 1 (Future)
8. Calhoun St. / Access 3 (Future)
9.
10.

E. Study Roadway Segments: *(NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)*

1. Calhoun Street, south of Avenue 49
2.
3.
4.
5.
6.
7.
8.
9.
10.

F. Other Jurisdictional

Is this project within a City's Sphere of Influence or one-mile radius of City boundaries? ☑ Yes ☐ No

If yes, name of jurisdiction(s): Coachella

G. Site Plan (please attach reduced copy) See Exhibit 1

H. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Transportation Department)

(NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted," or similar statement) at an existing unsignalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.)

I. Existing Conditions

Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.

Date of counts August 27, 2024

***NOTE* Traffic Study Submittal Form and appropriate fee must be submitted with this form.**

Recommended by:

Marlie Whiteman 08/14/2024

Traffic Consultant Date

Approved Scoping Agreement

Date

Scoping Agreement Submitted on 06/17/2024

Revised on 08/14/2024

MEMORANDUM

URBAN CROSSROADS

DATE: August 14, 2024
TO: Mr. Andrew Simmons, P.E., City of Coachella
FROM: John Kain and Marlie Whiteman, Urban Crossroads, Inc.
JOB NO: 15830-02 LOS Scope.docx

CALHOUN STREET SUBDIVISION – LEVEL OF SERVICE (LOS) ANALYSIS SCOPE

Urban Crossroads, Inc. is pleased to submit the following LOS traffic study scope for the proposed Calhoun Street Subdivision development (**Project**). The Project is located at the southwest corner of Calhoun Street and Avenue 49 in the City of Coachella. The following evaluation is based on the County of Riverside's Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled (December 2020), as the City of Coachella utilizes the County guidelines.

PROJECT DESCRIPTION

It is our understanding that the Project is to consist of 258 dwelling units and a 1.5-acre park with dog run on approximately 40 acres. A preliminary site plan for the proposed Project is shown on Exhibit 1.

Access to the Project is provided via Access 1 at Calhoun Street (full access), Access 2 at Avenue 49 (full access), and Access 3 at Calhoun Street (right-in/right-out only access for the park).

STUDY AREA

Exhibit 2 presents the study area intersection analysis locations. Study area intersections will be evaluated using the HCM 7 methodology. Count data will be collected during the AM and PM peak hours on a typical weekday.

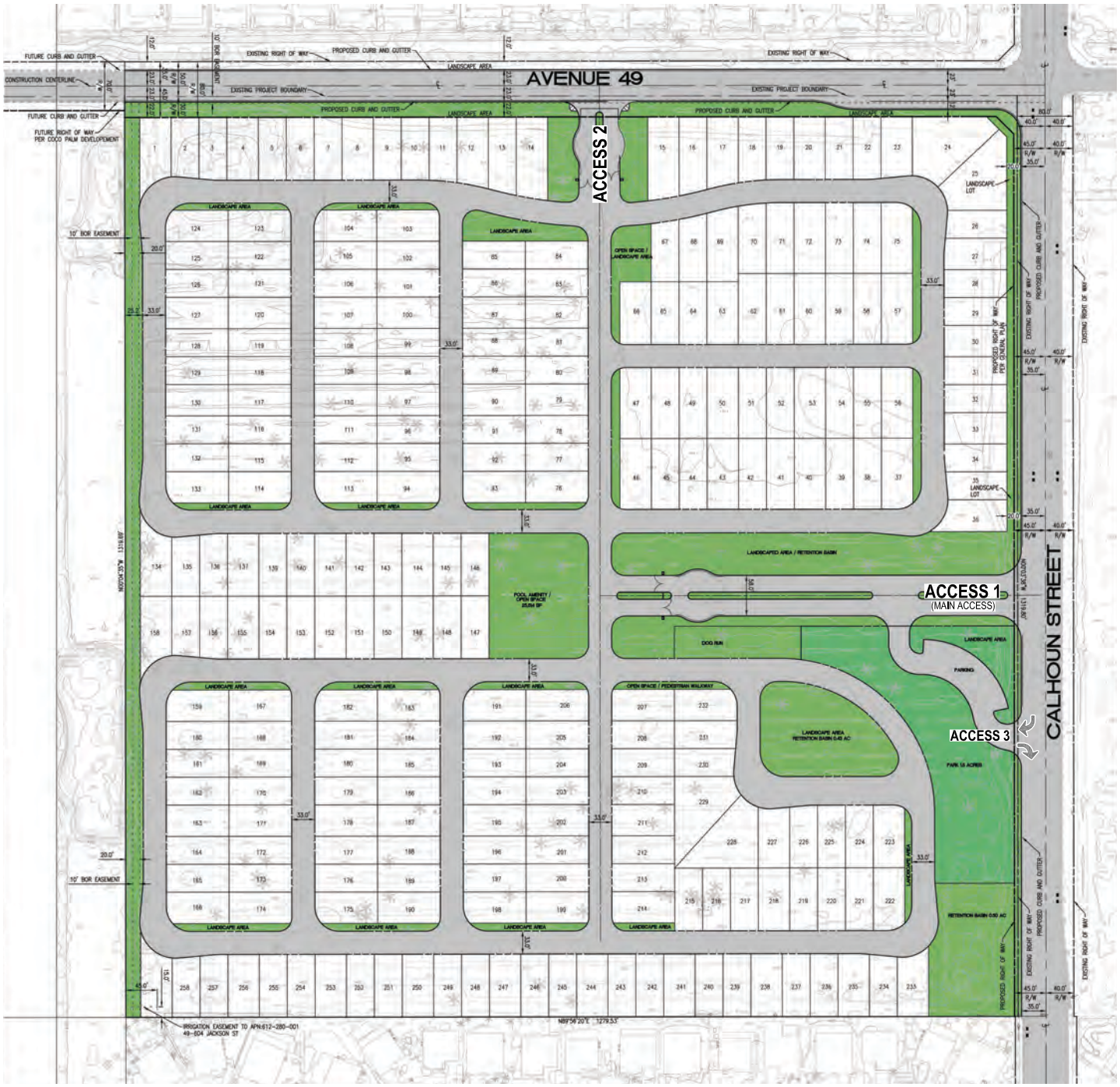
ANALYSIS SCENARIOS

The analysis of peak hour operations at study area intersections will be provided for the following analysis scenarios:

- Existing (2024)
- Existing Plus Ambient Growth Plus Project (2026) Conditions (EAP)
  - EAP with Improvements *(if needed)*
- Existing Plus Ambient Growth Plus Cumulative (2026) Conditions (EAC)
  - EAC with Improvements *(if needed)*
- Existing Plus Ambient Growth Plus Project Plus Cumulative (2026) Conditions (EAPC)
  - EAPC with Improvements *(if needed)*

EAP traffic conditions will be utilized to determine direct Project traffic impacts, while the EAPC (2026) analysis will be utilized to determine the Project's cumulatively considerable/direct impacts (subject to payment of fees/fair share).

EXHIBIT 1: PRELIMINARY SITE PLAN



LEGEND:

▪ RIGHT-IN/RIGHT-OUT ONLY

N

Based on the traffic analysis results, the TA will indicate new improvement requirements and fair share contribution for the proposed Project.

STUDY AREA

Per the County's traffic study guidelines, the study area has been developed by including locations where the Project is anticipated to contribute 50 or more peak hour trips within a 5-mile radius of the Project. Exhibit 2 presents the study area intersection analysis locations. The study area intersections will be evaluated using the HCM 7 methodology.

AMBIENT GROWTH ASSUMPTIONS

An ambient growth rate of 2.0 percent per year is proposed for the study area intersections which will be compounded for each year to the Project's Opening Year of 2026 (in addition to cumulative development traffic overlays). The growth rate is consistent with the growth rate utilized by the County of Riverside.

TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development, and is based upon the specific land uses planned for a given project. Table 1 presents the trip generation rates and the resulting trip generation summary for the proposed Project. The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their Trip Generation manual, 11th Edition, 2021. As shown in Table 1, the Project is anticipated to generate a total of 2,508 trip-ends per day with 190 AM peak hour trips and 248 PM peak hour trips.

TRIP DISTRIBUTION

Trip distribution is the process of identifying the probable destinations, directions, or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land use and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. Exhibits 3 and 4 illustrate the outbound and inbound trip distribution patterns for the Project, respectively.

PROJECT TRAFFIC VOLUMES

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project Only Average Daily Traffic (ADT) volumes and AM and PM peak hour intersection turning movement volumes are shown on Exhibit 5.

EXHIBIT 2: TRAFFIC ANALYSIS STUDY AREA

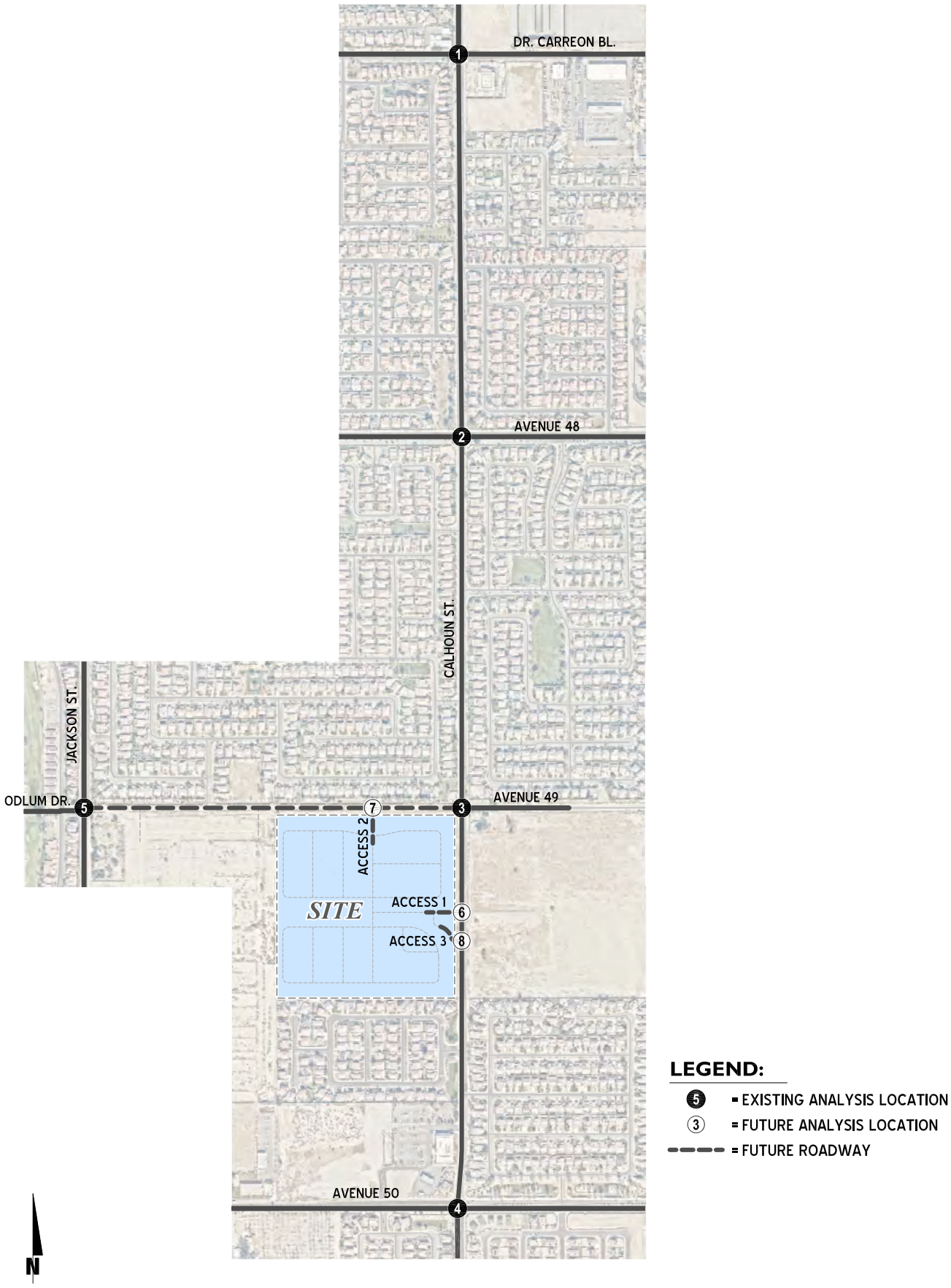


TABLE 1: PROJECT TRIP GENERATION SUMMARY

Trip Generation Rates[1]

Land Use	ITE LU Code	Quantity[2]		AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Single Family Detached	210	258	DU	0.18	0.52	0.70	0.59	0.35	0.94	9.43
Park with Dog Run[3]	--	1.5	AC	3.25	3.25	6.50	2.25	2.25	4.50	50.00

Trip Generation Results

Land Use	ITE LU Code	Quantity[2]		AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Single Family Detached	210	258	DU	46	134	180	152	90	242	2,433
Park with Dog Run	--	1.5	AC	5	5	10	3	3	6	75
TOTAL				**51**	**139**	**190**	**155**	**93**	**248**	**2,508**

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).

[2] DU = Dwelling Unit; AC = Acre

[3] Since ITE does not have trip rates for a park with dog run, similar use based on SANDAG's City park is utilized to account for higher park activity related to the dog run use.

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EXHIBIT 3: PROJECT OUTBOUND TRIP DISTRIBUTION

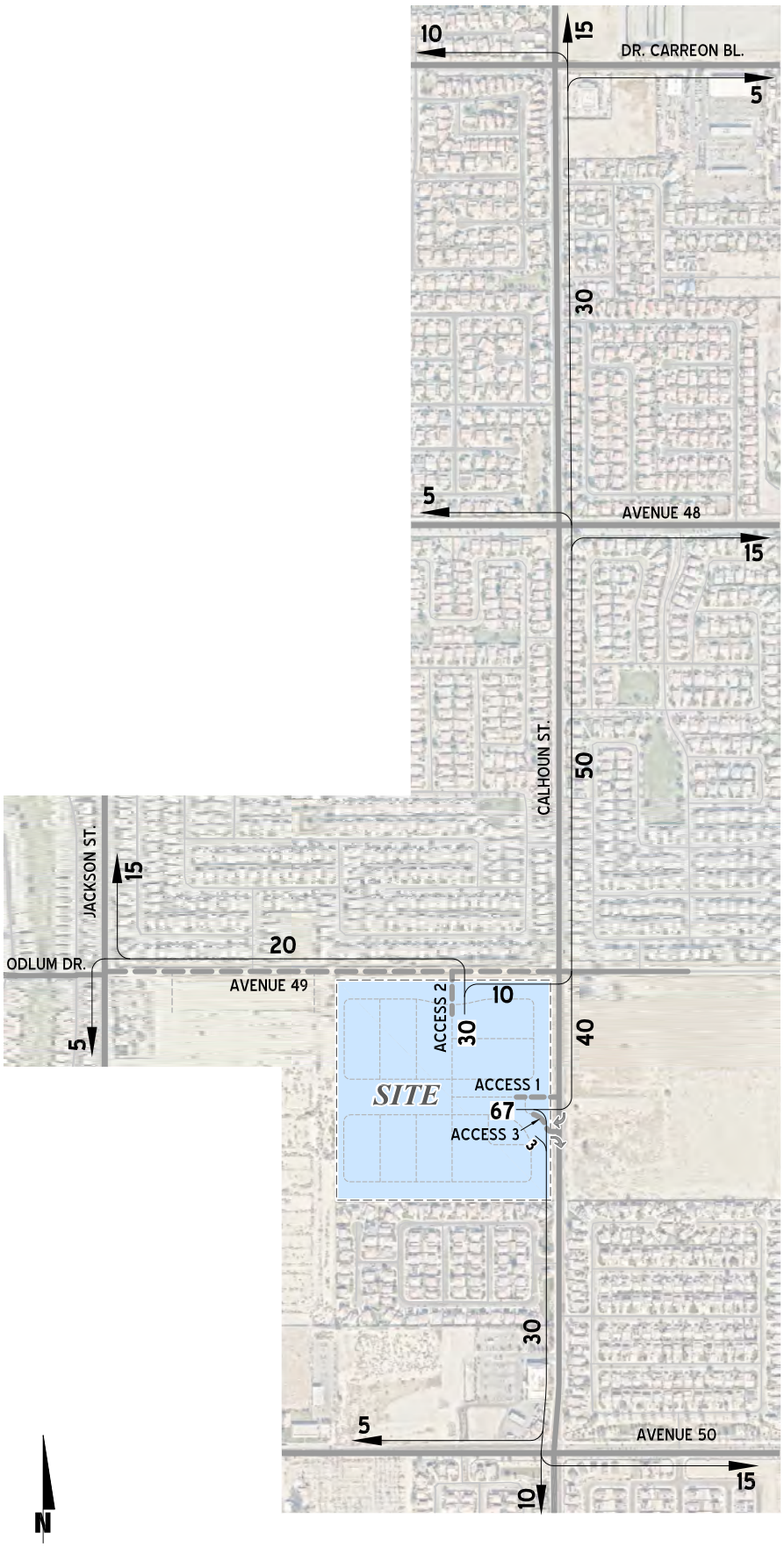


EXHIBIT 4: PROJECT INBOUND TRIP DISTRIBUTION

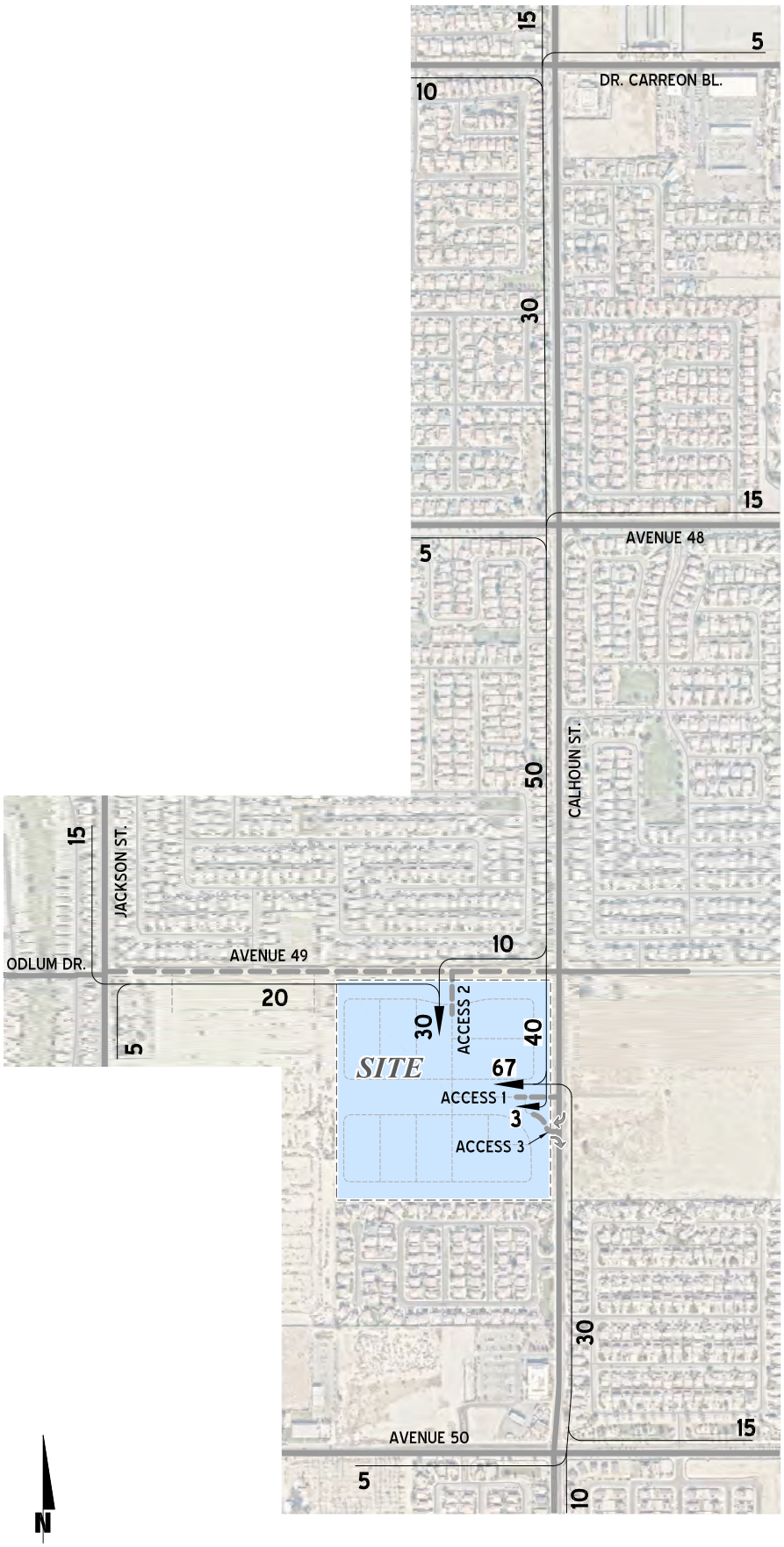
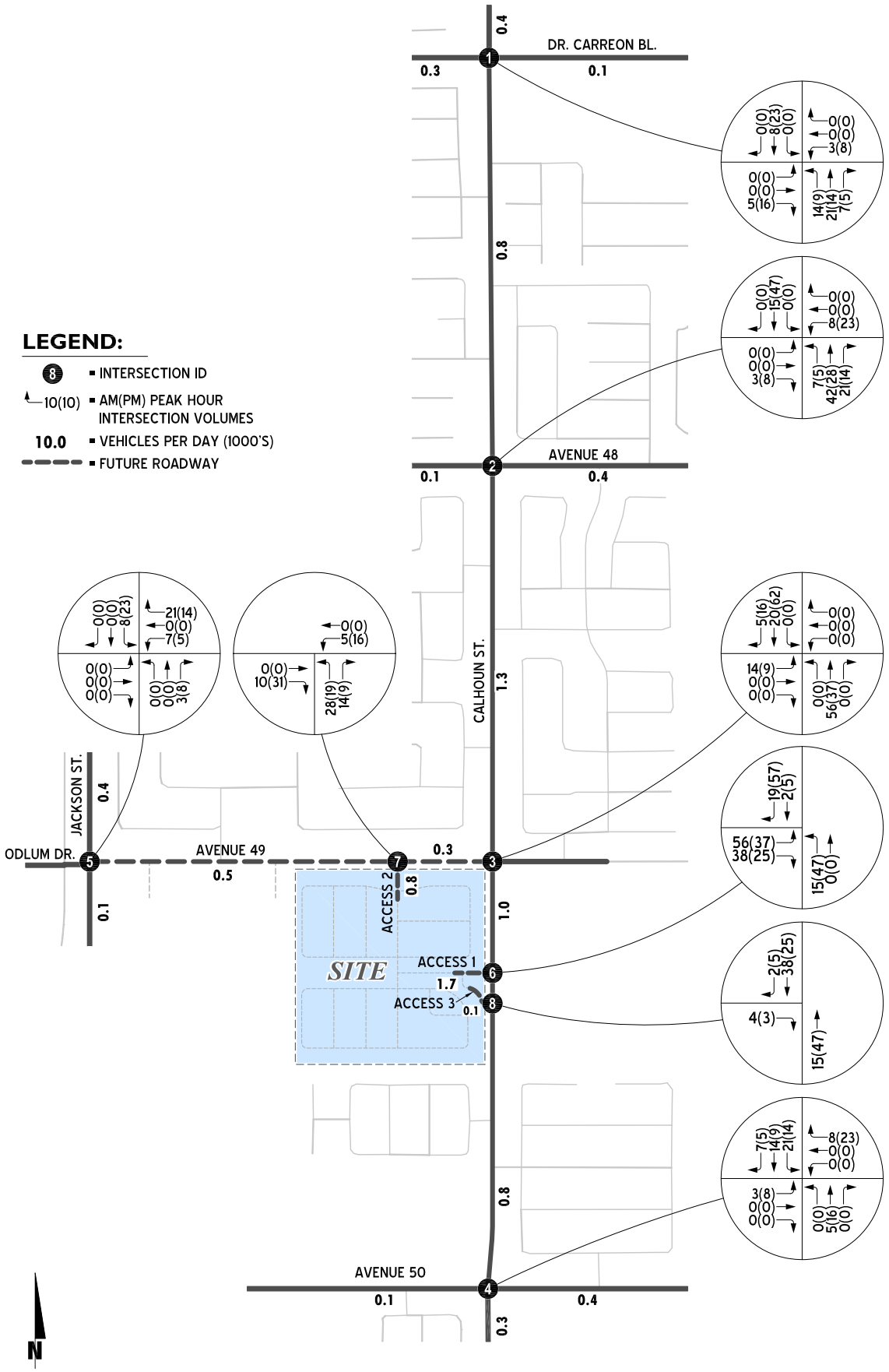


EXHIBIT 5: PROJECT ONLY TRAFFIC VOLUMES



LEVEL OF SERVICE (LOS) CRITERIA AND THRESHOLDS OF SIGNIFICANCE

The City of Coachella's current General Plan applies LOS D as a performance threshold for roadway segments and intersections.

The following thresholds of significance will be applied to study area intersections to identify significant impacts through a comparison of Existing and EAP traffic conditions:

- If an intersection is projected to operate at an acceptable level of service (i.e., LOS D or better) under Existing traffic conditions and the addition of project traffic is expected to cause the intersection to operate at an unacceptable level of service (i.e., LOS E or F), the impact is considered significant;
- If an intersection is projected to operate at LOS E or LOS F under Existing, with the addition of project traffic, the impact is considered significant.

EXISTING COUNT DATA

New traffic counts will be conducted during a typical weekday when local schools are in session and operating on a typical bell schedule. No adjustments are proposed to the traffic counts for the baseline traffic condition with the exception of volume balancing between closely spaced intersections. Traffic counts are scheduled and will be conducted on August 27th with school in full session and not during music festival weekends.

Intersection turning movement counts will be conducted at the study area intersection locations for weekday AM (7-9AM) and weekday PM (4-6PM).

CITY GENERAL PLAN CIRCULATION ELEMENT

The adopted City of Coachella General Plan Circulation Element is shown on Exhibit 6. Exhibit 7 shows the City of Coachella General Plan roadway cross-sections.

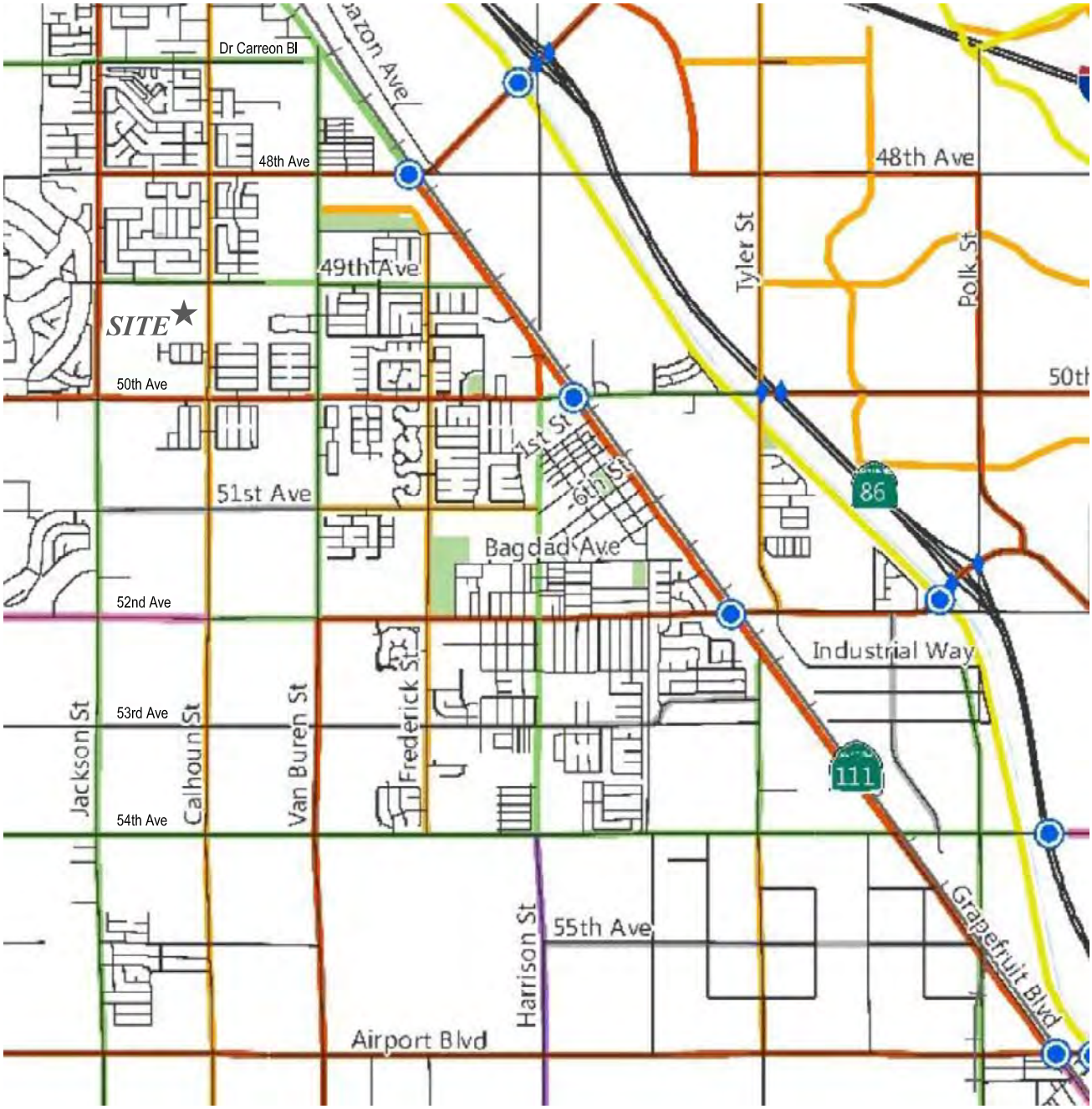
CUMULATIVE DEVELOPMENT

It is requested that City staff review the list of cumulative development projects (shown on Exhibit 8 and listed on Table 2) and any additional information for projects that should be included in this traffic study that may not be reflected Exhibit 8.

Information pertaining to project location, land use, and intensity are necessary for consideration and to estimate trip generation.

If you have any questions, please contact us directly at jkain@urbanxroads.com for John or mwhiteman@urbanxroads.com for Marlie.

EXHIBIT 6: CITY OF COACHELLA GENERAL PLAN CIRCULATION ELEMENT



SOURCE: CITY OF COACHELLA

LEGEND:

3 = EXISTING ANALYSIS LOCATION

EXHIBIT 7: CITY OF COACHELLA GENERAL PLAN ROADWAY CROSS-SECTIONS

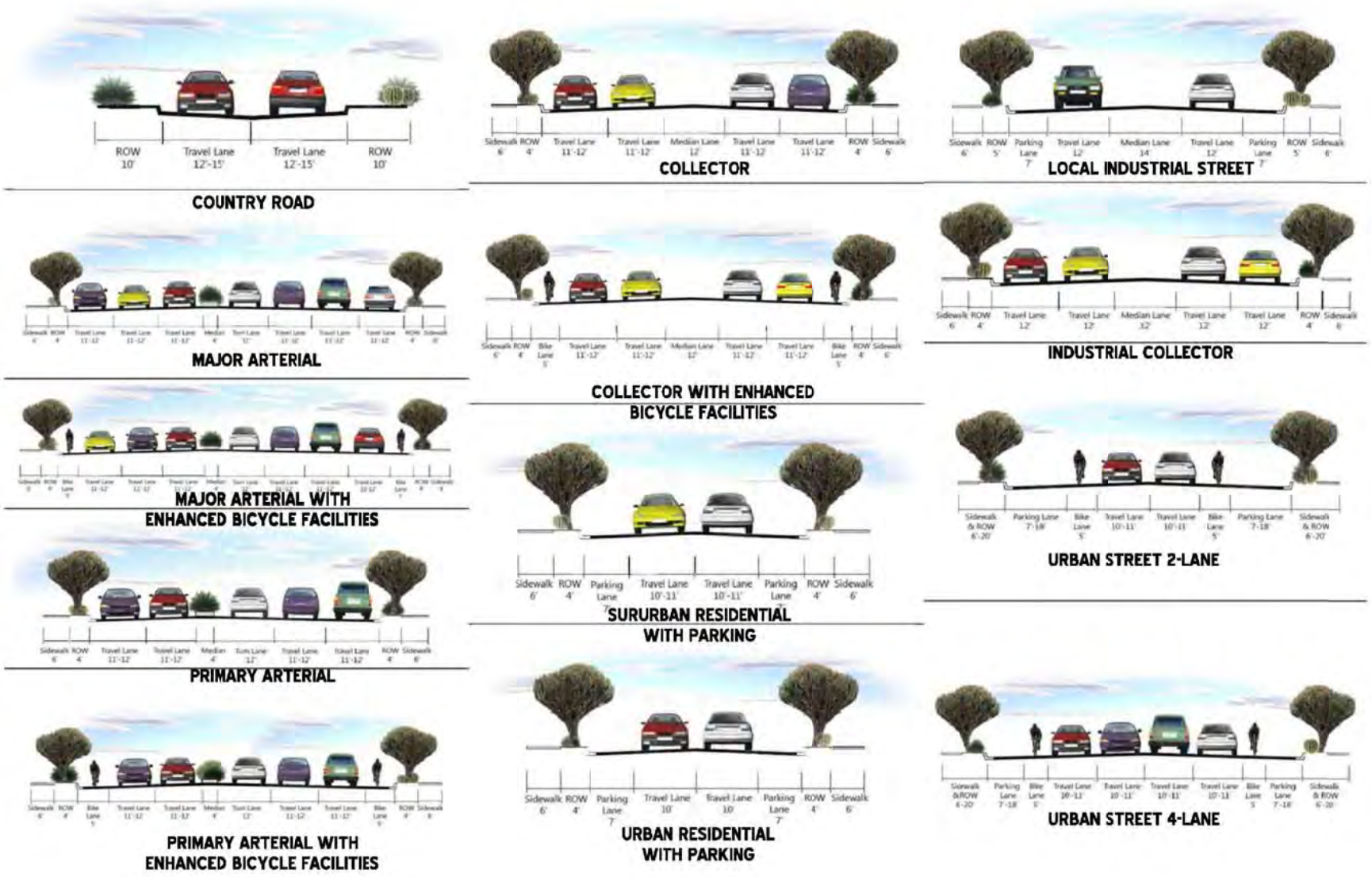


EXHIBIT 8: CUMULATIVE DEVELOPMENT MAP

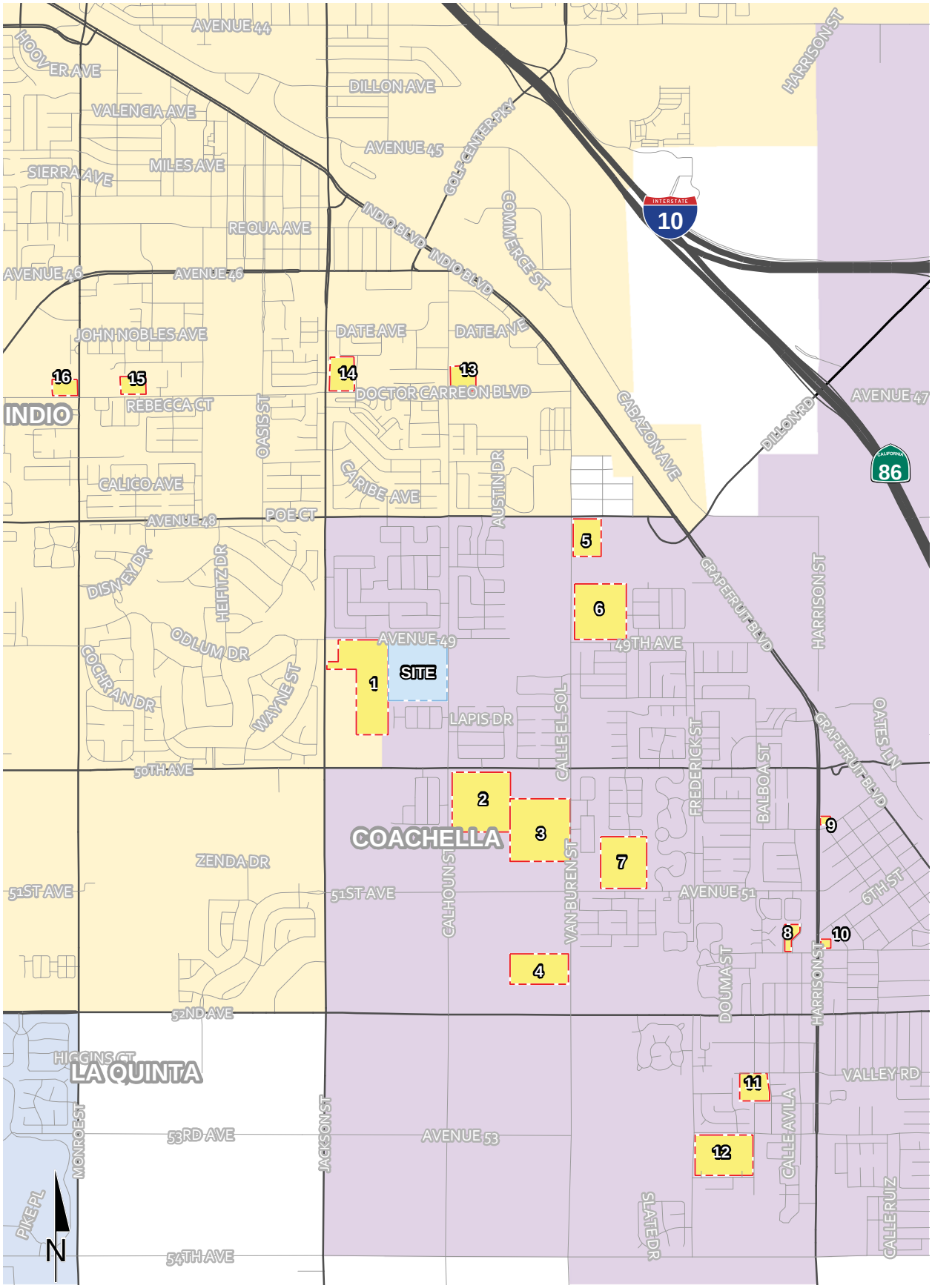


TABLE 2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

TAZ	Project	Land Use	Quantity	Units[1]
1	TT 38072	Single Family Residential	173	DU
2	Mariposa Pointe	Single Family Residential	155	DU
3	Sevilla II	Single Family Residential	204	DU
4	Encanto	Single Family Residential	112	DU
5	Glenroy Hotel Project	Resort casitas/bungalows	620	RM
		Hotel	130	RM
		Restaurant	3.6	TSF
		Retail Cannabis	3.12	TSF
		General Store	2.5	TSF
		Coffee shop with drive thru	2.5	TSF
6	Rancho Flores 2	Single Family Residential	124	DU
7	Sevilla by Pulte	Single Family Residential	232	DU
8	Placita Dolores Huerta	Multifamily Residential	110	DU
9	Fountainhead Plaza (NEC 1st St. & Cesar Chavez St.)	Supermarket	20.422	TSF
		Fast-Food Restaurant	2.6	TSF
		Coffee Shop w/ Restaurant	2.1	TSF
10	Tripoli Mixed-Use	Multifamily Residential	108	DU
11	Villa Verde Apartments	Multifamily Residential	152	DU
12	Bellissima (Tract 31978)	Single Family Residential	111	DU
13	West Coast Self Storage	Self-Storage Facility	62	TSF
14	Indio Public Safety Campus (NEC Jackson St. & Dr. Carreon Bl.)	Fire Station Expansion	4.1	TSF
		Police Headquarters Expansion	44	EMP
		Government Office Complex	30.1	TSF
15	Coachella Medical Center (North of Dr. Carreon Bl., b/w Monroe & Arabia)	Skilled Nursing Facility	288	Beds
16	Tower Market	Convenience Mkt. w/ Pumps	12	VFP

[1] DU = Dwelling Units; TSF = Thousand Square Feet; RM = Rooms; EMP = Employees; VFP = Vehicle Fueling Positions

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APPENDIX 1.2: VMT SCREENING

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URBAN CROSSROADS

June 18, 2024

Mr. Andrew Simmons, P.E.
City of Coachella
53990 Enterprise Way
Coachella, CA 92236

CALHOUN STREET SUBDIVISION VEHICLE MILES TRAVELED (VMT) SCREENING

Mr. Andrew Simmons, P.E.,

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Screening for the Calhoun Street Subdivision development (Project), which is located at the southwest corner of Calhoun Street and Avenue 49 in the City of Coachella.

PROJECT OVERVIEW

It is our understanding that the Project is to consist of 258 dwelling units and an 1.5 acre park with dog run on approximately 40 acres. A preliminary site plan for the proposed Project is shown on Exhibit 1. Access to the Project is provided via two full access driveways (Access 1 at Calhoun Street and Access 2 at Avenue 49), and one right-in/right-out only access for the park (Access 3 at Calhoun Street).

BACKGROUND

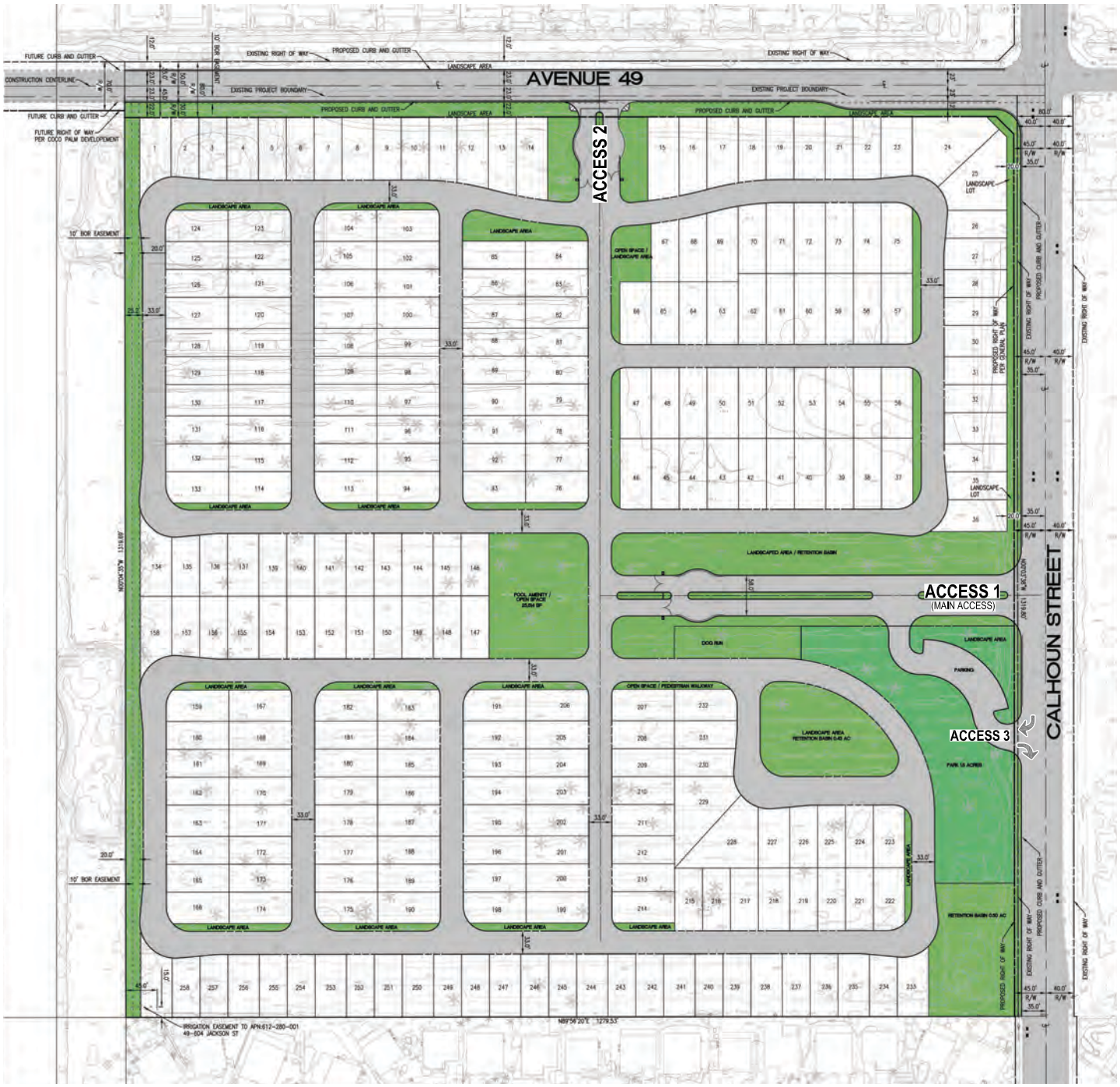
Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which requires all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**) (1). Based on OPR's Technical Advisory, the County of Riverside adopted their Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled (December of 2020) (**County Guidelines**) (2). The City of Coachella utilizes the adopted County Guidelines.

Consistent with County Guidelines, projects should evaluate available screening criteria based on their location and project type to determine if a presumption of a less than significant transportation impact can be made. The following project screening thresholds were selected for review based on their applicability to the proposed Project:

- Small Projects Screening
- High Quality Transit Areas (HQTA) Screening
- Map-Based Screening
- Local Essential Service Screening

20341 SW Birch Street | Suite 230 | Newport B[illegible]60 | (949) 660-1994 | urbanxroads.com

EXHIBIT 1: PRELIMINARY SITE PLAN



LEGEND:

▪ RIGHT-IN/RIGHT-OUT ONLY

N

SMALL PROJECTS SCREENING

County Guidelines identify those projects forecasted to generate greenhouse gas (GHG) emissions below 3,000 Metric Tons of Carbon Dioxide Equivalent ($MTCO_2e$) per year are also assumed to cause a less than significant VMT impact.[1] The County Guidelines provides a list of land use types based on quantity (i.e., dwelling units or square footage) and provides a typical development potential to be below the 3,000 $MTCO_2e$ per year. Single Family Housing projects less than or equal to 110 dwelling units have been identified to meet the County threshold[2].

The Project quantity of 258 dwelling units is more than the residential VMT screening criteria.

Small Projects screening criteria is not met.

HIGH QUALITY TRANSIT AREAS (HQTA) SCREENING

Projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing "major transit stop"[3] or an existing stop along a "high-quality transit corridor"[4]) may be presumed to have a less than significant impact absent substantial evidence to the contrary. The Project is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

HQTA screening criteria is not met.

MAP-BASED SCREENING

The County Guidelines note that "residential projects that locate in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT."[5] Urban Crossroads has obtained a VMT data table from County Staff for all TAZs within Riverside County that identifies VMT per capita for the purposes of identifying low VMT areas. The data utilizes the sub-regional Riverside Transportation Analysis Model (RIVTAM) to measure baseline VMT performance, and a comparison was made to the applicable impact threshold.

The Project's TAZ was identified in the Riverside County Transportation Analysis Model (RIVTAM) as TAZ 4787.

---

[1] County Guidelines; Page 19.
[2] County Guidelines; Page 42, Table 1
[3] Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").
[4] Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").
[5] Technical Advisory; Page 12

The County's data table identifies the Project's TAZ 4787 to generate 7.974 VMT per capita. The County regional threshold is 15.2 VMT per capita[6]; therefore the Project is located in a low VMT area.

Map-Based screening criteria is met for residential.

LOCAL ESSENTIAL SERVICE SCREENING

The introduction of new local essential services shortens non-discretionary trips by putting those goods and services closer to complimentary land uses, resulting in conditions which do not increase overall VMT. The park with dog run provides a local service to adjacent land uses that otherwise attract travelers from more distant locations; therefore, the park with dog run is presumed to not increase overall VMT.

Local Essential Service screening criteria is met for park with dog run.

CONCLUSION

In summary, the Project was evaluated consistent with available screening criteria as presented in the County Guidelines. The map based screening criteria is met for residential uses and the local essential service screening criteria is met for park with dog run, so a full analysis of VMT associated with site is not required. The Project is presumed to have a less than significant impact on VMT.

If you have any questions, please contact us at jkain@urbanxroads.com for John or mwhiteman@urbanxroads.com for Marlie.

Respectfully submitted,

URBAN CROSSROADS, INC.

John Kain, AICP
Principal

Marlie Whiteman, P.E.
Senior Associate

[6] County Guidelines; Page 22

REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.

2. **County of Riverside.** *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled.* County of Riverside : s.n., December 2020.

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APPENDIX 3.1: TRAFFIC COUNTS –2024

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Coachella
N/S: Calhoun Street
E/W: Dr Carreon Boulevard
Weather: Clear

File Name : 01_COA_Cal_Dr C AM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 1

Groups Printed- Total Volume

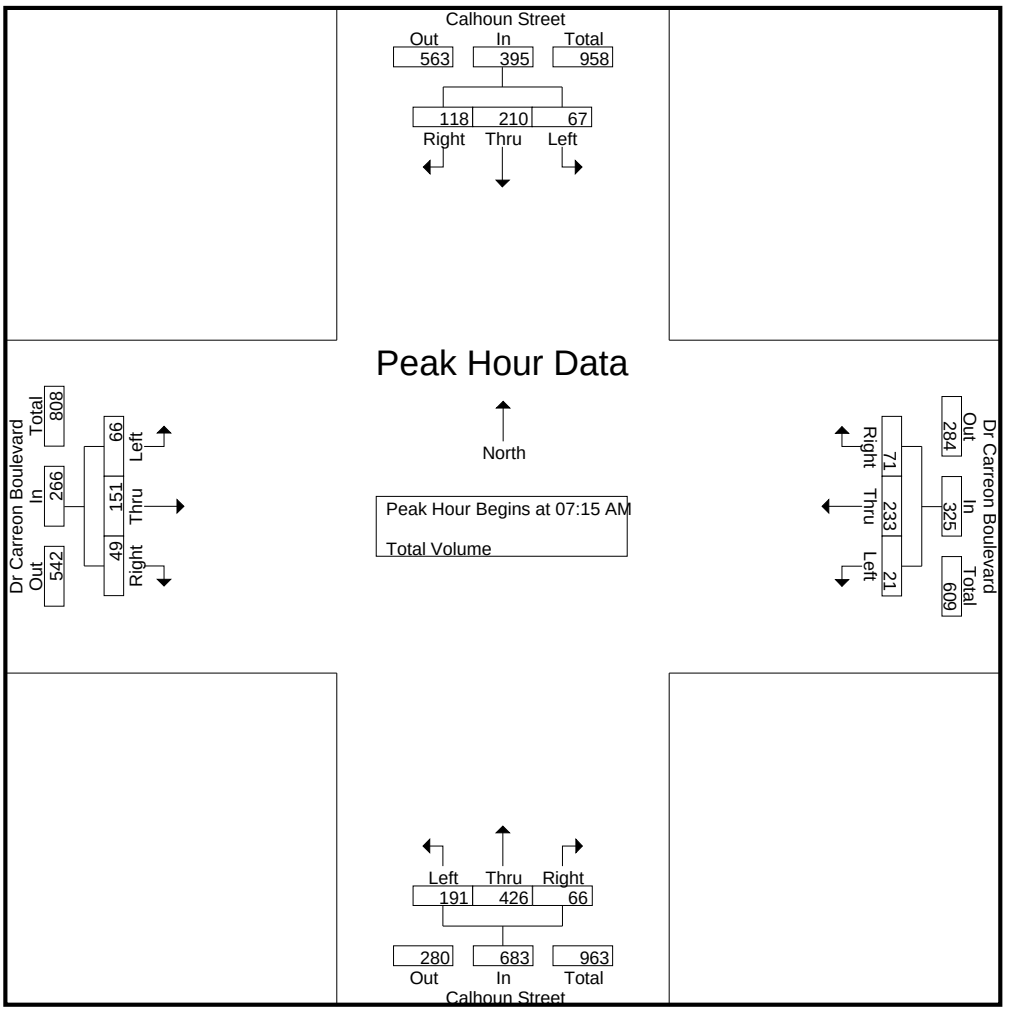
	Calhoun Street Southbound				Dr Carreon Boulevard Westbound				Calhoun Street Northbound				Dr Carreon Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	10	31	29	70	4	22	10	36	23	103	6	132	10	15	4	29	267
07:15 AM	18	30	48	96	2	38	16	56	39	112	18	169	17	29	14	60	381
07:30 AM	14	54	29	97	7	57	17	81	57	112	19	188	19	46	11	76	442
07:45 AM	16	65	24	105	8	63	15	86	50	115	15	180	14	41	9	64	435
Total	58	180	130	368	21	180	58	259	169	442	58	669	60	131	38	229	1525
08:00 AM	19	61	17	97	4	75	23	102	45	87	14	146	16	35	15	66	411
08:15 AM	11	51	12	74	6	58	8	72	18	63	9	90	9	34	18	61	297
08:30 AM	9	44	15	68	1	45	8	54	22	60	4	86	9	41	10	60	268
08:45 AM	8	41	3	52	3	35	6	44	19	39	4	62	10	18	15	43	201
Total	47	197	47	291	14	213	45	272	104	249	31	384	44	128	58	230	1177
Grand Total	105	377	177	659	35	393	103	531	273	691	89	1053	104	259	96	459	2702
Apprch %	15.9	57.2	26.9		6.6	74	19.4		25.9	65.6	8.5		22.7	56.4	20.9		
Total %	3.9	14	6.6	24.4	1.3	14.5	3.8	19.7	10.1	25.6	3.3	39	3.8	9.6	3.6	17	

	Calhoun Street Southbound				Dr Carreon Boulevard Westbound				Calhoun Street Northbound				Dr Carreon Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	18	30	**48**	96	2	38	16	56	39	112	18	169	17	29	14	60	381
07:30 AM	14	54	29	97	7	57	17	81	**57**	112	**19**	**188**	**19**	**46**	11	**76**	**442**
07:45 AM	16	**65**	24	**105**	**8**	63	15	86	50	**115**	15	180	14	41	9	64	435
08:00 AM	**19**	61	17	97	4	**75**	**23**	**102**	45	87	14	146	16	35	**15**	66	411
Total Volume	67	210	118	395	21	233	71	325	191	426	66	683	66	151	49	266	1669
% App. Total	17	53.2	29.9		6.5	71.7	21.8		28	62.4	9.7		24.8	56.8	18.4		
PHF	.882	.808	.615	.940	.656	.777	.772	.797	.838	.926	.868	.908	.868	.821	.817	.875	.944

Counts Unlimited, Inc.
PO Box 1178
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City of Coachella
N/S: Calhoun Street
E/W: Dr Carreon Boulevard
Weather: Clear

File Name : 01_COA_Cal_Dr C AM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:15 AM				07:30 AM			
+0 mins.	18	30	**48**	96	7	57	17	81	39	112	18	169	**19**	**46**	11	**76**
+15 mins.	14	54	29	97	**8**	63	15	86	**57**	112	**19**	**188**	14	41	9	64
+30 mins.	16	**65**	24	**105**	4	**75**	**23**	**102**	50	**115**	15	180	16	35	15	66
+45 mins.	**19**	61	17	97	6	58	8	72	45	87	14	146	9	34	**18**	61
Total Volume	67	210	118	395	25	253	63	341	191	426	66	683	58	156	53	267
% App. Total	17	53.2	29.9		7.3	74.2	18.5		28	62.4	9.7		21.7	58.4	19.9	
PHF	.882	.808	.615	.940	.781	.843	.685	.836	.838	.926	.868	.908	.763	.848	.736	.878

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File Name : 01_COA_Cal_Dr C PM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 1

Groups Printed- Total Volume

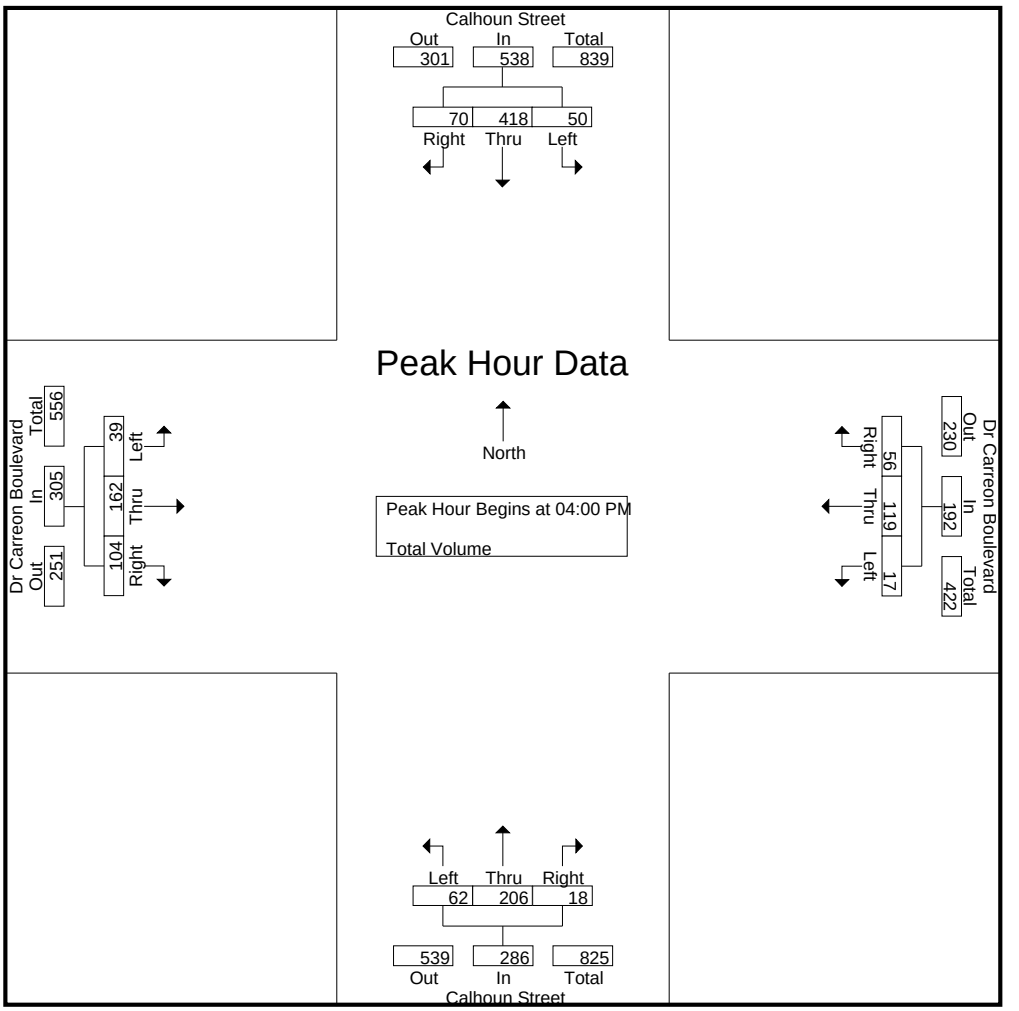
	Calhoun Street Southbound				Dr Carreon Boulevard Westbound				Calhoun Street Northbound				Dr Carreon Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	21	110	16	147	6	26	13	45	13	44	2	59	10	46	35	91	342
04:15 PM	11	113	17	141	1	38	14	53	16	48	2	66	5	42	21	68	328
04:30 PM	11	107	22	140	7	28	19	54	19	60	6	85	13	41	24	78	357
04:45 PM	7	88	15	110	3	27	10	40	14	54	8	76	11	33	24	68	294
Total	50	418	70	538	17	119	56	192	62	206	18	286	39	162	104	305	1321
05:00 PM	8	98	16	122	4	27	13	44	16	59	6	81	12	30	28	70	317
05:15 PM	7	116	23	146	3	24	13	40	19	62	8	89	8	41	25	74	349
05:30 PM	13	100	26	139	3	37	6	46	18	54	6	78	8	34	30	72	335
05:45 PM	8	93	13	114	9	33	16	58	19	53	4	76	9	22	9	40	288
Total	36	407	78	521	19	121	48	188	72	228	24	324	37	127	92	256	1289
Grand Total	86	825	148	1059	36	240	104	380	134	434	42	610	76	289	196	561	2610
Apprch %	8.1	77.9	14		9.5	63.2	27.4		22	71.1	6.9		13.5	51.5	34.9		
Total %	3.3	31.6	5.7	40.6	1.4	9.2	4	14.6	5.1	16.6	1.6	23.4	2.9	11.1	7.5	21.5	

	Calhoun Street Southbound				Dr Carreon Boulevard Westbound				Calhoun Street Northbound				Dr Carreon Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**21**	110	16	**147**	6	26	13	45	13	44	2	59	10	**46**	**35**	**91**	342
04:15 PM	11	**113**	17	141	1	**38**	14	53	16	48	2	66	5	42	21	68	328
04:30 PM	11	107	**22**	140	**7**	28	**19**	**54**	**19**	**60**	6	**85**	**13**	41	24	78	**357**
04:45 PM	7	88	15	110	3	27	10	40	14	54	**8**	76	11	33	24	68	294
Total Volume	50	418	70	538	17	119	56	192	62	206	18	286	39	162	104	305	1321
% App. Total	9.3	77.7	13		8.9	62	29.2		21.7	72	6.3		12.8	53.1	34.1		
PHF	.595	.925	.795	.915	.607	.783	.737	.889	.816	.858	.563	.841	.750	.880	.743	.838	.925

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Site Code : 05124698
Start Date : 8/27/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:30 PM				04:00 PM			
+0 mins.	**21**	110	16	**147**	6	26	13	45	**19**	60	6	85	10	**46**	**35**	**91**
+15 mins.	11	**113**	17	141	1	**38**	14	53	14	54	**8**	76	5	42	21	68
+30 mins.	11	107	**22**	140	**7**	28	**19**	**54**	16	59	6	81	**13**	41	24	78
+45 mins.	7	88	15	110	3	27	10	40	19	**62**	8	**89**	11	33	24	68
Total Volume	50	418	70	538	17	119	56	192	68	235	28	331	39	162	104	305
% App. Total	9.3	77.7	13		8.9	62	29.2		20.5	71	8.5		12.8	53.1	34.1	
PHF	.595	.925	.795	.915	.607	.783	.737	.889	.895	.948	.875	.930	.750	.880	.743	.838

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City of Coachella
N/S: Calhoun Street
E/W: Avenue 48
Weather: Clear

File Name : 02_COA_Cal_Ave 48 AM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 1

Groups Printed- Total Volume

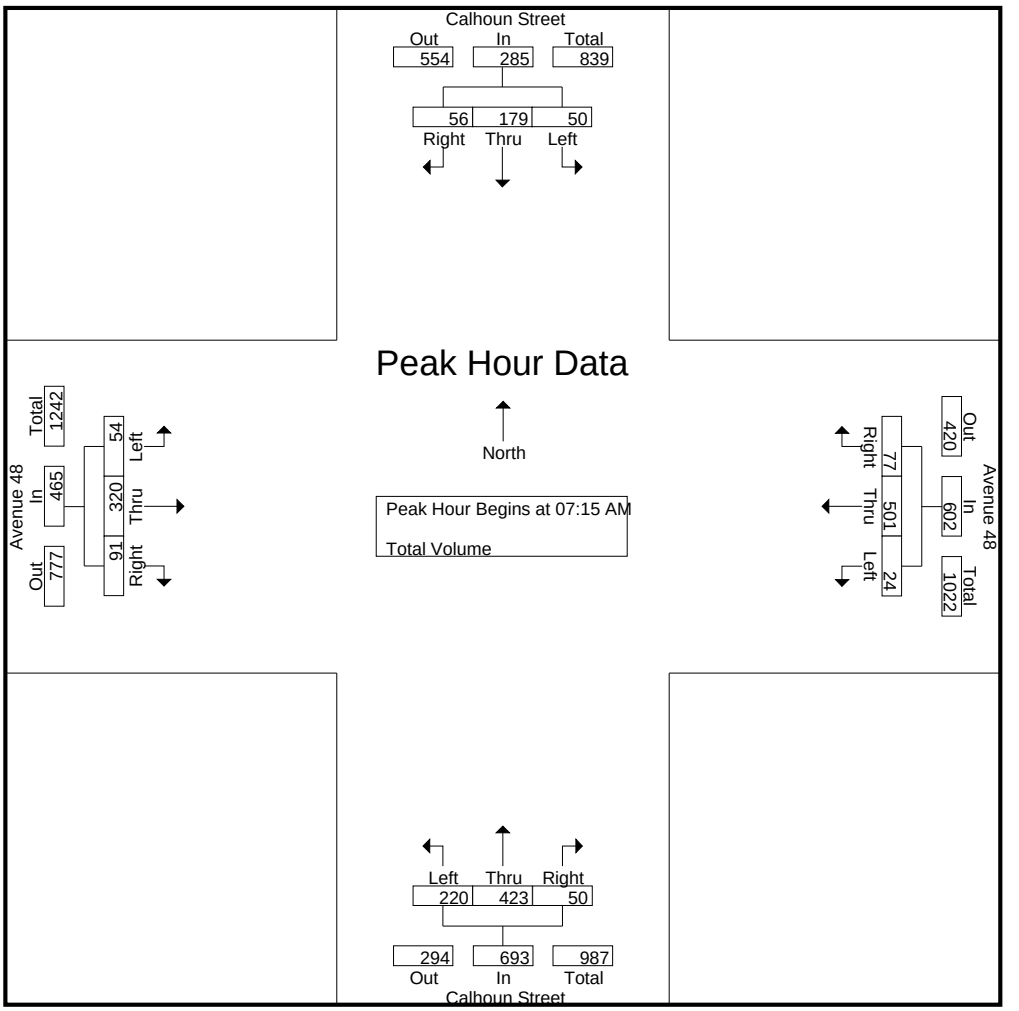
	Calhoun Street Southbound				Avenue 48 Westbound				Calhoun Street Northbound				Avenue 48 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	8	25	15	48	3	76	13	92	42	92	8	142	8	45	13	66	348
07:15 AM	10	24	11	45	3	81	14	98	30	105	10	145	17	64	22	103	391
07:30 AM	14	50	12	76	7	142	18	167	62	115	13	190	9	73	24	106	539
07:45 AM	15	58	16	89	7	146	25	178	69	127	15	211	12	108	19	139	617
Total	47	157	54	258	20	445	70	535	203	439	46	688	46	290	78	414	1895
08:00 AM	11	47	17	75	7	132	20	159	59	76	12	147	16	75	26	117	498
08:15 AM	11	41	13	65	2	104	11	117	41	45	5	91	16	46	29	91	364
08:30 AM	5	34	21	60	3	90	7	100	34	48	5	87	13	72	23	108	355
08:45 AM	8	28	19	55	6	96	8	110	23	38	6	67	12	57	16	85	317
Total	35	150	70	255	18	422	46	486	157	207	28	392	57	250	94	401	1534
Grand Total	82	307	124	513	38	867	116	1021	360	646	74	1080	103	540	172	815	3429
Apprch %	16	59.8	24.2		3.7	84.9	11.4		33.3	59.8	6.9		12.6	66.3	21.1		
Total %	2.4	9	3.6	15	1.1	25.3	3.4	29.8	10.5	18.8	2.2	31.5	3	15.7	5	23.8	

	Calhoun Street Southbound				Avenue 48 Westbound				Calhoun Street Northbound				Avenue 48 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	10	24	11	45	3	81	14	98	30	105	10	145	**17**	64	22	103	391
07:30 AM	14	50	12	76	**7**	142	18	167	62	115	13	190	9	73	24	106	539
07:45 AM	**15**	**58**	16	**89**	7	**146**	**25**	**178**	**69**	**127**	**15**	**211**	12	**108**	19	**139**	**617**
08:00 AM	11	47	**17**	75	7	132	20	159	59	76	12	147	16	75	**26**	117	498
Total Volume	50	179	56	285	24	501	77	602	220	423	50	693	54	320	91	465	2045
% App. Total	17.5	62.8	19.6		4	83.2	12.8		31.7	61	7.2		11.6	68.8	19.6		
PHF	.833	.772	.824	.801	.857	.858	.770	.846	.797	.833	.833	.821	.794	.741	.875	.836	.829

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City of Coachella
N/S: Calhoun Street
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File Name : 02_COA_Cal_Ave 48 AM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:15 AM				07:15 AM			
+0 mins.	14	50	12	76	**7**	142	18	167	30	105	10	145	**17**	64	22	103
+15 mins.	**15**	**58**	16	**89**	7	**146**	**25**	**178**	62	115	13	190	9	73	24	106
+30 mins.	11	47	**17**	75	7	132	20	159	**69**	**127**	**15**	**211**	12	**108**	19	**139**
+45 mins.	11	41	13	65	2	104	11	117	59	76	12	147	16	75	**26**	117
Total Volume	51	196	58	305	23	524	74	621	220	423	50	693	54	320	91	465
% App. Total	16.7	64.3	19		3.7	84.4	11.9		31.7	61	7.2		11.6	68.8	19.6	
PHF	.850	.845	.853	.857	.821	.897	.740	.872	.797	.833	.833	.821	.794	.741	.875	.836

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City of Coachella
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File Name : 02_COA_Cal_Ave 48 PM
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Page No : 1

Groups Printed- Total Volume

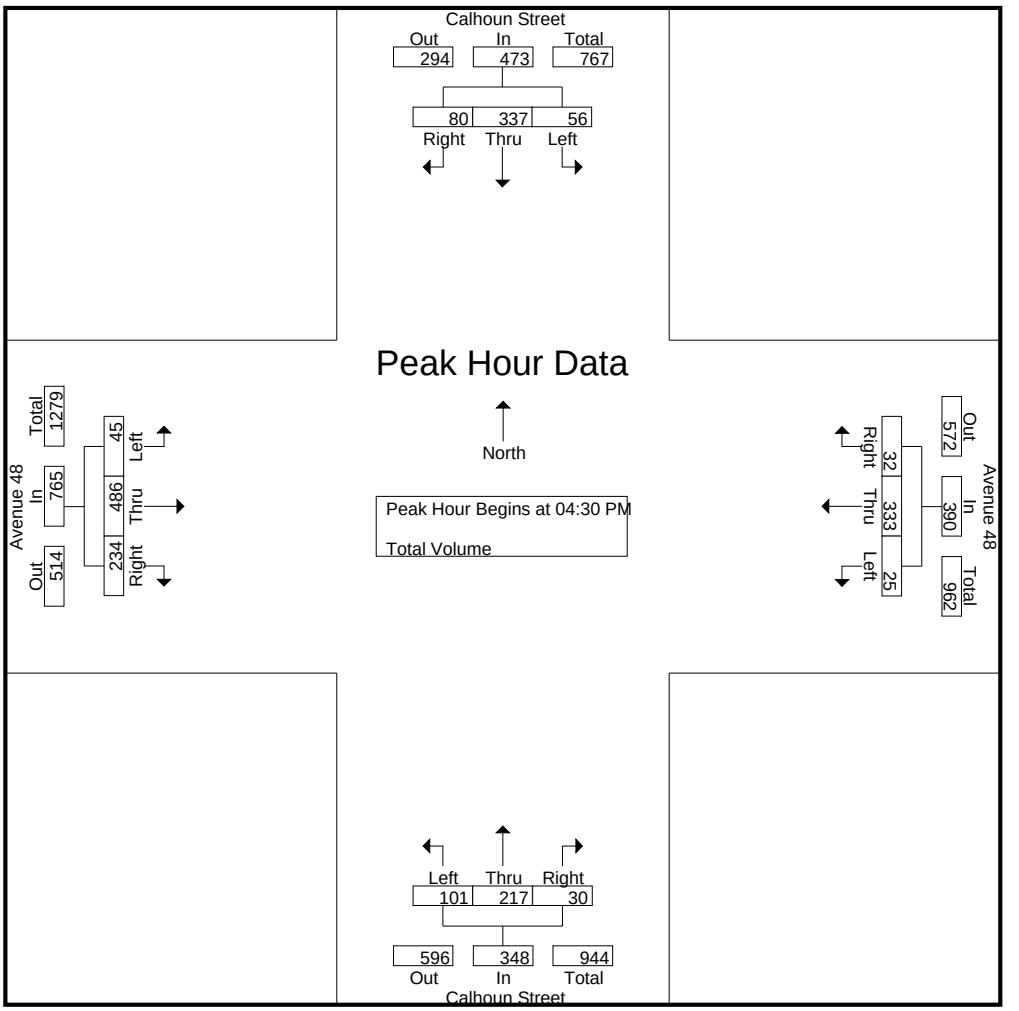
	Calhoun Street Southbound				Avenue 48 Westbound				Calhoun Street Northbound				Avenue 48 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	19	91	17	127	10	95	9	114	19	40	6	65	12	124	60	196	502
04:15 PM	16	77	15	108	9	89	9	107	37	31	6	74	16	125	58	199	488
04:30 PM	13	82	22	117	5	76	12	93	24	57	8	89	9	143	50	202	501
04:45 PM	10	85	16	111	6	93	4	103	23	50	5	78	14	103	62	179	471
Total	58	335	70	463	30	353	34	417	103	178	25	306	51	495	230	776	1962
05:00 PM	22	85	21	128	9	83	10	102	31	41	7	79	11	124	63	198	507
05:15 PM	11	85	21	117	5	81	6	92	23	69	10	102	11	116	59	186	497
05:30 PM	16	75	18	109	2	89	14	105	36	34	9	79	18	109	53	180	473
05:45 PM	8	70	16	94	6	91	6	103	27	49	7	83	9	92	58	159	439
Total	57	315	76	448	22	344	36	402	117	193	33	343	49	441	233	723	1916
Grand Total	115	650	146	911	52	697	70	819	220	371	58	649	100	936	463	1499	3878
Apprch %	12.6	71.4	16		6.3	85.1	8.5		33.9	57.2	8.9		6.7	62.4	30.9		
Total %	3	16.8	3.8	23.5	1.3	18	1.8	21.1	5.7	9.6	1.5	16.7	2.6	24.1	11.9	38.7	

	Calhoun Street Southbound				Avenue 48 Westbound				Calhoun Street Northbound				Avenue 48 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	13	82	**22**	117	5	76	**12**	93	24	57	8	89	9	**143**	50	**202**	501
04:45 PM	10	**85**	16	111	6	**93**	4	**103**	23	50	5	78	**14**	103	62	179	471
05:00 PM	**22**	85	21	**128**	**9**	83	10	102	**31**	41	7	79	11	124	**63**	198	**507**
05:15 PM	11	85	21	117	5	81	6	92	23	**69**	**10**	**102**	11	116	59	186	497
Total Volume	56	337	80	473	25	333	32	390	101	217	30	348	45	486	234	765	1976
% App. Total	11.8	71.2	16.9		6.4	85.4	8.2		29	62.4	8.6		5.9	63.5	30.6		
PHF	.636	.991	.909	.924	.694	.895	.667	.947	.815	.786	.750	.853	.804	.850	.929	.947	.974

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City of Coachella
N/S: Calhoun Street
E/W: Avenue 48
Weather: Clear

File Name : 02_COA_Cal_Ave 48 PM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:00 PM				04:30 PM				04:15 PM			
+0 mins.	13	82	**22**	117	**10**	**95**	9	**114**	24	57	8	89	**16**	125	58	199
+15 mins.	10	**85**	16	111	9	89	9	107	23	50	5	78	9	**143**	50	**202**
+30 mins.	**22**	85	21	**128**	5	76	**12**	93	**31**	41	7	79	14	103	62	179
+45 mins.	11	85	21	117	6	93	4	103	23	**69**	**10**	**102**	11	124	**63**	198
Total Volume	56	337	80	473	30	353	34	417	101	217	30	348	50	495	233	778
% App. Total	11.8	71.2	16.9		7.2	84.7	8.2		29	62.4	8.6		6.4	63.6	29.9	
PHF	.636	.991	.909	.924	.750	.929	.708	.914	.815	.786	.750	.853	.781	.865	.925	.963

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City of Coachella
N/S: Calhoun Street
E/W: Avenue 49
Weather: Clear

File Name : 03_COA_Cal_Ave 49 AM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 1

Groups Printed- Total Volume

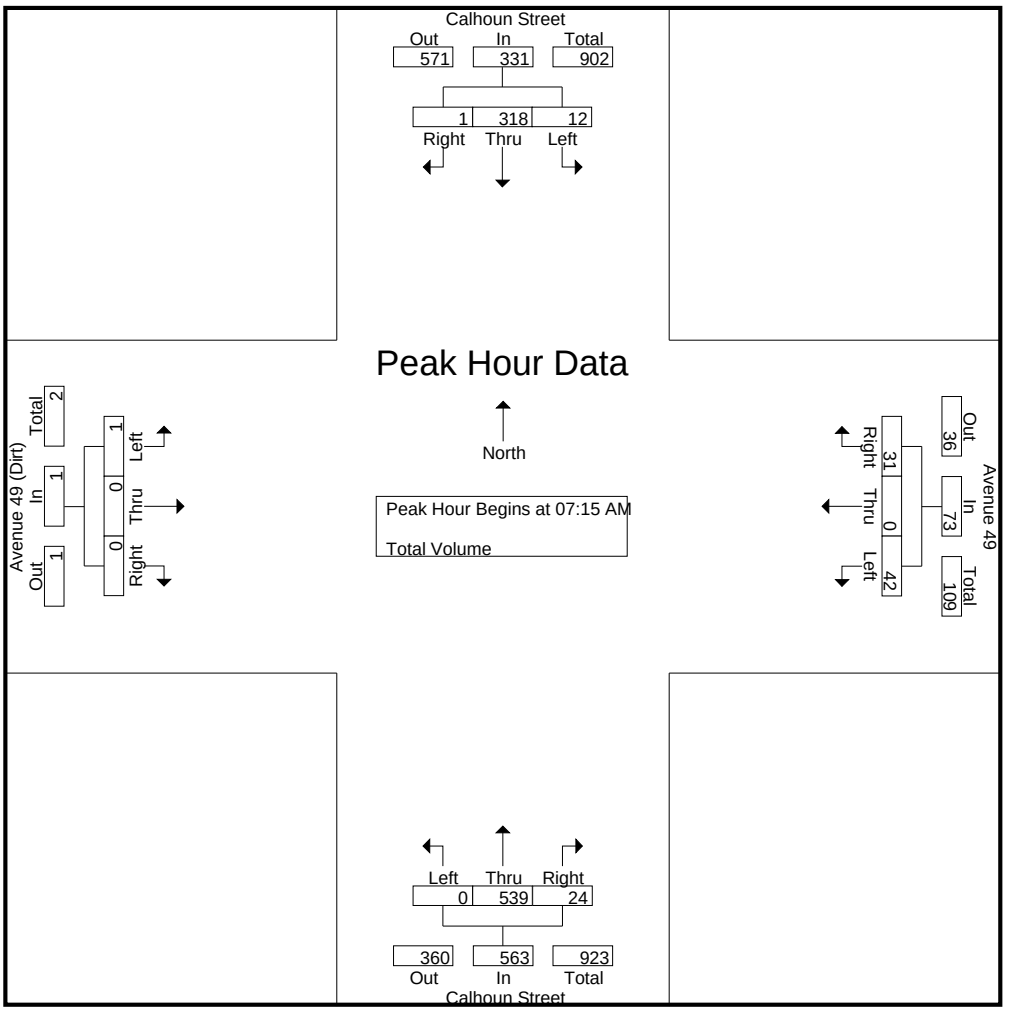
	Calhoun Street Southbound				Avenue 49 Westbound				Calhoun Street Northbound				Avenue 49 (Dirt) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	47	0	49	8	0	9	17	0	116	4	120	0	0	0	0	186
07:15 AM	1	60	0	61	9	0	6	15	0	126	3	129	0	0	0	0	205
07:30 AM	2	90	0	92	10	0	10	20	0	147	9	156	0	0	0	0	268
07:45 AM	4	97	0	101	16	0	10	26	0	148	6	154	0	0	0	0	281
Total	9	294	0	303	43	0	35	78	0	537	22	559	0	0	0	0	940
08:00 AM	5	71	1	77	7	0	5	12	0	118	6	124	1	0	0	1	214
08:15 AM	6	70	0	76	6	0	7	13	0	76	2	78	0	0	0	0	167
08:30 AM	3	59	0	62	4	0	7	11	0	67	7	74	0	0	0	0	147
08:45 AM	2	45	0	47	2	0	6	8	0	54	3	57	1	0	1	2	114
Total	16	245	1	262	19	0	25	44	0	315	18	333	2	0	1	3	642
Grand Total	25	539	1	565	62	0	60	122	0	852	40	892	2	0	1	3	1582
Apprch %	4.4	95.4	0.2		50.8	0	49.2		0	95.5	4.5		66.7	0	33.3		
Total %	1.6	34.1	0.1	35.7	3.9	0	3.8	7.7	0	53.9	2.5	56.4	0.1	0	0.1	0.2	

	Calhoun Street Southbound				Avenue 49 Westbound				Calhoun Street Northbound				Avenue 49 (Dirt) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	60	0	61	9	0	6	15	0	126	3	129	0	0	0	0	205
07:30 AM	2	90	0	92	10	0	**10**	20	0	147	**9**	**156**	0	0	0	0	268
07:45 AM	4	**97**	0	**101**	**16**	0	10	**26**	0	**148**	6	154	0	0	0	0	**281**
08:00 AM	**5**	71	**1**	77	7	0	5	12	0	118	6	124	**1**	0	0	**1**	214
Total Volume	12	318	1	331	42	0	31	73	0	539	24	563	1	0	0	1	968
% App. Total	3.6	96.1	0.3		57.5	0	42.5		0	95.7	4.3		100	0	0		
PHF	.600	.820	.250	.819	.656	.000	.775	.702	.000	.910	.667	.902	.250	.000	.000	.250	.861

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City of Coachella
N/S: Calhoun Street
E/W: Avenue 49
Weather: Clear

File Name : 03_COA_Cal_Ave 49 AM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:15 AM				08:00 AM			
+0 mins.	2	90	0	92	8	0	9	17	0	126	3	129	**1**	0	0	1
+15 mins.	4	**97**	0	**101**	9	0	6	15	0	147	**9**	**156**	0	0	0	0
+30 mins.	5	71	**1**	77	10	0	**10**	20	0	**148**	6	154	0	0	0	0
+45 mins.	**6**	70	0	76	**16**	0	10	**26**	0	118	6	124	1	0	**1**	**2**
Total Volume	17	328	1	346	43	0	35	78	0	539	24	563	2	0	1	3
% App. Total	4.9	94.8	0.3		55.1	0	44.9		0	95.7	4.3		66.7	0	33.3	
PHF	.708	.845	.250	.856	.672	.000	.875	.750	.000	.910	.667	.902	.500	.000	.250	.375

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City of Coachella
N/S: Calhoun Street
E/W: Avenue 49
Weather: Clear

File Name : 03_COA_Cal_Ave 49 PM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 1

Groups Printed- Total Volume

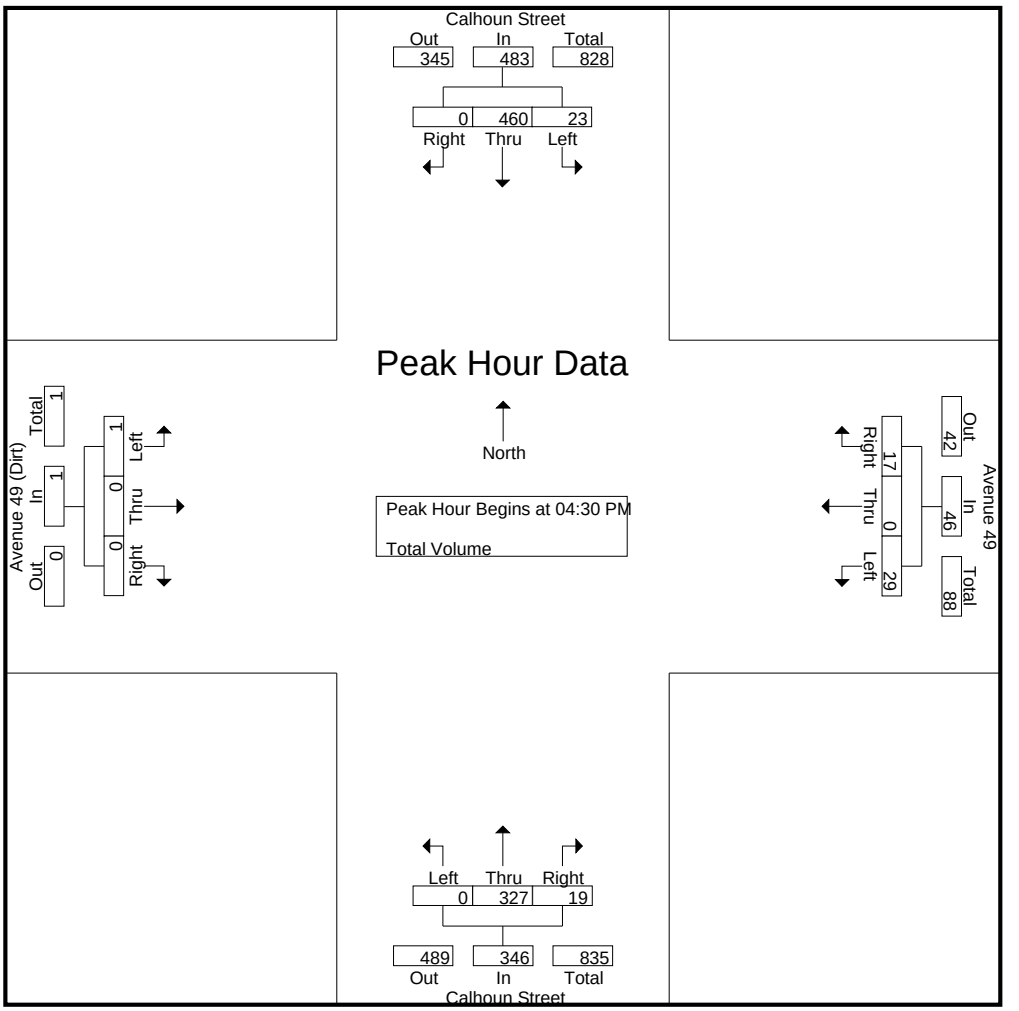
	Calhoun Street Southbound				Avenue 49 Westbound				Calhoun Street Northbound				Avenue 49 (Dirt) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	133	0	136	7	0	3	10	1	77	14	92	0	0	0	0	238
04:15 PM	10	118	0	128	4	0	4	8	0	60	7	67	1	0	0	1	204
04:30 PM	6	113	0	119	5	0	3	8	0	86	8	94	0	0	0	0	221
04:45 PM	8	110	0	118	9	0	5	14	0	72	3	75	0	0	0	0	207
Total	27	474	0	501	25	0	15	40	1	295	32	328	1	0	0	1	870
05:00 PM	6	113	0	119	8	0	3	11	0	84	2	86	1	0	0	1	217
05:15 PM	3	124	0	127	7	0	6	13	0	85	6	91	0	0	0	0	231
05:30 PM	5	104	0	109	6	0	4	10	0	74	7	81	0	0	0	0	200
05:45 PM	4	114	0	118	11	0	7	18	0	75	13	88	0	0	0	0	224
Total	18	455	0	473	32	0	20	52	0	318	28	346	1	0	0	1	872
Grand Total	45	929	0	974	57	0	35	92	1	613	60	674	2	0	0	2	1742
Apprch %	4.6	95.4	0		62	0	38		0.1	90.9	8.9		100	0	0		
Total %	2.6	53.3	0	55.9	3.3	0	2	5.3	0.1	35.2	3.4	38.7	0.1	0	0	0.1	

	Calhoun Street Southbound				Avenue 49 Westbound				Calhoun Street Northbound				Avenue 49 (Dirt) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	6	113	0	119	5	0	3	8	0	**86**	**8**	**94**	0	0	0	0	221
04:45 PM	**8**	110	0	118	**9**	0	5	**14**	0	72	3	75	0	0	0	0	207
05:00 PM	6	113	0	119	8	0	3	11	0	84	2	86	**1**	0	0	**1**	217
05:15 PM	3	**124**	0	**127**	7	0	**6**	13	0	85	6	91	0	0	0	0	**231**
Total Volume	23	460	0	483	29	0	17	46	0	327	19	346	1	0	0	1	876
% App. Total	4.8	95.2	0		63	0	37		0	94.5	5.5		100	0	0		
PHF	.719	.927	.000	.951	.806	.000	.708	.821	.000	.951	.594	.920	.250	.000	.000	.250	.948

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City of Coachella
N/S: Calhoun Street
E/W: Avenue 49
Weather: Clear

File Name : 03_COA_Cal_Ave 49 PM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:30 PM				04:15 PM			
+0 mins.	3	**133**	0	**136**	8	0	3	11	0	**86**	**8**	**94**	**1**	0	0	**1**
+15 mins.	**10**	118	0	128	7	0	6	13	0	72	3	75	0	0	0	0
+30 mins.	6	113	0	119	6	0	4	10	0	84	2	86	0	0	0	0
+45 mins.	8	110	0	118	**11**	0	**7**	**18**	0	85	6	91	1	0	0	1
Total Volume	27	474	0	501	32	0	20	52	0	327	19	346	2	0	0	2
% App. Total	5.4	94.6	0		61.5	0	38.5		0	94.5	5.5		100	0	0	
PHF	.675	.891	.000	.921	.727	.000	.714	.722	.000	.951	.594	.920	.500	.000	.000	.500

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City of Coachella
N/S: Calhoun Street
E/W: Avenue 50
Weather: Clear

File Name : 04_COA_Cal_Ave 50 AM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 1

Groups Printed- Total Volume

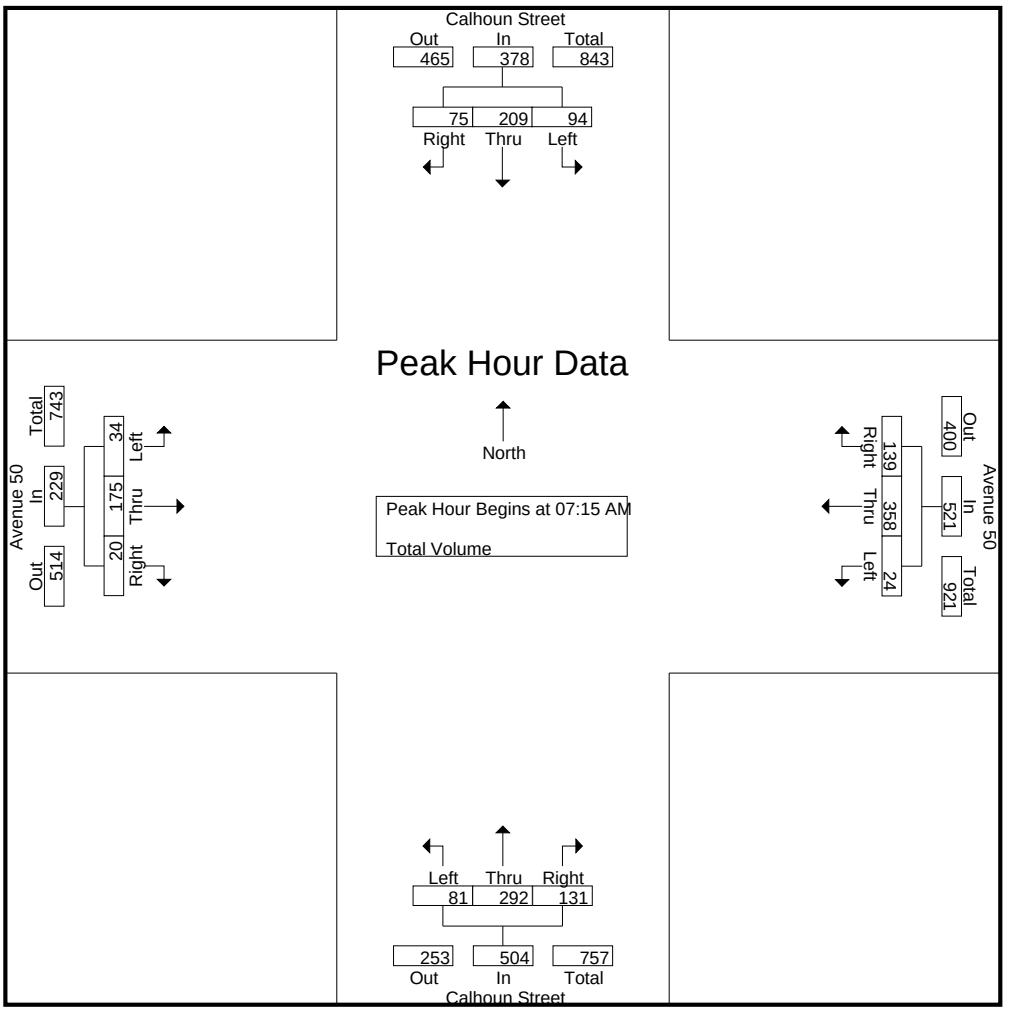
	Calhoun Street Southbound				Avenue 50 Westbound				Calhoun Street Northbound				Avenue 50 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	19	30	8	57	9	79	24	112	17	84	22	123	3	28	2	33	325
07:15 AM	16	39	9	64	4	89	28	121	21	74	21	116	7	35	6	48	349
07:30 AM	23	64	19	106	5	93	32	130	27	79	33	139	8	32	6	46	421
07:45 AM	36	59	30	125	7	77	40	124	18	82	67	167	11	54	4	69	485
Total	94	192	66	352	25	338	124	487	83	319	143	545	29	149	18	196	1580
08:00 AM	19	47	17	83	8	99	39	146	15	57	10	82	8	54	4	66	377
08:15 AM	24	40	9	73	3	106	26	135	7	31	7	45	7	45	10	62	315
08:30 AM	21	26	14	61	2	71	17	90	4	30	5	39	9	53	7	69	259
08:45 AM	18	25	6	49	3	73	12	88	5	20	10	35	13	45	2	60	232
Total	82	138	46	266	16	349	94	459	31	138	32	201	37	197	23	257	1183
Grand Total	176	330	112	618	41	687	218	946	114	457	175	746	66	346	41	453	2763
Apprch %	28.5	53.4	18.1		4.3	72.6	23		15.3	61.3	23.5		14.6	76.4	9.1		
Total %	6.4	11.9	4.1	22.4	1.5	24.9	7.9	34.2	4.1	16.5	6.3	27	2.4	12.5	1.5	16.4	

	Calhoun Street Southbound				Avenue 50 Westbound				Calhoun Street Northbound				Avenue 50 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	16	39	9	64	4	89	28	121	21	74	21	116	7	35	**6**	48	349
07:30 AM	23	**64**	19	106	5	93	32	130	**27**	79	33	139	8	32	6	46	421
07:45 AM	**36**	59	**30**	**125**	7	77	**40**	124	18	**82**	**67**	**167**	**11**	**54**	4	**69**	**485**
08:00 AM	19	47	17	83	**8**	**99**	39	**146**	15	57	10	82	8	54	4	66	377
Total Volume	94	209	75	378	24	358	139	521	81	292	131	504	34	175	20	229	1632
% App. Total	24.9	55.3	19.8		4.6	68.7	26.7		16.1	57.9	26		14.8	76.4	8.7		
PHF	.653	.816	.625	.756	.750	.904	.869	.892	.750	.890	.489	.754	.773	.810	.833	.830	.841

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City of Coachella
N/S: Calhoun Street
E/W: Avenue 50
Weather: Clear

File Name : 04_COA_Cal_Ave 50 AM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:00 AM				07:45 AM			
+0 mins.	23	**64**	19	106	5	93	32	130	17	**84**	22	123	**11**	**54**	4	**69**
+15 mins.	**36**	59	**30**	**125**	7	77	**40**	124	21	74	21	116	8	54	4	66
+30 mins.	19	47	17	83	**8**	99	39	**146**	**27**	79	33	139	7	45	**10**	62
+45 mins.	24	40	9	73	3	**106**	26	135	18	82	**67**	**167**	9	53	7	69
Total Volume	102	210	75	387	23	375	137	535	83	319	143	545	35	206	25	266
% App. Total	26.4	54.3	19.4		4.3	70.1	25.6		15.2	58.5	26.2		13.2	77.4	9.4	
PHF	.708	.820	.625	.774	.719	.884	.856	.916	.769	.949	.534	.816	.795	.954	.625	.964

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City of Coachella
N/S: Calhoun Street
E/W: Avenue 50
Weather: Clear

File Name : 04_COA_Cal_Ave 50 PM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 1

Groups Printed- Total Volume

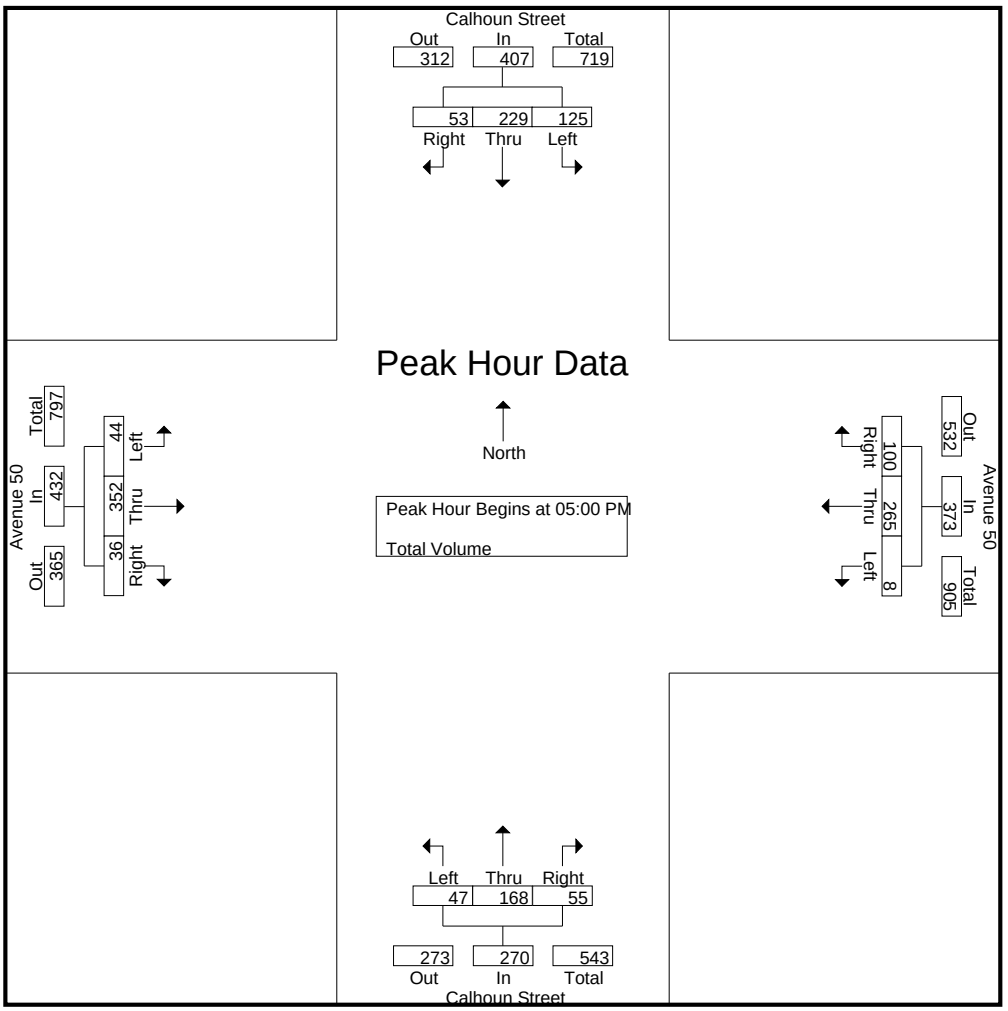
	Calhoun Street Southbound				Avenue 50 Westbound				Calhoun Street Northbound				Avenue 50 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	36	64	8	108	2	73	31	106	9	44	9	62	10	91	10	111	387
04:15 PM	32	72	17	121	2	76	24	102	13	37	7	57	12	81	11	104	384
04:30 PM	29	59	10	98	5	81	22	108	15	45	23	83	10	76	8	94	383
04:45 PM	35	60	13	108	2	44	15	61	7	38	13	58	9	77	6	92	319
Total	132	255	48	435	11	274	92	377	44	164	52	260	41	325	35	401	1473
05:00 PM	32	53	14	99	5	60	21	86	13	45	18	76	8	96	7	111	372
05:15 PM	29	59	16	104	1	77	18	96	7	42	24	73	14	88	12	114	387
05:30 PM	25	56	12	93	1	66	26	93	15	39	6	60	12	91	8	111	357
05:45 PM	39	61	11	111	1	62	35	98	12	42	7	61	10	77	9	96	366
Total	125	229	53	407	8	265	100	373	47	168	55	270	44	352	36	432	1482
Grand Total	257	484	101	842	19	539	192	750	91	332	107	530	85	677	71	833	2955
Apprch %	30.5	57.5	12		2.5	71.9	25.6		17.2	62.6	20.2		10.2	81.3	8.5		
Total %	8.7	16.4	3.4	28.5	0.6	18.2	6.5	25.4	3.1	11.2	3.6	17.9	2.9	22.9	2.4	28.2	

	Calhoun Street Southbound				Avenue 50 Westbound				Calhoun Street Northbound				Avenue 50 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	32	53	14	99	**5**	60	21	86	13	**45**	18	**76**	8	**96**	7	111	372
05:15 PM	29	59	**16**	104	1	**77**	18	96	7	42	**24**	73	**14**	88	**12**	**114**	**387**
05:30 PM	25	56	12	93	1	66	26	93	**15**	39	6	60	12	91	8	111	357
05:45 PM	**39**	**61**	11	**111**	1	62	**35**	**98**	12	42	7	61	10	77	9	96	366
Total Volume	125	229	53	407	8	265	100	373	47	168	55	270	44	352	36	432	1482
% App. Total	30.7	56.3	13		2.1	71	26.8		17.4	62.2	20.4		10.2	81.5	8.3		
PHF	.801	.939	.828	.917	.400	.860	.714	.952	.783	.933	.573	.888	.786	.917	.750	.947	.957

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PO Box 1178
Corona, CA 92878
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City of Coachella
N/S: Calhoun Street
E/W: Avenue 50
Weather: Clear

File Name : 04_COA_Cal_Ave 50 PM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:30 PM				05:00 PM			
+0 mins.	**36**	64	8	108	2	73	**31**	106	**15**	**45**	23	**83**	8	**96**	7	111
+15 mins.	32	**72**	**17**	**121**	2	76	24	102	7	38	13	58	**14**	88	**12**	**114**
+30 mins.	29	59	10	98	**5**	**81**	22	**108**	13	45	18	76	12	91	8	111
+45 mins.	35	60	13	108	2	44	15	61	7	42	**24**	73	10	77	9	96
Total Volume	132	255	48	435	11	274	92	377	42	170	78	290	44	352	36	432
% App. Total	30.3	58.6	11		2.9	72.7	24.4		14.5	58.6	26.9		10.2	81.5	8.3	
PHF	.917	.885	.706	.899	.550	.846	.742	.873	.700	.944	.813	.873	.786	.917	.750	.947

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City of Coachella
N/S: Jackson Street
E/W: Odlum Drive/ Avenue 49
Weather: Clear

File Name : 05_COA_Jack_Ave 49 AM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 1

Groups Printed- Total Volume

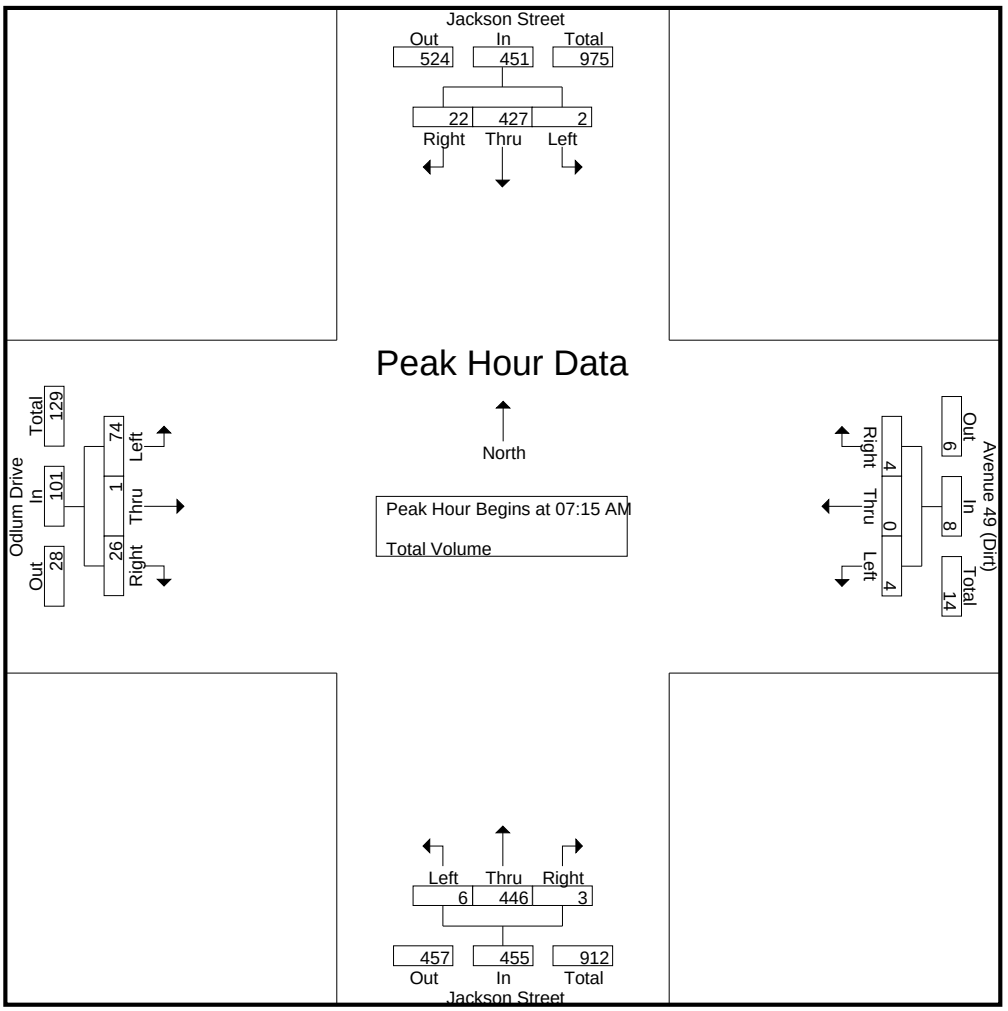
	Jackson Street Southbound				Avenue 49 (Dirt) Westbound				Jackson Street Northbound				Odlum Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	79	2	84	1	0	0	1	2	93	0	95	11	0	8	19	199
07:15 AM	1	105	1	107	1	0	0	1	1	109	1	111	14	0	7	21	240
07:30 AM	1	115	5	121	1	0	2	3	0	122	1	123	28	0	10	38	285
07:45 AM	0	119	8	127	1	0	1	2	2	100	0	102	16	0	4	20	251
Total	5	418	16	439	4	0	3	7	5	424	2	431	69	0	29	98	975
08:00 AM	0	88	8	96	1	0	1	2	3	115	1	119	16	1	5	22	239
08:15 AM	1	100	8	109	0	0	1	1	1	99	1	101	14	0	7	21	232
08:30 AM	3	81	8	92	4	0	1	5	0	107	0	107	10	0	3	13	217
08:45 AM	0	75	5	80	0	0	1	1	1	113	0	114	9	0	5	14	209
Total	4	344	29	377	5	0	4	9	5	434	2	441	49	1	20	70	897
Grand Total	9	762	45	816	9	0	7	16	10	858	4	872	118	1	49	168	1872
Apprch %	1.1	93.4	5.5		56.2	0	43.8		1.1	98.4	0.5		70.2	0.6	29.2		
Total %	0.5	40.7	2.4	43.6	0.5	0	0.4	0.9	0.5	45.8	0.2	46.6	6.3	0.1	2.6	9	

	Jackson Street Southbound				Avenue 49 (Dirt) Westbound				Jackson Street Northbound				Odlum Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**1**	105	1	107	**1**	0	0	1	1	109	**1**	111	14	0	7	21	240
07:30 AM	1	115	5	121	1	0	**2**	**3**	0	**122**	1	**123**	**28**	0	**10**	**38**	**285**
07:45 AM	0	**119**	**8**	**127**	1	0	1	2	2	100	0	102	16	0	4	20	251
08:00 AM	0	88	8	96	1	0	1	2	**3**	115	1	119	16	**1**	5	22	239
Total Volume	2	427	22	451	4	0	4	8	6	446	3	455	74	1	26	101	1015
% App. Total	0.4	94.7	4.9		50	0	50		1.3	98	0.7		73.3	1	25.7		
PHF	.500	.897	.688	.888	1.00	.000	.500	.667	.500	.914	.750	.925	.661	.250	.650	.664	.890

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City of Coachella
N/S: Jackson Street
E/W: Odlum Drive/ Avenue 49
Weather: Clear

File Name : 05_COA_Jack_Ave 49 AM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:15 AM				07:15 AM			
+0 mins.	**1**	115	5	121	1	0	**1**	2	1	109	**1**	111	14	0	7	21
+15 mins.	0	**119**	**8**	**127**	1	0	1	2	0	**122**	1	**123**	**28**	0	**10**	**38**
+30 mins.	0	88	8	96	0	0	1	1	2	100	0	102	16	0	4	20
+45 mins.	1	100	8	109	**4**	0	1	**5**	**3**	115	1	119	16	**1**	5	22
Total Volume	2	422	29	453	6	0	4	10	6	446	3	455	74	1	26	101
% App. Total	0.4	93.2	6.4		60	0	40		1.3	98	0.7		73.3	1	25.7	
PHF	.500	.887	.906	.892	.375	.000	1.000	.500	.500	.914	.750	.925	.661	.250	.650	.664

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City of Coachella
N/S: Jackson Street
E/W: Odlum Drive/ Avenue 49
Weather: Clear

File Name : 05_COA_Jack_Ave 49 PM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 1

Groups Printed- Total Volume

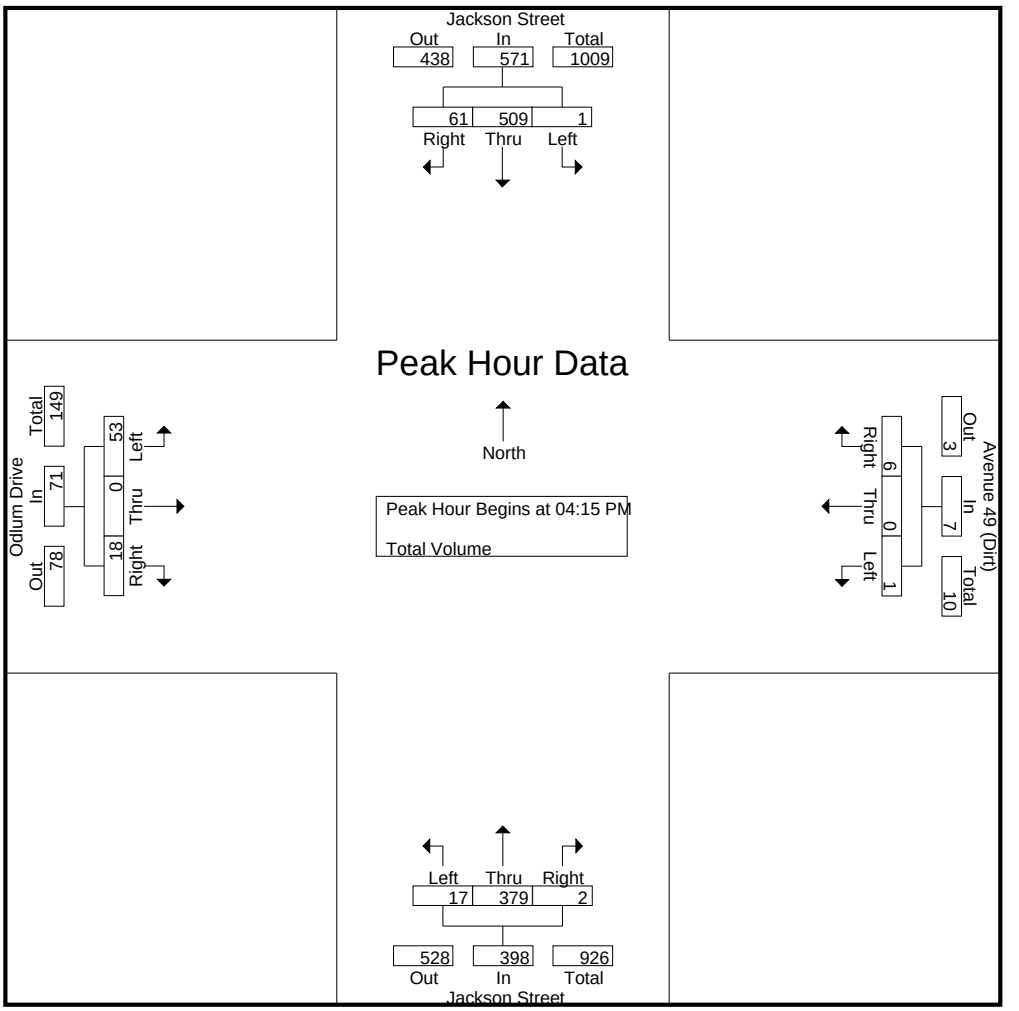
	Jackson Street Southbound				Avenue 49 (Dirt) Westbound				Jackson Street Northbound				Odlum Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	115	10	125	0	0	0	0	4	121	0	125	12	0	2	14	264
04:15 PM	1	120	18	139	0	0	1	1	4	95	0	99	18	0	4	22	261
04:30 PM	0	108	15	123	0	0	3	3	5	103	0	108	15	0	5	20	254
04:45 PM	0	134	12	146	0	0	2	2	4	88	2	94	10	0	7	17	259
Total	1	477	55	533	0	0	6	6	17	407	2	426	55	0	18	73	1038
05:00 PM	0	147	16	163	1	0	0	1	4	93	0	97	10	0	2	12	273
05:15 PM	0	134	18	152	0	0	0	0	4	88	0	92	5	0	5	10	254
05:30 PM	0	106	16	122	0	0	4	4	2	101	0	103	13	0	4	17	246
05:45 PM	0	103	18	121	0	0	0	0	4	91	0	95	4	0	4	8	224
Total	0	490	68	558	1	0	4	5	14	373	0	387	32	0	15	47	997
Grand Total	1	967	123	1091	1	0	10	11	31	780	2	813	87	0	33	120	2035
Apprch %	0.1	88.6	11.3		9.1	0	90.9		3.8	95.9	0.2		72.5	0	27.5		
Total %	0	47.5	6	53.6	0	0	0.5	0.5	1.5	38.3	0.1	40	4.3	0	1.6	5.9	

	Jackson Street Southbound				Avenue 49 (Dirt) Westbound				Jackson Street Northbound				Odlum Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**1**	120	**18**	139	0	0	1	1	4	95	0	99	**18**	0	4	**22**	261
04:30 PM	0	108	15	123	0	0	**3**	**3**	**5**	**103**	0	**108**	15	0	5	20	254
04:45 PM	0	134	12	146	0	0	2	2	4	88	**2**	94	10	0	**7**	17	259
05:00 PM	0	**147**	16	**163**	**1**	0	0	1	4	93	0	97	10	0	2	12	**273**
Total Volume	1	509	61	571	1	0	6	7	17	379	2	398	53	0	18	71	1047
% App. Total	0.2	89.1	10.7		14.3	0	85.7		4.3	95.2	0.5		74.6	0	25.4		
PHF	.250	.866	.847	.876	.250	.000	.500	.583	.850	.920	.250	.921	.736	.000	.643	.807	.959

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City of Coachella
N/S: Jackson Street
E/W: Odlum Drive/ Avenue 49
Weather: Clear

File Name : 05_COA_Jack_Ave 49 PM
Site Code : 05124698
Start Date : 8/27/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:15 PM				04:00 PM				04:00 PM			
+0 mins.	0	108	15	123	0	0	1	1	4	**121**	0	**125**	12	0	2	14
+15 mins.	0	134	12	146	0	0	**3**	**3**	4	95	0	99	**18**	0	4	**22**
+30 mins.	0	**147**	16	**163**	0	0	2	2	**5**	103	0	108	15	0	5	20
+45 mins.	0	134	**18**	152	**1**	0	0	1	4	88	**2**	94	10	0	**7**	17
Total Volume	0	523	61	584	1	0	6	7	17	407	2	426	55	0	18	73
% App. Total	0	89.6	10.4		14.3	0	85.7		4	95.5	0.5		75.3	0	24.7	
PHF	.000	.889	.847	.896	.250	.000	.500	.583	.850	.841	.250	.852	.764	.000	.643	.830

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City of Coachella
Calhoun Street
S/ Avenue 48
24 Hour Directional Volume Count

COA001
Site Code: 051-24698

Start Time	8/27/24 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		8	51			18	78				
12:15		7	80			13	69				
12:30		7	57			3	102				
12:45		3	74	25	262	19	76	53	325	78	587
01:00		4	76			9	68				
01:15		4	55			10	70				
01:30		3	65			7	80				
01:45		0	72	11	268	3	89	29	307	40	575
02:00		1	85			0	89				
02:15		5	90			3	98				
02:30		5	**112**			3	138				
02:45		4	**102**	15	389	3	155	9	480	24	869
03:00		3	**132**			4	130				
03:15		7	**93**			2	135				
03:30		15	104			3	133				
03:45		16	70	41	399	5	111	14	509	55	908
04:00		15	70			5	**169**				
04:15		16	79			13	**156**				
04:30		34	89			3	**146**				
04:45		47	77	112	315	4	**158**	25	629	137	944
05:00		28	80			21	159				
05:15		38	98			20	164				
05:30		66	77			28	146				
05:45		57	87	189	342	44	148	113	617	302	959
06:00		66	74			52	110				
06:15		68	81			69	120				
06:30		84	79			85	108				
06:45		110	80	328	314	90	118	296	456	624	770
07:00		141	73			47	116				
07:15		**167**	61			69	108				
07:30		**184**	54			**108**	94				
07:45		**198**	50	690	238	**97**	97	321	415	1011	653
08:00		**143**	56			**84**	115				
08:15		90	50			**71**	106				
08:30		85	51			62	141				
08:45		71	43	389	200	48	103	265	465	654	665
09:00		67	46			59	85				
09:15		56	25			49	78				
09:30		69	36			43	70				
09:45		58	22	250	129	42	60	193	293	443	422
10:00		64	18			54	46				
10:15		50	25			53	51				
10:30		55	13			48	38				
10:45		50	14	219	70	51	40	206	175	425	245
11:00		56	20			61	24				
11:15		45	13			63	17				
11:30		55	13			59	25				
11:45		53	11	209	57	70	14	253	80	462	137
Total		2478	2983	2478	2983	1777	4751	1777	4751	4255	7734
Combined Total		5461		5461		6528		6528		11989	
AM Peak	-	07:15	-	-	-	07:30	-	-	-	-	-
Vol.	-	692	-	-	-	360	-	-	-	-	-
P.H.F.		0.874				0.833					
PM Peak	-	-	02:30	-	-	-	04:00	-	-	-	-
Vol.	-	-	439	-	-	-	629	-	-	-	-
P.H.F.			0.831				0.930				
Percentage		45.4%	54.6%			27.2%	72.8%				
ADT/AADT		ADT 11,989		AADT 11,989							

Counts Unlimited, Inc.

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City of Coachella
Calhoun Street
S/ Avenue 49
24 Hour Directional Volume Count

COA002
Site Code: 051-24698

Start Time	8/27/24 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		13	72			9	44				
12:15		10	51			4	66				
12:30		3	88			5	51				
12:45		9	66	35	277	2	60	20	221	55	498
01:00		5	69			4	58				
01:15		8	60			3	52				
01:30		4	76			3	56				
01:45		4	82	21	287	1	72	11	238	32	525
02:00		0	84			2	72				
02:15		1	102			4	**91**				
02:30		2	124			6	**116**				
02:45		3	134	6	444	3	**109**	15	388	21	832
03:00		4	110			3	**146**				
03:15		2	110			5	89				
03:30		4	113			10	98				
03:45		3	87	13	420	8	66	26	399	39	819
04:00		6	**140**			12	92				
04:15		13	**124**			11	68				
04:30		11	**118**			24	90				
04:45		11	**120**	41	502	31	78	78	328	119	830
05:00		17	123			18	84				
05:15		23	134			30	94				
05:30		38	108			44	82				
05:45		60	130	138	495	42	84	134	344	272	839
06:00		40	88			56	72				
06:15		60	86			56	78				
06:30		91	102			77	59				
06:45		83	87	274	363	98	76	287	285	561	648
07:00		56	82			118	69				
07:15		72	70			**134**	58				
07:30		**97**	64			**156**	46				
07:45		**121**	76	346	292	**154**	52	562	225	908	517
08:00		**82**	88			**121**	56				
08:15		**78**	68			76	57				
08:30		64	88			76	55				
08:45		44	68	268	312	58	49	331	217	599	529
09:00		51	68			56	46				
09:15		47	49			41	32				
09:30		43	48			50	37				
09:45		46	40	187	205	55	17	202	132	389	337
10:00		52	30			44	25				
10:15		45	28			46	25				
10:30		44	25			52	13				
10:45		48	28	189	111	42	19	184	82	373	193
11:00		50	16			44	20				
11:15		64	9			50	13				
11:30		51	15			52	14				
11:45		76	6	241	46	47	11	193	58	434	104
Total		1759	3754	1759	3754	2043	2917	2043	2917	3802	6671
Combined Total		5513		5513		4960		4960		10473	
AM Peak	-	07:30	-	-	-	07:15	-	-	-	-	-
Vol.	-	378	-	-	-	565	-	-	-	-	-
P.H.F.		0.781				0.905					
PM Peak	-	-	04:00	-	-	-	02:15	-	-	-	-
Vol.	-	-	502	-	-	-	462	-	-	-	-
P.H.F.			0.896				0.791				
Percentage		31.9%	68.1%			41.2%	58.8%				
ADT/AADT		ADT 10,473		AADT 10,473							

Counts Unlimited, Inc.

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City of Coachella
Jackson Street
N/ Odium Drive
24 Hour Directional Volume Count

COA003
Site Code: 051-24698

Start Time	8/27/24 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		10	134			13	107				
12:15		7	141			7	88				
12:30		5	128			8	120				
12:45		3	129	25	532	7	112	35	427	60	959
01:00		4	139			1	83				
01:15		6	136			5	76				
01:30		2	164			8	106				
01:45		2	164	14	603	4	103	18	368	32	971
02:00		2	145			2	100				
02:15		5	184			3	133				
02:30		7	**199**			3	121				
02:45		4	**173**	18	701	3	131	11	485	29	1186
03:00		5	**190**			3	149				
03:15		6	**188**			2	144				
03:30		13	145			6	115				
03:45		6	127	30	650	1	164	12	572	42	1222
04:00		8	175			8	151				
04:15		22	162			16	160				
04:30		27	171			20	**158**				
04:45		40	148	97	656	31	**176**	75	645	172	1301
05:00		39	160			29	**183**				
05:15		57	149			53	**180**				
05:30		70	169			74	147				
05:45		87	154	253	632	118	139	274	649	527	1281
06:00		82	157			85	101				
06:15		97	141			96	114				
06:30		119	125			101	108				
06:45		157	126	455	549	97	99	379	422	834	971
07:00		138	104			100	80				
07:15		**188**	109			**132**	67				
07:30		**207**	113			**136**	89				
07:45		**164**	126	697	452	**135**	80	503	316	1200	768
08:00		**190**	128			**124**	104				
08:15		150	85			116	77				
08:30		159	97			106	63				
08:45		171	71	670	381	99	72	445	316	1115	697
09:00		140	56			71	76				
09:15		139	37			86	71				
09:30		120	56			93	62				
09:45		144	34	543	183	107	53	357	262	900	445
10:00		129	39			85	28				
10:15		160	28			98	34				
10:30		156	27			80	24				
10:45		142	17	587	111	111	20	374	106	961	217
11:00		145	9			95	29				
11:15		153	19			77	23				
11:30		146	10			88	13				
11:45		113	5	557	43	76	13	336	78	893	121
Total		3946	5493	3946	5493	2819	4646	2819	4646	6765	10139
Combined Total		9439		9439		7465		7465		16904	
AM Peak	-	07:15	-	-	-	07:15	-	-	-	-	-
Vol.	-	749	-	-	-	527	-	-	-	-	-
P.H.F.		0.905				0.969					
PM Peak	-	-	02:30	-	-	-	04:30	-	-	-	-
Vol.	-	-	750	-	-	-	697	-	-	-	-
P.H.F.			0.942				0.952				
Percentage		41.8%	58.2%			37.8%	62.2%				
ADT/AADT		ADT 16,904		AADT 16,904							

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APPENDIX 3.2: EXISTING (2024) CONDITIONS

INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	181	59	25	280	85	229	511	79	80	252	142
Future Volume (vph)	79	181	59	25	280	85	229	511	79	80	252	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	105		0	100		0	100		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	90			60			90			90		
Link Speed (mph)		40			40			45			40	
Link Distance (ft)		2582			982			2694			905	
Travel Time (s)		44.0			16.7			40.8			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	102.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	79	181	59	25	280	85	229	511	79	80	252	142
Future Vol, veh/h	79	181	59	25	280	85	229	511	79	80	252	142
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	193	63	27	298	90	244	544	84	85	268	151
Number of Lanes	1	1	1	1	1	0	1	1	1	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	3
HCM Control Delay, s/veh	24.9	106.1	173.3	28.1
HCM LOS	C	F	F	D

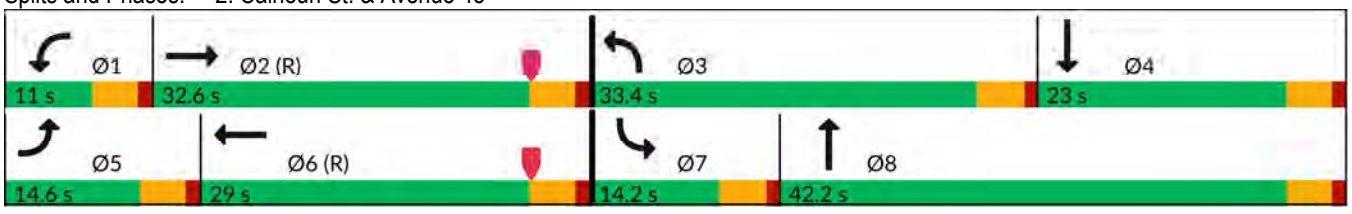
Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	77%	0%	100%	37%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	23%	0%	0%	63%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	229	511	79	79	181	59	25	365	80	168	226
LT Vol	229	0	0	79	0	0	25	0	80	0	0
Through Vol	0	511	0	0	181	0	0	280	0	168	84
RT Vol	0	0	79	0	0	59	0	85	0	0	142
Lane Flow Rate	244	544	84	84	193	63	27	388	85	179	240
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.705	1.485	0.214	0.267	0.586	0.179	0.08	1.099	0.259	0.519	0.669
Departure Headway (Hd)	10.882	10.362	9.634	12.411	11.892	11.165	11.489	10.826	11.944	11.421	10.961
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	334	353	375	292	306	323	314	338	303	318	332
Service Time	8.582	8.062	7.334	10.111	9.592	8.865	9.189	8.526	9.644	9.121	8.661
HCM Lane V/C Ratio	0.731	1.541	0.224	0.288	0.631	0.195	0.086	1.148	0.281	0.563	0.723
HCM Control Delay, s/veh	35.9	259.4	14.9	19.6	30.1	16.3	15.2	112.3	18.8	25.8	33.2
HCM Lane LOS	E	F	B	C	D	C	C	F	C	D	D
HCM 95th-tile Q	5.1	28	0.8	1.1	3.5	0.6	0.3	13.9	1	2.8	4.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	384	109	29	601	92	264	508	60	60	215	67
Future Volume (vph)	65	384	109	29	601	92	264	508	60	60	215	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	110		0	105		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		1021			1428			2333			2694	
Travel Time (s)		13.9			19.5			35.3			40.8	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	14.6	32.6		11.0	29.0		33.4	42.2		14.2	23.0	
Total Split (%)	14.6%	32.6%		11.0%	29.0%		33.4%	42.2%		14.2%	23.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 2: Calhoun St. & Avenue 48



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	384	109	29	601	92	264	508	60	60	215	67
Future Volume (veh/h)	65	384	109	29	601	92	264	508	60	60	215	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	463	131	35	724	111	318	612	72	72	259	81
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	1434	393	55	1496	227	357	1208	142	93	613	188
Arrive On Green	0.06	0.36	0.36	0.03	0.33	0.33	0.20	0.38	0.38	0.05	0.23	0.23
Sat Flow, veh/h	1781	3986	1092	1781	4473	679	1781	3203	376	1781	2680	820
Grp Volume(v), veh/h	78	393	201	35	549	286	318	339	345	72	170	170
Grp Sat Flow(s),veh/h/ln	1781	1702	1674	1781	1702	1748	1781	1777	1803	1781	1777	1723
Q Serve(g_s), s	4.3	8.4	8.7	1.9	12.8	13.0	17.4	14.7	14.7	4.0	8.1	8.5
Cycle Q Clear(g_c), s	4.3	8.4	8.7	1.9	12.8	13.0	17.4	14.7	14.7	4.0	8.1	8.5
Prop In Lane	1.00		0.65	1.00		0.39	1.00		0.21	1.00		0.48
Lane Grp Cap(c), veh/h	100	1225	602	55	1139	585	357	670	680	93	407	394
V/C Ratio(X)	0.78	0.32	0.33	0.63	0.48	0.49	0.89	0.51	0.51	0.78	0.42	0.43
Avail Cap(c_a), veh/h	180	1225	602	116	1139	585	515	670	680	173	407	394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	23.2	23.3	47.9	26.4	26.5	38.9	24.0	24.0	46.8	32.9	33.0
Incr Delay (d2), s/veh	12.1	0.7	1.5	11.3	1.5	2.9	13.1	2.7	2.7	12.8	3.1	3.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	3.2	3.4	1.0	5.0	5.5	8.5	6.2	6.4	2.0	3.7	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.6	23.9	24.8	59.2	27.9	29.4	52.0	26.7	26.7	59.6	36.0	36.4
LnGrp LOS	E	C	C	E	C	C	D	C	C	E	D	D
Approach Vol, veh/h		672			870			1002			412	
Approach Delay, s/veh		28.2			29.6			34.7			40.3	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	40.5	24.5	27.4	10.1	38.0	9.7	42.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	28.1	28.9	18.5	10.1	24.5	9.7	37.7
Max Q Clear Time (g_c+I1), s	3.9	10.7	19.4	10.5	6.3	15.0	6.0	16.7
Green Ext Time (p_c), s	0.0	3.1	0.6	1.1	0.0	3.3	0.0	3.8

Intersection Summary	
HCM 7th Control Delay, s/veh	32.5
HCM 7th LOS	C



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	50	37	647	29	14	382
Future Volume (vph)	50	37	647	29	14	382
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	60				60	
Link Speed (mph)	30		45			45
Link Distance (ft)	1354		2442			287
Travel Time (s)	30.8		37.0			4.3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)						
Sign Control	Stop		Stop			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	51.2
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	37	647	29	14	382
Future Vol, veh/h	50	37	647	29	14	382
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	43	752	34	16	444
Number of Lanes	1	0	1	0	1	1

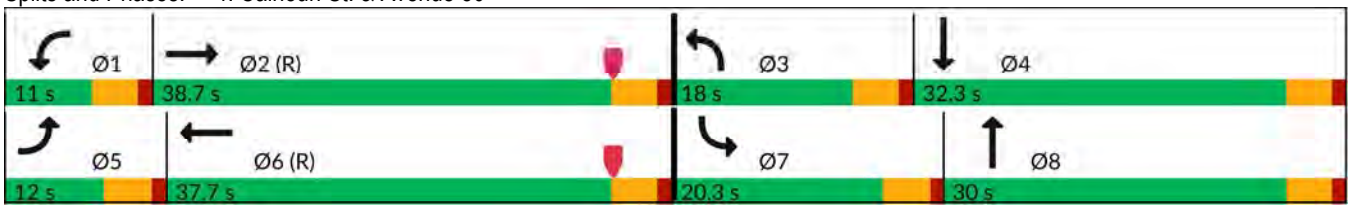
Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay, s/veh	11.2	75.2	19
HCM LOS	B	F	C

Lane	NBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	57%	100%	0%
Vol Thru, %	96%	0%	0%	100%
Vol Right, %	4%	43%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	676	87	14	382
LT Vol	0	50	14	0
Through Vol	647	0	0	382
RT Vol	29	37	0	0
Lane Flow Rate	786	101	16	444
Geometry Grp	4a	2	5	5
Degree of Util (X)	1.07	0.184	0.027	0.679
Departure Headway (Hd)	4.902	6.716	6.125	5.619
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	731	537	588	649
Service Time	2.994	4.716	3.825	3.319
HCM Lane V/C Ratio	1.075	0.188	0.027	0.684
HCM Control Delay, s/veh	75.2	11.2	9	19.4
HCM Lane LOS	F	B	A	C
HCM 95th-tile Q	20.5	0.7	0.1	5.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	210	24	29	430	167	97	350	157	113	251	90
Future Volume (vph)	41	210	24	29	430	167	97	350	157	113	251	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	115		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		2636			2238			1460			368	
Travel Time (s)		35.9			30.5			22.1			5.6	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	12.0	38.7		11.0	37.7		18.0	30.0		20.3	32.3	
Total Split (%)	12.0%	38.7%		11.0%	37.7%		18.0%	30.0%		20.3%	32.3%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	

Splits and Phases: 4: Calhoun St. & Avenue 50



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	210	24	29	430	167	97	350	157	113	251	90
Future Volume (veh/h)	41	210	24	29	430	167	97	350	157	113	251	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	250	29	35	512	199	115	417	187	135	299	107
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1381	159	55	1061	411	144	635	282	167	717	251
Arrive On Green	0.04	0.43	0.43	0.03	0.42	0.42	0.08	0.27	0.27	0.09	0.28	0.28
Sat Flow, veh/h	1781	3212	369	1781	2504	969	1781	2394	1062	1781	2580	904
Grp Volume(v), veh/h	49	137	142	35	363	348	115	308	296	135	204	202
Grp Sat Flow(s),veh/h/ln	1781	1777	1804	1781	1777	1696	1781	1777	1679	1781	1777	1708
Q Serve(g_s), s	2.7	4.8	4.9	1.9	14.8	14.9	6.3	15.4	15.7	7.4	9.4	9.7
Cycle Q Clear(g_c), s	2.7	4.8	4.9	1.9	14.8	14.9	6.3	15.4	15.7	7.4	9.4	9.7
Prop In Lane	1.00		0.20	1.00		0.57	1.00		0.63	1.00		0.53
Lane Grp Cap(c), veh/h	66	764	776	55	753	719	144	472	446	167	494	475
V/C Ratio(X)	0.74	0.18	0.18	0.63	0.48	0.48	0.80	0.65	0.66	0.81	0.41	0.43
Avail Cap(c_a), veh/h	134	764	776	116	753	719	240	472	446	281	494	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	17.6	17.6	47.9	20.9	20.9	45.1	32.6	32.8	44.4	29.4	29.6
Incr Delay (d2), s/veh	14.8	0.5	0.5	11.3	2.2	2.3	9.6	6.9	7.6	9.0	2.5	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.9	2.0	1.0	6.0	5.8	3.1	7.2	7.0	3.6	4.1	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.5	18.1	18.2	59.2	23.1	23.2	54.7	39.6	40.3	53.4	32.0	32.3
LnGrp LOS	E	B	B	E	C	C	D	D	D	D	C	C
Approach Vol, veh/h		328			746			719			541	
Approach Delay, s/veh		24.8			24.8			42.3			37.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	47.5	12.6	32.3	8.2	46.9	13.9	31.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	34.2	13.5	27.8	7.5	33.2	15.8	25.5
Max Q Clear Time (g_c+I1), s	3.9	6.9	8.3	11.7	4.7	16.9	9.4	17.7
Green Ext Time (p_c), s	0.0	1.4	0.1	1.9	0.0	3.6	0.2	2.1

Intersection Summary	
HCM 7th Control Delay, s/veh	33.1
HCM 7th LOS	C

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	89	32	7	540	515	26
Future Volume (vph)	89	32	7	540	515	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	50	100			205
Storage Lanes	0	1	1			1
Taper Length (ft)	60		60			
Link Speed (mph)	30			50	50	
Link Distance (ft)	590			968	636	
Travel Time (s)	13.4			13.2	8.7	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Sign Control	Stop			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	51.9
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	89	32	7	540	515	26
Future Vol, veh/h	89	32	7	540	515	26
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	36	8	607	579	29
Number of Lanes	1	1	1	1	2	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	3	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	13.3	95.2	16.7
HCM LOS	B	F	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	540	89	32	258	258	26
LT Vol	7	0	89	0	0	0	0
Through Vol	0	540	0	0	258	258	0
RT Vol	0	0	0	32	0	0	26
Lane Flow Rate	8	607	100	36	289	289	29
Geometry Grp	6	6	6	6	6	6	6
Degree of Util (X)	0.015	1.109	0.235	0.073	0.534	0.534	0.034
Departure Headway (Hd)	7.084	6.579	8.793	7.563	6.896	6.896	4.424
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	506	552	411	476	527	527	814
Service Time	4.822	4.316	6.493	5.263	4.596	4.596	2.124
HCM Lane V/C Ratio	0.016	1.1	0.243	0.076	0.548	0.548	0.036
HCM Control Delay, s/veh	9.9	96.3	14.2	10.9	17.2	17.2	7.3
HCM Lane LOS	A	F	B	B	C	C	A
HCM 95th-tile Q	0	19.2	0.9	0.2	3.1	3.1	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	194	125	20	143	67	74	247	22	60	502	84
Future Volume (vph)	47	194	125	20	143	67	74	247	22	60	502	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	105		0	100		0	100		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	90			60			90			90		
Link Speed (mph)		40			40			45			40	
Link Distance (ft)		2582			982			2694			905	
Travel Time (s)		44.0			16.7			40.8			15.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	28.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	194	125	20	143	67	74	247	22	60	502	84
Future Vol, veh/h	47	194	125	20	143	67	74	247	22	60	502	84
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	209	134	22	154	72	80	266	24	65	540	90
Number of Lanes	1	1	1	1	1	0	1	1	1	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	3
HCM Control Delay, s/veh	19.6	23.8	27.1	36.5
HCM LOS	C	C	D	E

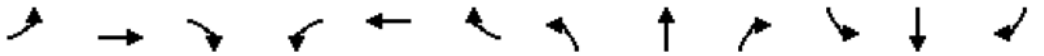
Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	68%	0%	100%	67%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	32%	0%	0%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	74	247	22	47	194	125	20	210	60	335	251
LT Vol	74	0	0	47	0	0	20	0	60	0	0
Through Vol	0	247	0	0	194	0	0	143	0	335	167
RT Vol	0	0	22	0	0	125	0	67	0	0	84
Lane Flow Rate	80	266	24	51	209	134	22	226	65	360	270
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.221	0.701	0.058	0.14	0.55	0.328	0.06	0.589	0.166	0.876	0.64
Departure Headway (Hd)	10.018	9.504	8.783	10.002	9.492	8.778	10.106	9.383	9.276	8.763	8.523
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	357	380	406	358	380	409	354	384	386	414	422
Service Time	7.801	7.286	6.565	7.782	7.271	6.556	7.884	7.16	7.049	6.536	6.295
HCM Lane V/C Ratio	0.224	0.7	0.059	0.142	0.55	0.328	0.062	0.589	0.168	0.87	0.64
HCM Control Delay, s/veh	15.6	31.9	12.1	14.4	23.4	15.8	13.5	24.8	13.9	48.9	25.4
HCM Lane LOS	C	D	B	B	C	C	B	C	B	E	D
HCM 95th-tile Q	0.8	5.1	0.2	0.5	3.2	1.4	0.2	3.6	0.6	8.8	4.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	583	281	30	400	38	121	260	36	67	404	96
Future Volume (vph)	54	583	281	30	400	38	121	260	36	67	404	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	110		0	105		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		1021			1428			2333			2694	
Travel Time (s)		13.9			19.5			35.3			40.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	15.0	37.0		12.0	34.0		21.0	35.0		16.0	30.0	
Total Split (%)	15.0%	37.0%		12.0%	34.0%		21.0%	35.0%		16.0%	30.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	

Splits and Phases: 2: Calhoun St. & Avenue 48





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	583	281	30	400	38	121	260	36	67	404	96
Future Volume (veh/h)	54	583	281	30	400	38	121	260	36	67	404	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	56	601	290	31	412	39	125	268	37	69	416	99
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	1484	691	51	2016	188	156	958	131	89	763	180
Arrive On Green	0.04	0.44	0.44	0.03	0.42	0.42	0.09	0.31	0.31	0.05	0.27	0.27
Sat Flow, veh/h	1781	3404	1585	1781	4751	443	1781	3141	429	1781	2853	673
Grp Volume(v), veh/h	56	601	290	31	293	158	125	150	155	69	258	257
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1791	1781	1777	1793	1781	1777	1749
Q Serve(g_s), s	3.1	12.1	12.6	1.7	5.4	5.6	6.9	6.4	6.6	3.8	12.4	12.6
Cycle Q Clear(g_c), s	3.1	12.1	12.6	1.7	5.4	5.6	6.9	6.4	6.6	3.8	12.4	12.6
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.24	1.00		0.38
Lane Grp Cap(c), veh/h	72	1484	691	51	1444	760	156	542	547	89	475	468
V/C Ratio(X)	0.77	0.40	0.42	0.60	0.20	0.21	0.80	0.28	0.28	0.77	0.54	0.55
Avail Cap(c_a), veh/h	187	1484	691	134	1444	760	294	542	547	205	475	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	19.3	19.5	48.0	18.1	18.2	44.8	26.4	26.4	46.9	31.4	31.5
Incr Delay (d2), s/veh	15.9	0.8	1.9	10.8	0.3	0.6	9.1	1.3	1.3	13.1	4.4	4.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.5	4.6	0.9	2.0	2.2	3.3	2.8	2.9	2.0	5.6	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.4	20.1	21.3	58.8	18.5	18.8	53.9	27.7	27.7	60.1	35.8	36.0
LnGrp LOS	E	C	C	E	B	B	D	C	C	E	D	D
Approach Vol, veh/h		947			482			430			584	
Approach Delay, s/veh		23.1			21.2			35.3			38.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	48.1	13.3	31.3	8.6	46.9	9.5	35.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	32.5	16.5	25.5	10.5	29.5	11.5	30.5
Max Q Clear Time (g_c+I1), s	3.7	14.6	8.9	14.6	5.1	7.6	5.8	8.6
Green Ext Time (p_c), s	0.0	5.1	0.2	2.1	0.0	2.4	0.0	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	28.6
HCM 7th LOS	C



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	35	20	392	23	28	552
Future Volume (vph)	35	20	392	23	28	552
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	60				60	
Link Speed (mph)	30		45			45
Link Distance (ft)	1354		2442			287
Travel Time (s)	30.8		37.0			4.3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Stop		Stop			Stop

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	20.3
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	20	392	23	28	552
Future Vol, veh/h	35	20	392	23	28	552
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	21	413	24	29	581
Number of Lanes	1	0	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay, s/veh	9.9	14.7	25.3
HCM LOS	A	B	D

Lane	NBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	64%	100%	0%
Vol Thru, %	94%	0%	0%	100%
Vol Right, %	6%	36%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	415	55	28	552
LT Vol	0	35	28	0
Through Vol	392	0	0	552
RT Vol	23	20	0	0
Lane Flow Rate	437	58	29	581
Geometry Grp	4a	2	5	5
Degree of Util (X)	0.589	0.099	0.045	0.814
Departure Headway (Hd)	4.857	6.16	5.544	5.041
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	738	576	644	715
Service Time	2.908	4.258	3.294	2.79
HCM Lane V/C Ratio	0.592	0.101	0.045	0.813
HCM Control Delay, s/veh	14.7	9.9	8.6	26.1
HCM Lane LOS	B	A	A	D
HCM 95th-tile Q	3.9	0.3	0.1	8.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	422	43	10	318	120	56	202	66	150	275	64
Future Volume (vph)	53	422	43	10	318	120	56	202	66	150	275	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	115		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		2636			2238			1460			368	
Travel Time (s)		35.9			30.5			22.1			5.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	16.0	37.0		11.0	32.0		16.0	26.0		26.0	36.0	
Total Split (%)	16.0%	37.0%		11.0%	32.0%		16.0%	26.0%		26.0%	36.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	

Splits and Phases: 4: Calhoun St. & Avenue 50



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	422	43	10	318	120	56	202	66	150	275	64
Future Volume (veh/h)	53	422	43	10	318	120	56	202	66	150	275	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	440	45	10	331	125	58	210	69	156	286	67
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1468	149	22	1073	398	75	663	212	191	903	208
Arrive On Green	0.04	0.45	0.45	0.01	0.42	0.42	0.04	0.25	0.25	0.11	0.31	0.31
Sat Flow, veh/h	1781	3256	332	1781	2537	941	1781	2649	846	1781	2867	661
Grp Volume(v), veh/h	55	239	246	10	230	226	58	139	140	156	175	178
Grp Sat Flow(s),veh/h/ln	1781	1777	1811	1781	1777	1701	1781	1777	1718	1781	1777	1751
Q Serve(g_s), s	3.1	8.5	8.6	0.6	8.6	8.8	3.2	6.4	6.7	8.6	7.5	7.7
Cycle Q Clear(g_c), s	3.1	8.5	8.6	0.6	8.6	8.8	3.2	6.4	6.7	8.6	7.5	7.7
Prop In Lane	1.00		0.18	1.00		0.55	1.00		0.49	1.00		0.38
Lane Grp Cap(c), veh/h	71	801	816	22	752	719	75	444	430	191	560	552
V/C Ratio(X)	0.77	0.30	0.30	0.46	0.31	0.31	0.77	0.31	0.33	0.82	0.31	0.32
Avail Cap(c_a), veh/h	205	801	816	116	752	719	205	444	430	383	560	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	17.4	17.5	49.1	19.1	19.2	47.4	30.5	30.6	43.7	26.0	26.1
Incr Delay (d2), s/veh	16.1	1.0	0.9	14.6	1.1	1.1	15.3	1.8	2.0	8.4	1.5	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.4	3.5	0.3	3.5	3.4	1.7	2.8	2.9	4.1	3.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.7	18.4	18.4	63.7	20.2	20.3	62.7	32.3	32.6	52.1	27.5	27.6
LnGrp LOS	E	B	B	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		540			466			337			509	
Approach Delay, s/veh		23.0			21.2			37.7			35.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	49.6	8.7	36.0	8.5	46.8	15.2	29.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	32.5	11.5	31.5	11.5	27.5	21.5	21.5
Max Q Clear Time (g_c+I1), s	2.6	10.6	5.2	9.7	5.1	10.8	10.6	8.7
Green Ext Time (p_c), s	0.0	2.4	0.0	1.8	0.0	2.1	0.3	1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	28.5
HCM 7th LOS	C



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	22	20	462	612	73
Future Volume (vph)	64	22	20	462	612	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	50	100			205
Storage Lanes	0	1	1			1
Taper Length (ft)	60		60			
Link Speed (mph)	30			50	50	
Link Distance (ft)	590			968	636	
Travel Time (s)	13.4			13.2	8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Sign Control	Stop			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	23
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	64	22	20	462	612	73
Future Vol, veh/h	64	22	20	462	612	73
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	67	23	21	481	638	76
Number of Lanes	1	1	1	1	2	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	3	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	12.1	35.5	15.6
HCM LOS	B	E	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	100%	0%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	462	64	22	306	306	73
LT Vol	20	0	64	0	0	0	0
Through Vol	0	462	0	0	306	306	0
RT Vol	0	0	0	22	0	0	73
Lane Flow Rate	21	481	67	23	319	319	76
Geometry Grp	6	6	6	6	6	6	6
Degree of Util (X)	0.04	0.858	0.155	0.046	0.554	0.554	0.08
Departure Headway (Hd)	6.924	6.42	8.383	7.16	6.255	6.255	3.796
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	516	563	426	497	574	574	936
Service Time	4.679	4.175	6.171	4.947	4.011	4.011	1.551
HCM Lane V/C Ratio	0.041	0.854	0.157	0.046	0.556	0.556	0.081
HCM Control Delay, s/veh	10	36.6	12.7	10.3	16.6	16.6	6.9
HCM Lane LOS	A	E	B	B	C	C	A
HCM 95th-tile Q	0.1	9.3	0.5	0.1	3.4	3.4	0.3

APPENDIX 3.3: TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

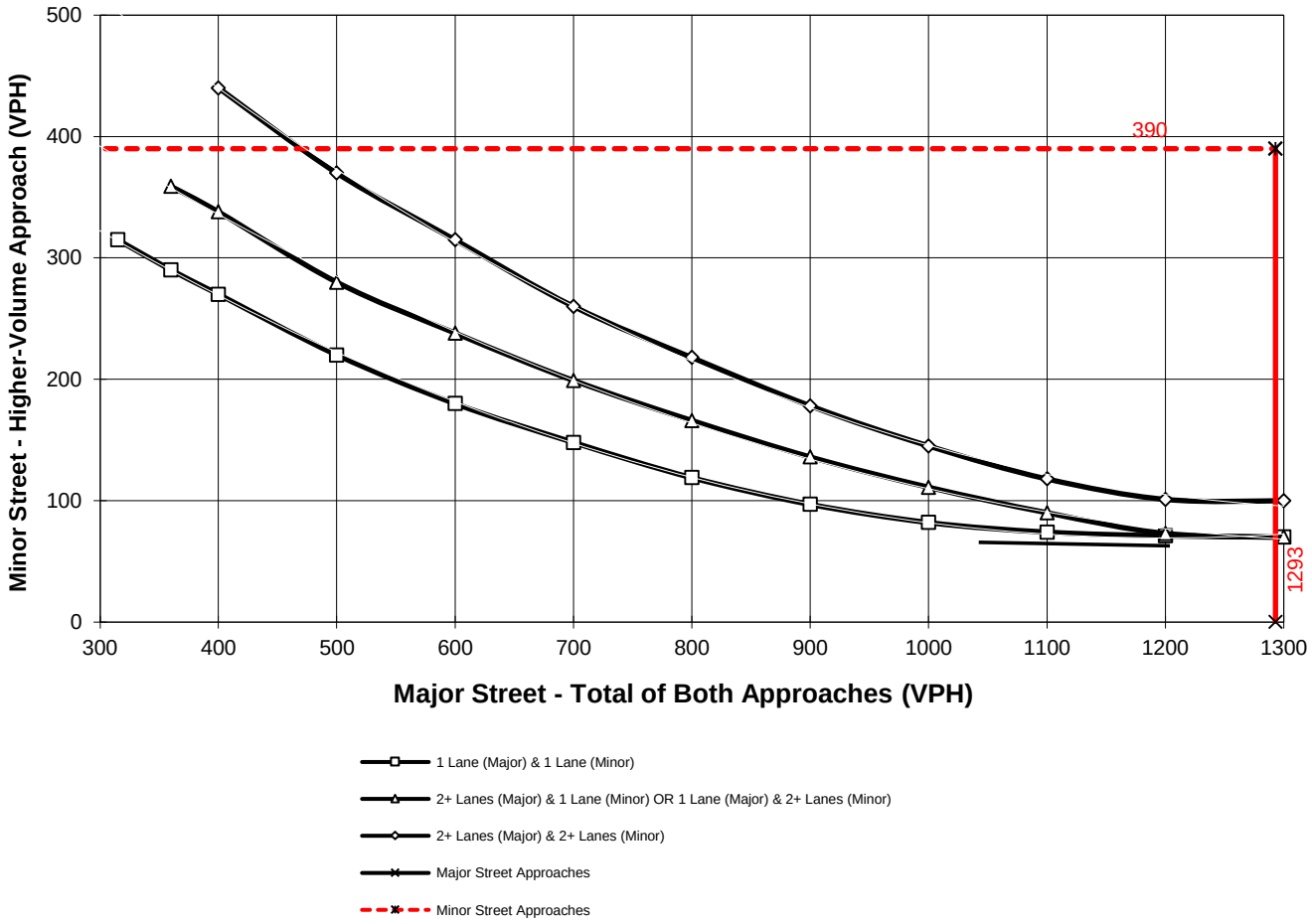
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2024) AM PEAK HOUR WARRANTS**

Major Street Name = **Calhoun St.**
Total of Both Approaches (VPH) = **1,293**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Dr. Carreon Bl.**
High Volume Approach (VPH) = **390**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #1

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

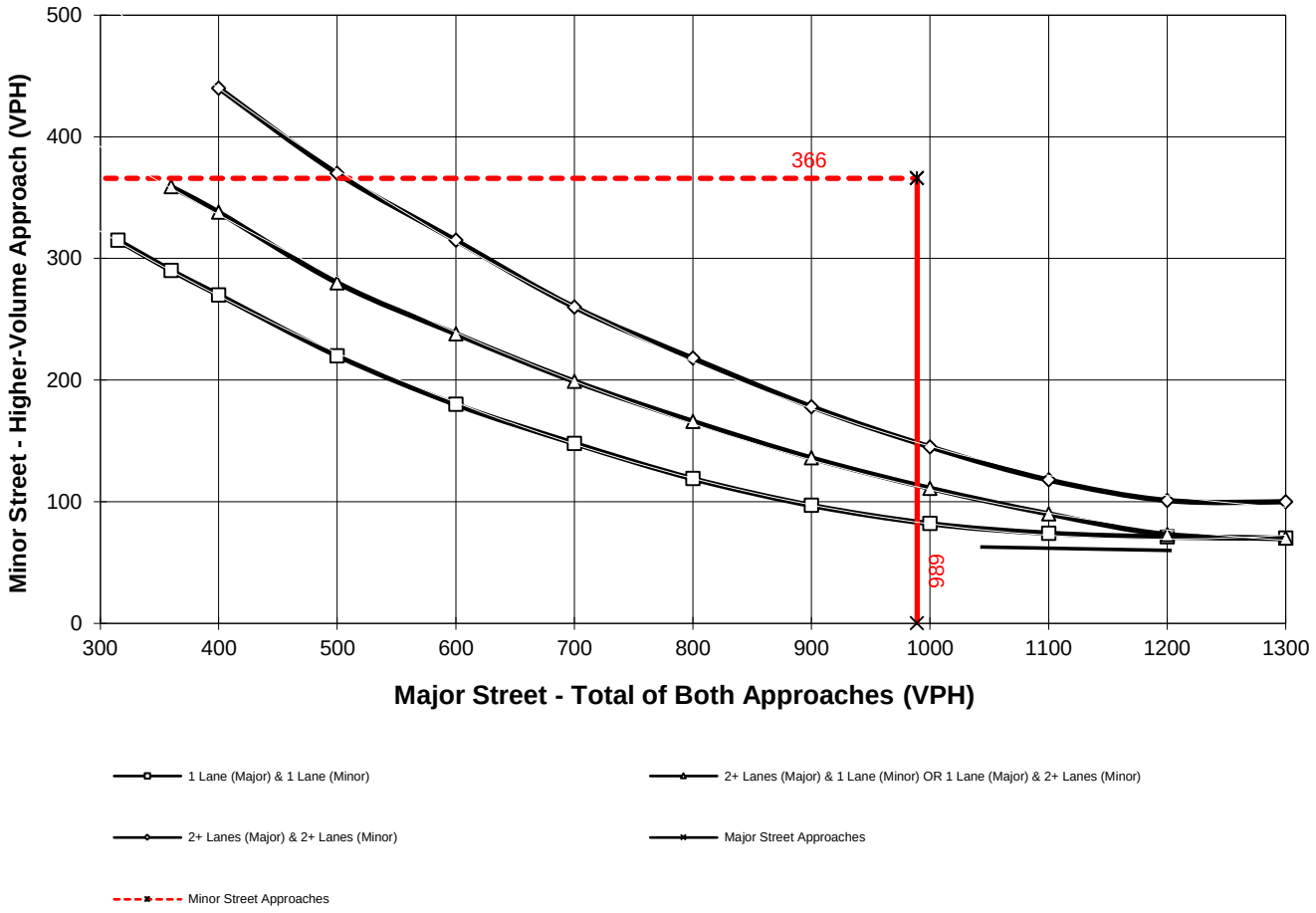
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2024) PM PEAK HOUR WARRANTS**

Major Street Name = **Calhoun St.**
Total of Both Approaches (VPH) = **989**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Dr. Carreon Bl.**
High Volume Approach (VPH) = **366**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #1

California MUTCD 2016 Edition
(FHWA's MUTCD 2009, as amended for use in California)

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

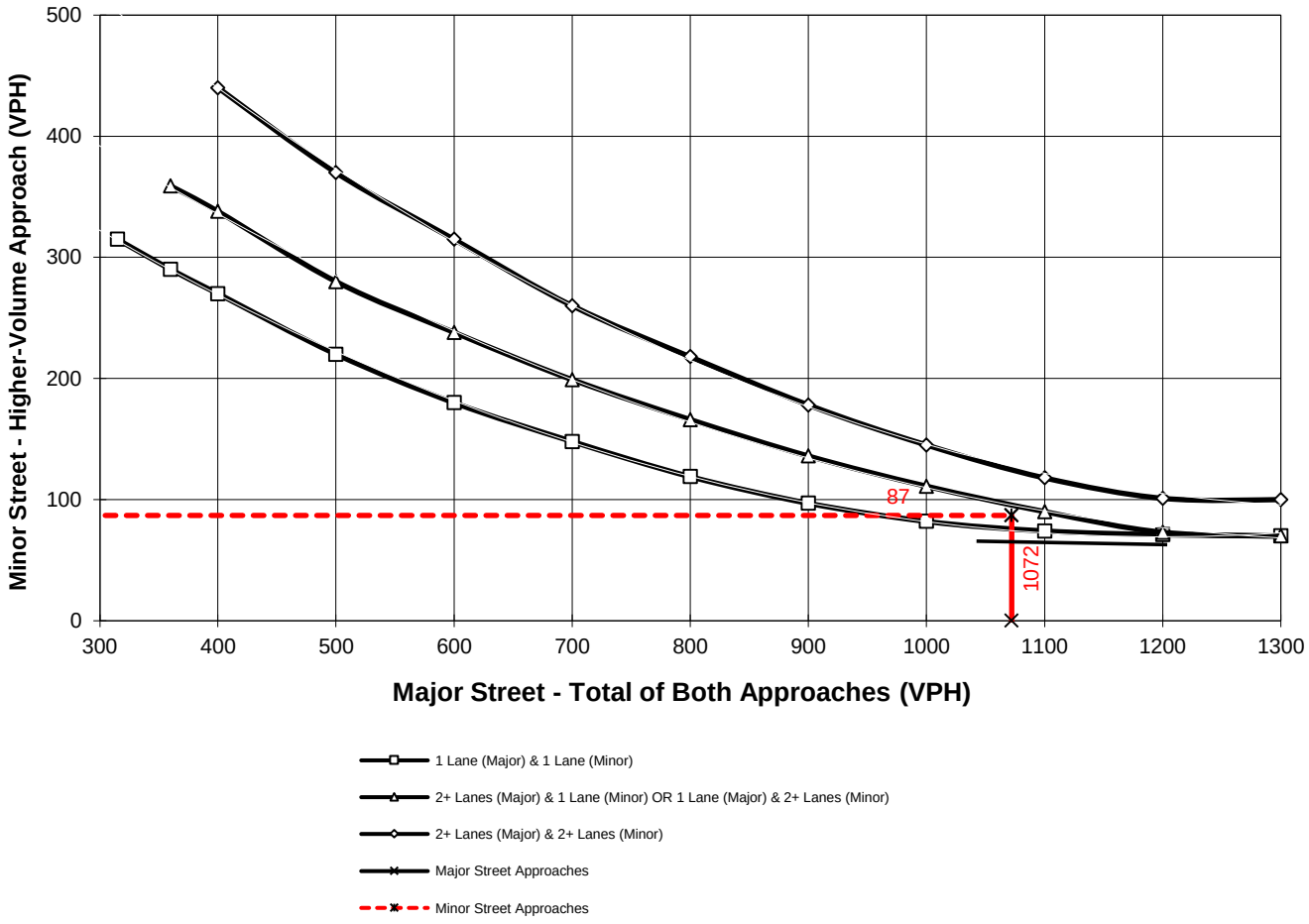
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2024) AM PEAK HOUR WARRANTS**

Major Street Name = **Calhoun St.**
Total of Both Approaches (VPH) = **1,072**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Avenue 49**
High Volume Approach (VPH) = **87**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #3

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

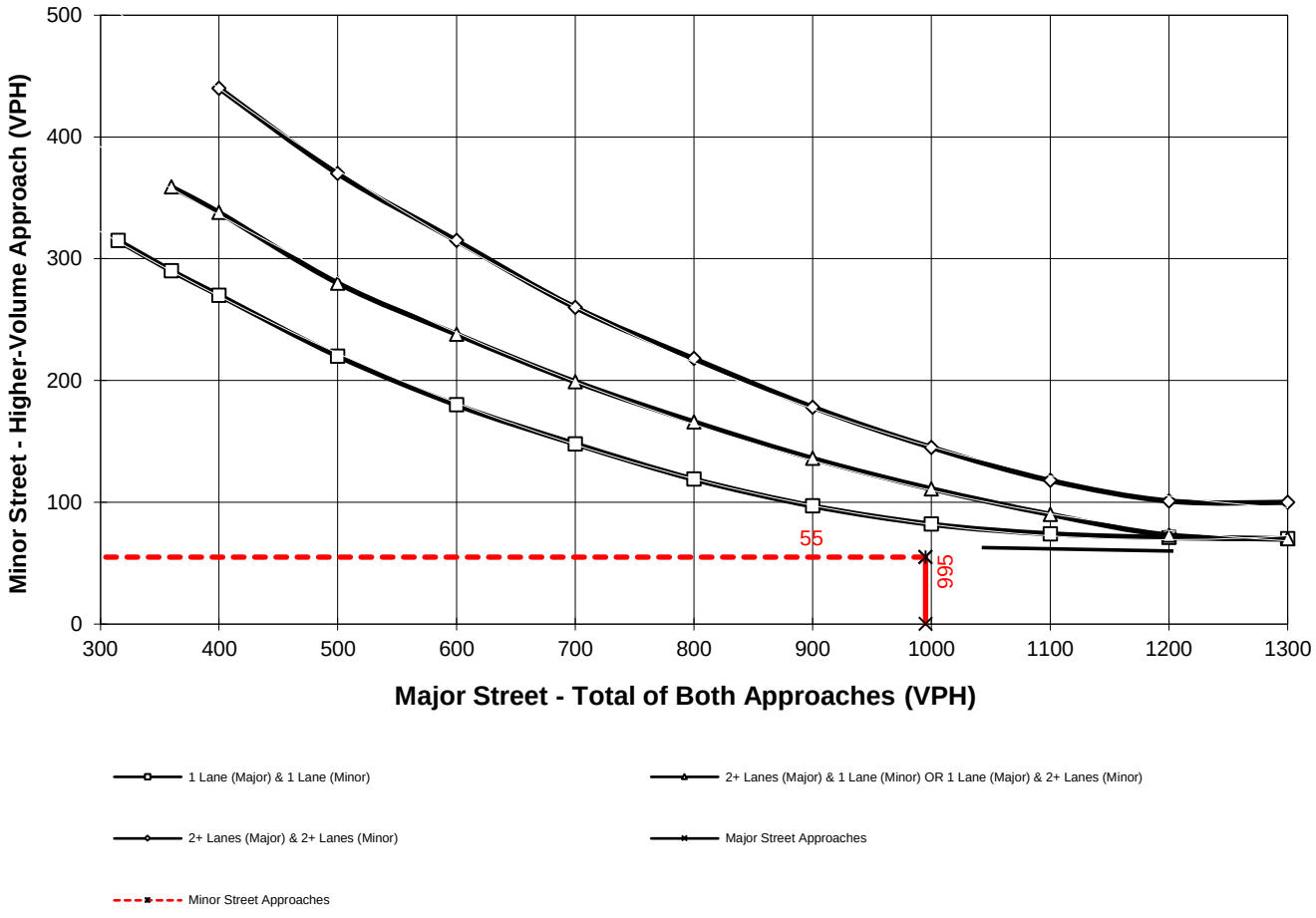
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2024) PM PEAK HOUR WARRANTS**

Major Street Name = **Calhoun St.**
Total of Both Approaches (VPH) = **995**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Avenue 49**
High Volume Approach (VPH) = **55**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #3

California MUTCD 2016 Edition
(FHWA's MUTCD 2009, as amended for use in California)

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

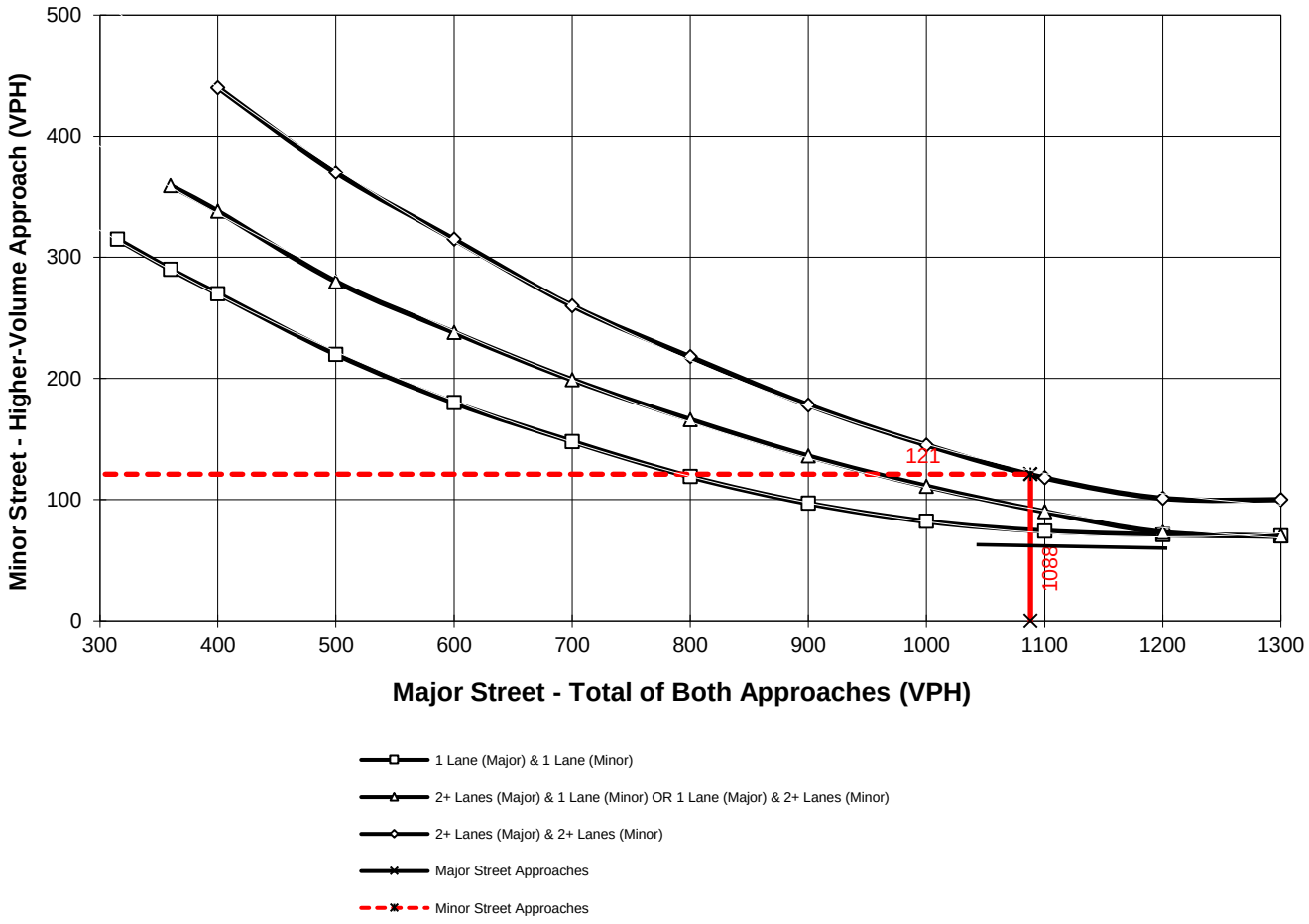
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2024) AM PEAK HOUR WARRANTS**

Major Street Name = **Jackson St.**
Total of Both Approaches (VPH) = **1,088**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Avenue 49 - Odlum Dr.**
High Volume Approach (VPH) = **121**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #5

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

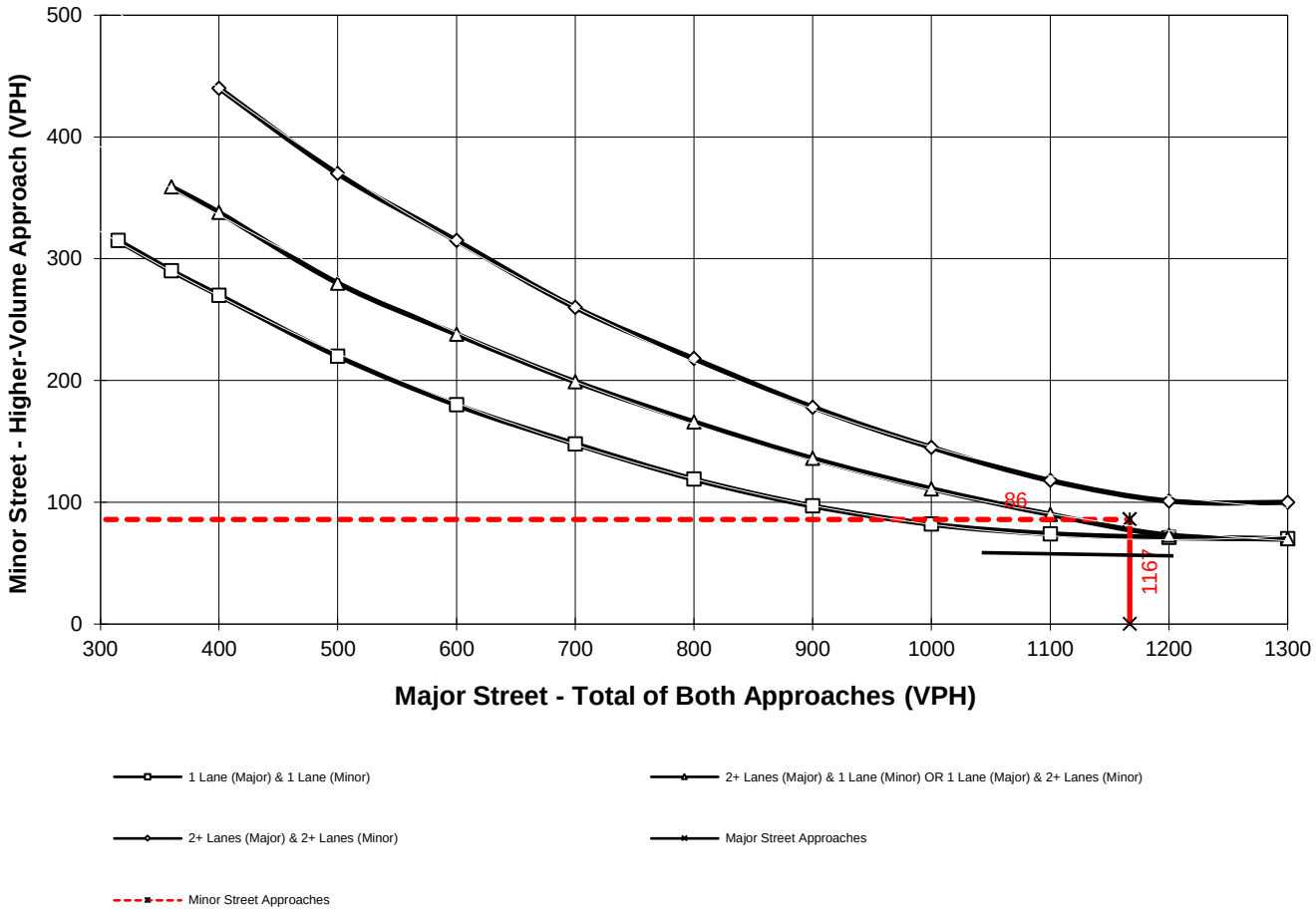
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2024) PM PEAK HOUR WARRANTS**

Major Street Name = **Jackson St.** Total of Both Approaches (VPH) = **1,167**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Avenue 49 - Odlum Dr.** High Volume Approach (VPH) = **86**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #5

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM	TRAFFIC CONDITIONS	**EAC (2026)**
				CALC JC	DATE 09/03/24
Jurisdiction: **City of Coachella**				CHK	DATE
Major Street: **Jackson St.**				Critical Approach Speed (Major)	45 mph
Minor Street: **Avenue 49 - Odlum Dr.**				Critical Approach Speed (Minor)	25 mph

Major Street Approach Lanes = **2** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **21,208** vpd Minor Street Future ADT = **1,179** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. √

or

In built up area of isolated community of < 10,000 population …… **RURAL (R)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Number of lanes for moving traffic on each approach		Minimum Requirements ADT: Vehicles Per Day on Major Street (Total of Both Approaches)		Minimum Requirements ADT: Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	Major Street	Minor Street	Urban	Rural	Urban	Rural
CONDITION A - Minimum Vehicular Volume						
Satisfied / Not Satisfied: XX	*1*	*1*	8,000	5,600	2,400	1,680
	2 + **21,208**	*1* **1,179**	9,600	6,720 *	2,400	1,680
	2 +	*2* +	9,600	6,720	3,200	2,240
	1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic						
Satisfied: XX / Not Satisfied	*1*	*1*	12,000	8,400	1,200	850
	2 + **21,208**	*1* **1,179**	14,400	10,080 *	1,200	850 *
	2 +	*2* +	14,400	10,080	1,600	1,120
	1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B						
Satisfied / Not Satisfied: XX			2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 70%	**B** 100%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM	TRAFFIC CONDITIONS	**EAP (2026)**
				CALC JC	DATE 09/03/24
Jurisdiction: **City of Coachella**				CHK	DATE
Major Street: **Calhoun St.**				Critical Approach Speed (Major)	45 mph
Minor Street: **Access 1**				Critical Approach Speed (Minor)	25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **13,958** vpd Minor Street Future ADT = **882** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. √

or **RURAL (R)**

In built up area of isolated community of < 10,000 population ……

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Number of lanes for moving traffic on each approach: Major Street	Minor Street	Minimum Requirements ADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
CONDITION A - Minimum Vehicular Volume						
Satisfied / Not Satisfied XX						
	1 **13,958**	*1* **882**	8,000	5,600 *	2,400	1,680
	2 +	*1*	9,600	6,720	2,400	1,680
	2 +	*2* +	9,600	6,720	3,200	2,240
	1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic						
Satisfied XX / Not Satisfied						
	1 **13,958**	*1* **882**	12,000	8,400 *	1,200	850 *
	2 +	*1*	14,400	10,080	1,200	850
	2 +	*2* +	14,400	10,080	1,600	1,120
	1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B						
Satisfied / Not Satisfied XX						
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 53%	**B** 100%	2 CONDITIONS 80%		2 CONDITIONS 80%	

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST ___ CO ___ RTE ___ PM

TRAFFIC CONDITIONS **EAP (2026)**

CALC JC DATE 09/03/24

Jurisdiction: **City of Coachella** CHK DATE

Major Street: **Access 2** Critical Approach Speed (Major) 30 mph

Minor Street: **Avenue 49** Critical Approach Speed (Minor) 25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **378** vpd Minor Street Future ADT = **378** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ……..

or **URBAN (U)**

In built up area of isolated community of < 10,000 population ……

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements ADT			
XX	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
CONDITION A - Minimum Vehicular Volume	Urban	Rural	Urban	Rural
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **378** / *1* **378**	8,000	5,600	2,400	1,680
2 + / *1*	9,600	6,720	2,400	1,680
2 + / *2* +	9,600	6,720	3,200	2,240
1 / *2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **378** / *1* **378**	12,000	8,400	1,200	850
2 + / *1*	14,400	10,080	1,200	850
2 + / *2* +	14,400	10,080	1,600	1,120
1 / *2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. **A** 5% **B** 3%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM		TRAFFIC CONDITIONS		**EAPC (2026)**
				CALC	JC	DATE	09/03/24
Jurisdiction:	**City of Coachella**			CHK		DATE	
Major Street:	**Access 2**				Critical Approach Speed (Major)		45 mph
Minor Street:	**Avenue 49**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **378** vpd Minor Street Future ADT = **378** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. √

or **RURAL (R)**

In built up area of isolated community of < 10,000 population ……..

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements ADT			
	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
CONDITION A - Minimum Vehicular Volume	Urban	Rural	Urban	Rural
Satisfied / Not Satisfied: XX / XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **378** / *1* **378**	8,000	5,600	2,400	1,680
2 + / *1*	9,600	6,720	2,400	1,680
2 + / *2* +	9,600	6,720	3,200	2,240
1 / *2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **378** / *1* **378**	12,000	8,400	1,200	850
2 + / *1*	14,400	10,080	1,200	850
2 + / *2* +	14,400	10,080	1,600	1,120
1 / *2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. **A** 7% **B** 5%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

APPENDIX 5.1: EAP (2026) CONDITIONS

INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	188	66	29	291	88	252	553	89	83	270	148
Future Volume (vph)	82	188	66	29	291	88	252	553	89	83	270	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	105		0	100		0	100		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	90			60			90			90		
Link Speed (mph)		40			40			45			40	
Link Distance (ft)		2582			982			2694			905	
Travel Time (s)		44.0			16.7			40.8			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	129.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	188	66	29	291	88	252	553	89	83	270	148
Future Vol, veh/h	82	188	66	29	291	88	252	553	89	83	270	148
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	200	70	31	310	94	268	588	95	88	287	157
Number of Lanes	1	1	1	1	1	0	1	1	1	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	3
HCM Control Delay, s/veh	27.3	136.4	219.1	32.3
HCM LOS	D	F	F	D

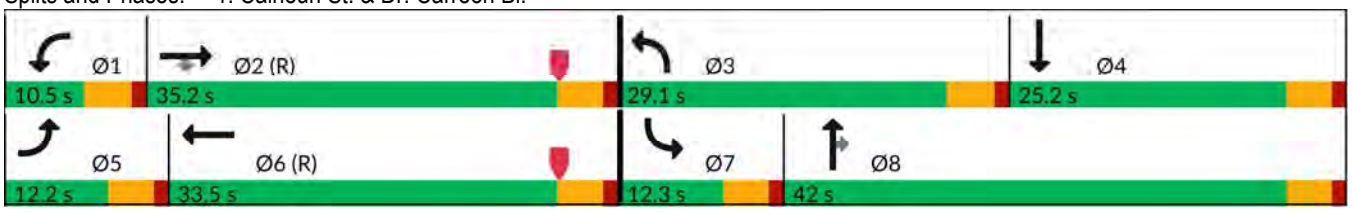
Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	77%	0%	100%	38%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	23%	0%	0%	62%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	252	553	89	82	188	66	29	379	83	180	238
LT Vol	252	0	0	82	0	0	29	0	83	0	0
Through Vol	0	553	0	0	188	0	0	291	0	180	90
RT Vol	0	0	89	0	0	66	0	88	0	0	148
Lane Flow Rate	268	588	95	87	200	70	31	403	88	191	253
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.788	1.649	0.247	0.283	0.623	0.205	0.096	1.19	0.274	0.568	0.72
Departure Headway (Hd)	11.311	10.79	10.059	12.953	12.433	11.704	11.979	11.316	12.478	11.954	11.497
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	322	341	359	279	292	309	301	323	290	304	316
Service Time	9.011	8.49	7.759	10.653	10.133	9.404	9.679	9.016	10.178	9.654	9.197
HCM Lane V/C Ratio	0.832	1.724	0.265	0.312	0.685	0.227	0.103	1.248	0.303	0.628	0.801
HCM Control Delay, s/veh	45.6	330.8	16	20.7	33.7	17.4	15.9	145.6	19.8	29.3	38.9
HCM Lane LOS	E	F	C	C	D	C	C	F	C	D	E
HCM 95th-tile Q	6.4	33.3	1	1.1	3.9	0.8	0.3	16.3	1.1	3.3	5.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	188	66	29	291	88	252	553	89	83	270	148
Future Volume (vph)	82	188	66	29	291	88	252	553	89	83	270	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	105		0	100		0	100		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	90			60			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			40			45			40	
Link Distance (ft)		2582			982			2694			905	
Travel Time (s)		44.0			16.7			40.8			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Detector Phase	5	2	2	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5	9.5	22.5	
Total Split (s)	12.2	35.2	35.2	10.5	33.5		29.1	42.0	42.0	12.3	25.2	
Total Split (%)	12.2%	35.2%	35.2%	10.5%	33.5%		29.1%	42.0%	42.0%	12.3%	25.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	Max	Max	None	Max	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 1: Calhoun St. & Dr. Carreon Bl.



HCM 7th Signalized Intersection Summary
1: Calhoun St. & Dr. Carreon Bl.

EAP (2026) AM Peak H
WITH IMPROVEMENTS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	188	66	29	291	88	252	553	89	83	270	148
Future Volume (veh/h)	82	188	66	29	291	88	252	553	89	83	270	148
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	200	70	31	310	94	268	588	95	88	287	157
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	661	560	51	441	134	305	701	594	112	597	318
Arrive On Green	0.06	0.35	0.35	0.03	0.32	0.32	0.17	0.38	0.38	0.06	0.27	0.27
Sat Flow, veh/h	1781	1870	1585	1781	1377	418	1781	1870	1585	1781	2240	1192
Grp Volume(v), veh/h	87	200	70	31	0	404	268	588	95	88	226	218
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1795	1781	1870	1585	1781	1777	1656
Q Serve(g_s), s	4.8	7.7	3.0	1.7	0.0	19.7	14.7	28.7	4.0	4.9	10.7	11.1
Cycle Q Clear(g_c), s	4.8	7.7	3.0	1.7	0.0	19.7	14.7	28.7	4.0	4.9	10.7	11.1
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	111	661	560	51	0	574	305	701	594	112	474	441
V/C Ratio(X)	0.79	0.30	0.13	0.60	0.00	0.70	0.88	0.84	0.16	0.79	0.48	0.49
Avail Cap(c_a), veh/h	137	661	560	107	0	574	438	701	594	139	474	441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	23.4	21.9	48.0	0.0	29.8	40.4	28.5	20.8	46.2	30.8	31.0
Incr Delay (d2), s/veh	20.9	1.2	0.5	10.8	0.0	7.1	11.4	9.7	0.5	20.6	3.4	3.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	3.5	1.1	0.9	0.0	9.2	7.1	13.7	1.5	2.7	4.9	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	67.1	24.6	22.3	58.8	0.0	36.9	51.9	38.2	21.3	66.8	34.2	34.9
LnGrp LOS	E	C	C	E		D	D	D	C	E	C	C
Approach Vol, veh/h		357			435			951			532	
Approach Delay, s/veh		34.5			38.5			40.4			39.9	
Approach LOS		C			D			D			D	

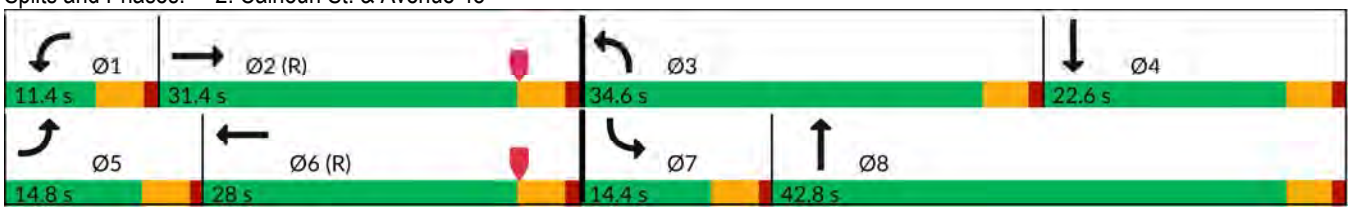
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	39.8	21.6	31.2	10.7	36.5	10.8	42.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.0	30.7	24.6	20.7	7.7	29.0	7.8	37.5
Max Q Clear Time (g_c+I1), s	3.7	9.7	16.7	13.1	6.8	21.7	6.9	30.7
Green Ext Time (p_c), s	0.0	1.2	0.5	1.5	0.0	1.3	0.0	2.2

Intersection Summary	
HCM 7th Control Delay, s/veh	39.0
HCM 7th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	400	115	38	625	96	282	571	83	62	240	70
Future Volume (vph)	68	400	115	38	625	96	282	571	83	62	240	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	110		0	105		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		1021			1428			2333			2694	
Travel Time (s)		13.9			19.5			35.3			40.8	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	14.8	31.4		11.4	28.0		34.6	42.8		14.4	22.6	
Total Split (%)	14.8%	31.4%		11.4%	28.0%		34.6%	42.8%		14.4%	22.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	

Splits and Phases: 2: Calhoun St. & Avenue 48



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	400	115	38	625	96	282	571	83	62	240	70
Future Volume (veh/h)	68	400	115	38	625	96	282	571	83	62	240	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	482	139	46	753	116	340	688	100	75	289	84
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	1375	384	64	1446	221	379	1193	173	97	613	175
Arrive On Green	0.06	0.35	0.35	0.04	0.32	0.32	0.21	0.38	0.38	0.05	0.22	0.22
Sat Flow, veh/h	1781	3966	1109	1781	4469	683	1781	3114	452	1781	2729	778
Grp Volume(v), veh/h	82	412	209	46	572	297	340	392	396	75	186	187
Grp Sat Flow(s),veh/h/ln	1781	1702	1671	1781	1702	1747	1781	1777	1789	1781	1777	1730
Q Serve(g_s), s	4.5	9.0	9.4	2.6	13.7	13.8	18.6	17.5	17.5	4.2	9.1	9.4
Cycle Q Clear(g_c), s	4.5	9.0	9.4	2.6	13.7	13.8	18.6	17.5	17.5	4.2	9.1	9.4
Prop In Lane	1.00		0.66	1.00		0.39	1.00		0.25	1.00		0.45
Lane Grp Cap(c), veh/h	105	1180	579	64	1102	566	379	681	685	97	399	388
V/C Ratio(X)	0.78	0.35	0.36	0.72	0.52	0.52	0.90	0.58	0.58	0.78	0.47	0.48
Avail Cap(c_a), veh/h	183	1180	579	123	1102	566	536	681	685	176	399	388
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.4	24.3	24.4	47.7	27.5	27.6	38.3	24.4	24.4	46.7	33.6	33.7
Incr Delay (d2), s/veh	11.6	0.8	1.7	13.8	1.8	3.5	13.7	3.5	3.5	12.4	3.9	4.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	3.5	3.7	1.3	5.4	5.9	9.1	7.5	7.6	2.1	4.2	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.0	25.1	26.1	61.5	29.2	31.0	52.0	28.0	28.0	59.1	37.5	37.9
LnGrp LOS	E	C	C	E	C	C	D	C	C	E	D	D
Approach Vol, veh/h		703			915			1128			448	
Approach Delay, s/veh		29.3			31.4			35.2			41.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	39.2	25.8	27.0	10.4	36.9	9.9	42.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.9	26.9	30.1	18.1	10.3	23.5	9.9	38.3
Max Q Clear Time (g_c+I1), s	4.6	11.4	20.6	11.4	6.5	15.8	6.2	19.5
Green Ext Time (p_c), s	0.0	3.1	0.7	1.1	0.0	3.0	0.0	4.3

Intersection Summary	
HCM 7th Control Delay, s/veh	33.7
HCM 7th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	2	2	52	2	38	2	729	30	15	418	5
Future Volume (vph)	14	2	2	52	2	38	2	729	30	15	418	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	60			60			90			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		636			1354			680			287	
Travel Time (s)		14.5			30.8			10.3			4.3	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	165.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	2	2	52	2	38	2	729	30	15	418	5
Future Vol, veh/h	14	2	2	52	2	38	2	729	30	15	418	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	2	2	60	2	44	2	848	35	17	486	6
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	1

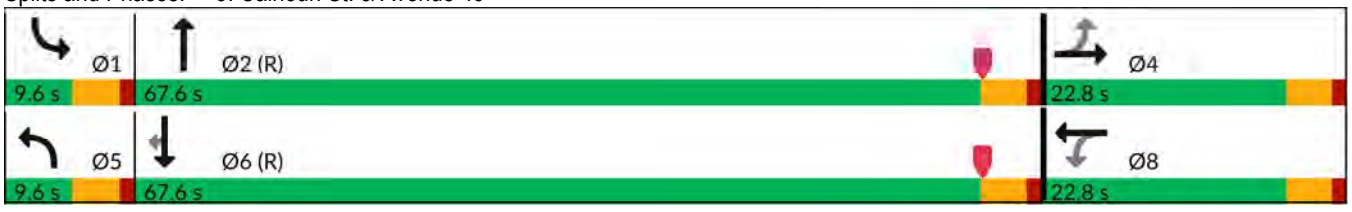
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay, s/veh	12.2	13.3	267.6	25.2
HCM LOS	B	B	F	D

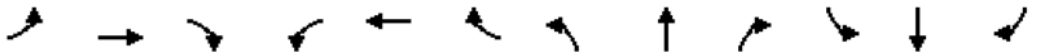
Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	78%	57%	100%	0%	0%
Vol Thru, %	0%	96%	11%	2%	0%	100%	0%
Vol Right, %	0%	4%	11%	41%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	759	18	92	15	418	5
LT Vol	2	0	14	52	15	0	0
Through Vol	0	729	2	2	0	418	0
RT Vol	0	30	2	38	0	0	5
Lane Flow Rate	2	883	21	107	17	486	6
Geometry Grp	6	6	5	5	5	5	5
Degree of Util (X)	0.004	1.539	0.047	0.218	0.03	0.763	0.008
Departure Headway (Hd)	6.812	6.278	9.082	8.32	6.683	6.174	5.461
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	528	582	397	434	539	588	659
Service Time	4.514	3.981	6.782	6.02	4.383	3.874	3.161
HCM Lane V/C Ratio	0.004	1.517	0.053	0.247	0.032	0.827	0.009
HCM Control Delay, s/veh	9.5	268.3	12.2	13.3	9.6	26	8.2
HCM Lane LOS	A	F	B	B	A	D	A
HCM 95th-tile Q	0	45.8	0.1	0.8	0.1	6.9	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	2	2	52	2	38	2	729	30	15	418	5
Future Volume (vph)	14	2	2	52	2	38	2	729	30	15	418	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	60			60			90			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		636			1354			680			287	
Travel Time (s)		14.5			30.8			10.3			4.3	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	22.5
Total Split (s)	22.8	22.8		22.8	22.8		9.6	67.6		9.6	67.6	67.6
Total Split (%)	22.8%	22.8%		22.8%	22.8%		9.6%	67.6%		9.6%	67.6%	67.6%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Calhoun St. & Avenue 49





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	2	2	52	2	38	2	729	30	15	418	5
Future Volume (veh/h)	14	2	2	52	2	38	2	729	30	15	418	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	2	2	60	2	44	2	848	35	17	486	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	20	13	125	9	56	5	1352	56	34	1448	1227
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.00	0.76	0.76	0.02	0.77	0.77
Sat Flow, veh/h	1093	231	147	785	106	632	1781	1783	74	1781	1870	1585
Grp Volume(v), veh/h	20	0	0	106	0	0	2	0	883	17	486	6
Grp Sat Flow(s),veh/h/ln	1470	0	0	1523	0	0	1781	0	1857	1781	1870	1585
Q Serve(g_s), s	0.0	0.0	0.0	5.6	0.0	0.0	0.1	0.0	21.9	0.9	7.9	0.1
Cycle Q Clear(g_c), s	1.1	0.0	0.0	6.8	0.0	0.0	0.1	0.0	21.9	0.9	7.9	0.1
Prop In Lane	0.80		0.10	0.57		0.42	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	194	0	0	190	0	0	5	0	1408	34	1448	1227
V/C Ratio(X)	0.10	0.00	0.00	0.56	0.00	0.00	0.42	0.00	0.63	0.51	0.34	0.00
Avail Cap(c_a), veh/h	329	0	0	332	0	0	91	0	1408	91	1448	1227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.1	0.0	0.0	44.6	0.0	0.0	49.8	0.0	5.6	48.6	3.4	2.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	2.5	0.0	0.0	48.5	0.0	2.1	11.4	0.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	2.7	0.0	0.0	0.1	0.0	6.2	0.5	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.3	0.0	0.0	47.1	0.0	0.0	98.3	0.0	7.7	60.0	4.1	2.6
LnGrp LOS	D			D			F		A	E	A	A
Approach Vol, veh/h		20			106			885			509	
Approach Delay, s/veh		42.3			47.1			7.9			5.9	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	80.3		13.3	4.8	81.9		13.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	63.1		18.3	5.1	63.1		18.3				
Max Q Clear Time (g_c+I1), s	2.9	23.9		3.1	2.1	9.9		8.8				
Green Ext Time (p_c), s	0.0	7.4		0.0	0.0	3.1		0.3				

Intersection Summary		
HCM 7th Control Delay, s/veh		10.4
HCM 7th LOS		B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	218	25	30	447	182	101	369	163	139	275	101
Future Volume (vph)	46	218	25	30	447	182	101	369	163	139	275	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	115		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		2636			2238			1460			368	
Travel Time (s)		35.9			30.5			22.1			5.6	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	13.4	36.8		11.0	34.4		18.0	29.9		22.3	34.2	
Total Split (%)	13.4%	36.8%		11.0%	34.4%		18.0%	29.9%		22.3%	34.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	

Splits and Phases: 4: Calhoun St. & Avenue 50



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	218	25	30	447	182	101	369	163	139	275	101
Future Volume (veh/h)	46	218	25	30	447	182	101	369	163	139	275	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	260	30	36	532	217	120	439	194	165	327	120
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1309	150	56	984	400	150	648	284	199	760	274
Arrive On Green	0.04	0.41	0.41	0.03	0.40	0.40	0.08	0.27	0.27	0.11	0.30	0.30
Sat Flow, veh/h	1781	3214	367	1781	2465	1002	1781	2405	1053	1781	2559	922
Grp Volume(v), veh/h	55	143	147	36	383	366	120	323	310	165	225	222
Grp Sat Flow(s),veh/h/ln	1781	1777	1804	1781	1777	1690	1781	1777	1681	1781	1777	1704
Q Serve(g_s), s	3.1	5.2	5.3	2.0	16.5	16.6	6.6	16.3	16.5	9.1	10.2	10.5
Cycle Q Clear(g_c), s	3.1	5.2	5.3	2.0	16.5	16.6	6.6	16.3	16.5	9.1	10.2	10.5
Prop In Lane	1.00		0.20	1.00		0.59	1.00		0.63	1.00		0.54
Lane Grp Cap(c), veh/h	71	724	735	56	709	675	150	479	453	199	528	506
V/C Ratio(X)	0.78	0.20	0.20	0.64	0.54	0.54	0.80	0.68	0.68	0.83	0.43	0.44
Avail Cap(c_a), veh/h	159	724	735	116	709	675	240	479	453	317	528	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	19.1	19.1	47.9	23.0	23.0	45.0	32.6	32.7	43.5	28.3	28.4
Incr Delay (d2), s/veh	16.3	0.6	0.6	11.4	2.9	3.1	9.5	7.4	8.1	9.7	2.5	2.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.1	2.2	1.0	6.9	6.6	3.2	7.6	7.4	4.4	4.5	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.9	19.7	19.7	59.3	25.9	26.2	54.4	40.1	40.8	53.2	30.8	31.2
LnGrp LOS	E	B	B	E	C	C	D	D	D	D	C	C
Approach Vol, veh/h		345			785			753			612	
Approach Delay, s/veh		26.8			27.6			42.7			37.0	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	45.2	12.9	34.2	8.5	44.4	15.7	31.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	32.3	13.5	29.7	8.9	29.9	17.8	25.4
Max Q Clear Time (g_c+I1), s	4.0	7.3	8.6	12.5	5.1	18.6	11.1	18.5
Green Ext Time (p_c), s	0.0	1.4	0.1	2.2	0.0	3.2	0.2	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	34.3
HCM 7th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	2	33	9	2	23	7	562	4	10	536	27
Future Volume (vph)	93	2	33	9	2	23	7	562	4	10	536	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		50	0		0	100		150	100		205
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		590			2033			968			636	
Travel Time (s)		13.4			46.2			13.2			8.7	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	74.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	93	2	33	9	2	23	7	562	4	10	536	27
Future Vol, veh/h	93	2	33	9	2	23	7	562	4	10	536	27
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	104	2	37	10	2	26	8	631	4	11	602	30
Number of Lanes	0	1	1	0	1	0	1	1	0	1	2	0

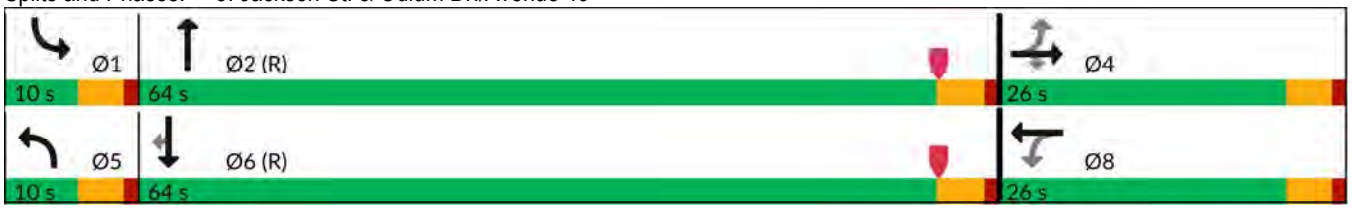
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	2
HCM Control Delay, s/veh	14.3	12.5	140.9	24.6
HCM LOS	B	B	F	C

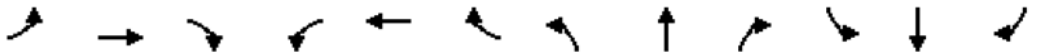
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	98%	0%	26%	100%	0%	0%
Vol Thru, %	0%	99%	2%	0%	6%	0%	100%	87%
Vol Right, %	0%	1%	0%	100%	68%	0%	0%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	566	95	33	34	10	357	206
LT Vol	7	0	93	0	9	10	0	0
Through Vol	0	562	2	0	2	0	357	179
RT Vol	0	4	0	33	23	0	0	27
Lane Flow Rate	8	636	107	37	38	11	401	231
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.016	1.23	0.26	0.078	0.089	0.023	0.767	0.436
Departure Headway (Hd)	7.476	6.964	9.332	8.105	8.967	7.848	7.338	7.244
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	478	521	387	445	402	459	498	501
Service Time	5.229	4.716	7.032	5.805	6.667	5.548	5.038	4.944
HCM Lane V/C Ratio	0.017	1.221	0.276	0.083	0.095	0.024	0.805	0.461
HCM Control Delay, s/veh	10.4	142.5	15.3	11.5	12.5	10.7	30.3	15.4
HCM Lane LOS	B	F	C	B	B	B	D	C
HCM 95th-tile Q	0	24.4	1	0.3	0.3	0.1	6.7	2.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	2	33	9	2	23	7	562	4	10	536	27
Future Volume (vph)	93	2	33	9	2	23	7	562	4	10	536	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		50	0		0	100		150	100		205
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		590			2033			968			636	
Travel Time (s)		13.4			46.2			13.2			8.7	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		9.5	22.5		9.5	22.5	22.5
Total Split (s)	26.0	26.0	26.0	26.0	26.0		10.0	64.0		10.0	64.0	64.0
Total Split (%)	26.0%	26.0%	26.0%	26.0%	26.0%		10.0%	64.0%		10.0%	64.0%	64.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 5: Jackson St. & Odlum Dr./Avenue 49





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	2	33	9	2	23	7	562	4	10	536	27
Future Volume (veh/h)	93	2	33	9	2	23	7	562	4	10	536	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	2	37	10	2	26	8	631	4	11	602	30
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	200	3	274	54	29	82	18	1261	8	23	2425	1082
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.01	0.68	0.68	0.01	0.68	0.68
Sat Flow, veh/h	747	19	1585	51	169	475	1781	1856	12	1781	3554	1585
Grp Volume(v), veh/h	106	0	37	38	0	0	8	0	635	11	602	30
Grp Sat Flow(s),veh/h/ln	765	0	1585	694	0	0	1781	0	1868	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	2.0	0.3	0.0	0.0	0.4	0.0	16.5	0.6	6.5	0.6
Cycle Q Clear(g_c), s	15.1	0.0	2.0	15.3	0.0	0.0	0.4	0.0	16.5	0.6	6.5	0.6
Prop In Lane	0.98		1.00	0.26		0.68	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	203	0	274	165	0	0	18	0	1269	23	2425	1082
V/C Ratio(X)	0.52	0.00	0.14	0.23	0.00	0.00	0.45	0.00	0.50	0.47	0.25	0.03
Avail Cap(c_a), veh/h	262	0	341	230	0	0	98	0	1269	98	2425	1082
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	0.0	35.0	35.5	0.0	0.0	49.2	0.0	7.8	49.0	6.1	5.1
Incr Delay (d2), s/veh	2.1	0.0	0.2	0.7	0.0	0.0	16.8	0.0	1.4	13.9	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.8	0.8	0.0	0.0	0.3	0.0	5.4	0.4	1.9	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.5	0.0	35.3	36.2	0.0	0.0	66.1	0.0	9.2	62.8	6.3	5.2
LnGrp LOS	D		D	D			E		A	E	A	A
Approach Vol, veh/h		143			38			643			643	
Approach Delay, s/veh		40.6			36.2			9.9			7.2	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	72.4		21.8	5.5	72.7		21.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	59.5		21.5	5.5	59.5		21.5				
Max Q Clear Time (g_c+I1), s	2.6	18.5		17.1	2.4	8.5		17.3				
Green Ext Time (p_c), s	0.0	4.1		0.2	0.0	4.1		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh		12.4
HCM 7th LOS		B



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	56	42	16	703	449	21
Future Volume (vph)	56	42	16	703	449	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			45	45	
Link Distance (ft)	293			1762	680	
Travel Time (s)	6.7			26.7	10.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	56	42	16	703	449	21
Future Vol, veh/h	56	42	16	703	449	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	44	17	740	473	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1257	484	495	0	-	0
Stage 1	484	-	-	-	-	-
Stage 2	774	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	189	583	1069	-	-	-
Stage 1	620	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	186	583	1069	-	-	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	455	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	27.33	0.19	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1069	-	262	-	-
HCM Lane V/C Ratio	0.016	-	0.393	-	-
HCM Control Delay (s/veh)	8.4	-	27.3	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	1.8	-	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2	10	5	2	28	14
Future Volume (vph)	2	10	5	2	28	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	2033			636	356	
Travel Time (s)	46.2			14.5	8.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	6.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	10	5	2	28	14
Future Vol, veh/h	2	10	5	2	28	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	11	5	2	29	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	13	0	20	7
Stage 1	-	-	-	-	7	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1606	-	997	1075
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	1010	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1606	-	994	1075
Mov Cap-2 Maneuver	-	-	-	-	994	-
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	1007	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	5.18	8.69
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1019	-	-	1286	-
HCM Lane V/C Ratio	0.043	-	-	0.003	-
HCM Control Delay (s/veh)	8.7	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	202	146	29	149	70	86	271	28	62	545	87
Future Volume (vph)	49	202	146	29	149	70	86	271	28	62	545	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	105		0	100		0	100		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	90			60			90			90		
Link Speed (mph)		40			40			45			40	
Link Distance (ft)		2582			982			2694			905	
Travel Time (s)		44.0			16.7			40.8			15.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	41.7
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	202	146	29	149	70	86	271	28	62	545	87
Future Vol, veh/h	49	202	146	29	149	70	86	271	28	62	545	87
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	217	157	31	160	75	92	291	30	67	586	94
Number of Lanes	1	1	1	1	1	0	1	1	1	1	2	0

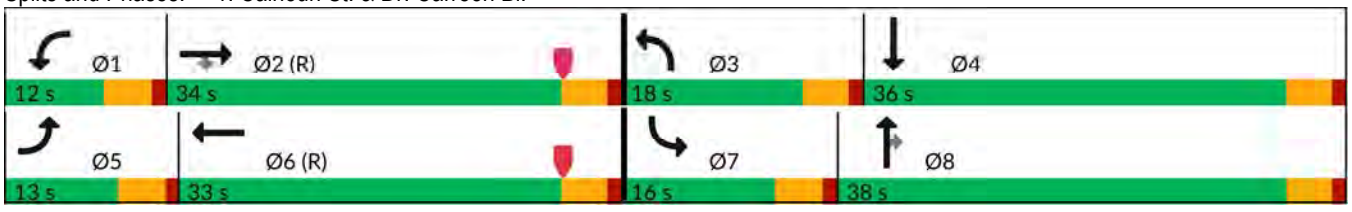
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	3
HCM Control Delay, s/veh	23.1	28.6	37.5	59.3
HCM LOS	C	D	E	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	68%	0%	100%	68%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	32%	0%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	86	271	28	49	202	146	29	219	62	363	269
LT Vol	86	0	0	49	0	0	29	0	62	0	0
Through Vol	0	271	0	0	202	0	0	149	0	363	182
RT Vol	0	0	28	0	0	146	0	70	0	0	87
Lane Flow Rate	92	291	30	53	217	157	31	235	67	391	289
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.274	0.821	0.079	0.156	0.613	0.412	0.093	0.657	0.185	1.029	0.742
Departure Headway (Hd)	10.79	10.272	9.548	10.812	10.299	9.581	10.904	10.18	9.997	9.481	9.247
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	335	356	378	334	352	378	331	358	361	387	393
Service Time	8.49	7.972	7.248	8.512	7.999	7.281	8.604	7.88	7.697	7.181	6.947
HCM Lane V/C Ratio	0.275	0.817	0.079	0.159	0.616	0.415	0.094	0.656	0.186	1.01	0.735
HCM Control Delay, s/veh	17.5	46.3	13.1	15.5	28	18.8	14.7	30.4	15	85.3	34.3
HCM Lane LOS	C	E	B	C	D	C	B	D	B	F	D
HCM 95th-tile Q	1.1	7.2	0.3	0.5	3.9	2	0.3	4.4	0.7	12.8	5.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	202	146	29	149	70	86	271	28	62	545	87
Future Volume (vph)	49	202	146	29	149	70	86	271	28	62	545	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	105		0	100		0	100		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	90			60			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			40			45			40	
Link Distance (ft)		2582			982			2694			905	
Travel Time (s)		44.0			16.7			40.8			15.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Detector Phase	5	2	2	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5	9.5	22.5	
Total Split (s)	13.0	34.0	34.0	12.0	33.0		18.0	38.0	38.0	16.0	36.0	
Total Split (%)	13.0%	34.0%	34.0%	12.0%	33.0%		18.0%	38.0%	38.0%	16.0%	36.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	Max	Max	None	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	

Splits and Phases: 1: Calhoun St. & Dr. Carreon Bl.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	202	146	29	149	70	86	271	28	62	545	87
Future Volume (veh/h)	49	202	146	29	149	70	86	271	28	62	545	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	217	157	31	160	75	92	291	30	67	586	94
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	762	646	51	479	225	118	627	531	87	974	156
Arrive On Green	0.04	0.41	0.41	0.03	0.40	0.40	0.07	0.34	0.34	0.05	0.32	0.32
Sat Flow, veh/h	1781	1870	1585	1781	1204	564	1781	1870	1585	1781	3068	491
Grp Volume(v), veh/h	53	217	157	31	0	235	92	291	30	67	339	341
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1769	1781	1870	1585	1781	1777	1782
Q Serve(g_s), s	2.9	7.8	6.5	1.7	0.0	9.2	5.1	12.3	1.3	3.7	16.1	16.2
Cycle Q Clear(g_c), s	2.9	7.8	6.5	1.7	0.0	9.2	5.1	12.3	1.3	3.7	16.1	16.2
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	69	762	646	51	0	704	118	627	531	87	564	566
V/C Ratio(X)	0.77	0.28	0.24	0.60	0.00	0.33	0.78	0.46	0.06	0.77	0.60	0.60
Avail Cap(c_a), veh/h	151	762	646	134	0	704	240	627	531	205	564	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	19.9	19.5	48.0	0.0	20.9	46.0	26.2	22.5	47.0	28.8	28.8
Incr Delay (d2), s/veh	16.5	0.9	0.9	10.8	0.0	1.3	10.2	2.4	0.2	13.4	4.7	4.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.4	2.4	0.9	0.0	3.9	2.5	5.5	0.5	1.9	7.3	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	64.2	20.8	20.4	58.8	0.0	22.2	56.2	28.6	22.7	60.5	33.4	33.5
LnGrp LOS	E	C	C	E		C	E	C	C	E	C	C
Approach Vol, veh/h		427			266			413			747	
Approach Delay, s/veh		26.0			26.5			34.3			35.9	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	45.2	11.1	36.3	8.4	44.3	9.4	38.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	29.5	13.5	31.5	8.5	28.5	11.5	33.5
Max Q Clear Time (g_c+I1), s	3.7	9.8	7.1	18.2	4.9	11.2	5.7	14.3
Green Ext Time (p_c), s	0.0	1.6	0.1	3.3	0.0	1.1	0.0	1.5

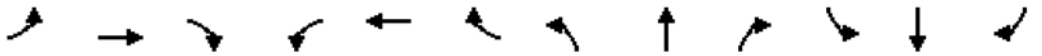
Intersection Summary	
HCM 7th Control Delay, s/veh	31.9
HCM 7th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	607	300	54	416	40	131	299	51	70	467	100
Future Volume (vph)	56	607	300	54	416	40	131	299	51	70	467	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	110		0	105		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		1021			1428			2333			2694	
Travel Time (s)		13.9			19.5			35.3			40.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	14.0	35.0		14.0	35.0		21.0	36.0		15.0	30.0	
Total Split (%)	14.0%	35.0%		14.0%	35.0%		21.0%	36.0%		15.0%	30.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	

Splits and Phases: 2: Calhoun St. & Avenue 48





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	607	300	54	416	40	131	299	51	70	467	100
Future Volume (veh/h)	56	607	300	54	416	40	131	299	51	70	467	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	626	309	56	429	41	135	308	53	72	481	103
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	1403	653	72	1950	184	167	957	163	93	797	170
Arrive On Green	0.04	0.41	0.41	0.04	0.41	0.41	0.09	0.31	0.31	0.05	0.27	0.27
Sat Flow, veh/h	1781	3404	1585	1781	4747	447	1781	3038	517	1781	2915	621
Grp Volume(v), veh/h	58	626	309	56	306	164	135	179	182	72	292	292
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	1790	1781	1777	1777	1781	1777	1759
Q Serve(g_s), s	3.2	13.2	14.2	3.1	5.8	5.9	7.4	7.7	7.8	4.0	14.3	14.5
Cycle Q Clear(g_c), s	3.2	13.2	14.2	3.1	5.8	5.9	7.4	7.7	7.8	4.0	14.3	14.5
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.29	1.00		0.35
Lane Grp Cap(c), veh/h	75	1403	653	72	1398	735	167	560	560	93	486	481
V/C Ratio(X)	0.77	0.45	0.47	0.77	0.22	0.22	0.81	0.32	0.33	0.77	0.60	0.61
Avail Cap(c_a), veh/h	169	1403	653	169	1398	735	294	560	560	187	486	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	21.2	21.5	47.5	19.1	19.1	44.4	26.1	26.1	46.8	31.6	31.6
Incr Delay (d2), s/veh	15.5	1.0	2.4	16.0	0.4	0.7	8.9	1.5	1.5	12.8	5.4	5.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.0	5.3	1.6	2.2	2.4	3.6	3.3	3.4	2.0	6.5	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.9	22.2	23.9	63.5	19.4	19.8	53.4	27.6	27.7	59.6	37.0	37.2
LnGrp LOS	E	C	C	E	B	B	D	C	C	E	D	D
Approach Vol, veh/h		993			526			496			656	
Approach Delay, s/veh		25.1			24.2			34.6			39.6	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	45.7	13.9	31.8	8.7	45.6	9.7	36.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	30.5	16.5	25.5	9.5	30.5	10.5	31.5
Max Q Clear Time (g_c+I1), s	5.1	16.2	9.4	16.5	5.2	7.9	6.0	9.8
Green Ext Time (p_c), s	0.0	4.8	0.2	2.2	0.0	2.5	0.0	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	30.3
HCM 7th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	2	2	36	2	21	2	446	24	29	636	16
Future Volume (vph)	9	2	2	36	2	21	2	446	24	29	636	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	60			60			90			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		636			1354			680			287	
Travel Time (s)		14.5			30.8			10.3			4.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	46.2
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	2	2	36	2	21	2	446	24	29	636	16
Future Vol, veh/h	9	2	2	36	2	21	2	446	24	29	636	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	2	2	38	2	22	2	469	25	31	669	17
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	1

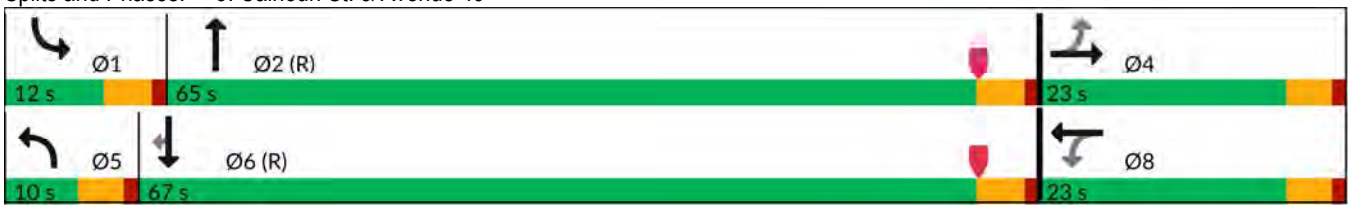
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay, s/veh	11.1	11.6	38.6	55.2
HCM LOS	B	B	E	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	69%	61%	100%	0%	0%
Vol Thru, %	0%	95%	15%	3%	0%	100%	0%
Vol Right, %	0%	5%	15%	36%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	470	13	59	29	636	16
LT Vol	2	0	9	36	29	0	0
Through Vol	0	446	2	2	0	636	0
RT Vol	0	24	2	21	0	0	16
Lane Flow Rate	2	495	14	62	31	669	17
Geometry Grp	6	6	5	5	5	5	5
Degree of Util (X)	0.004	0.876	0.031	0.132	0.05	1.004	0.022
Departure Headway (Hd)	6.916	6.376	8.049	7.656	5.904	5.399	4.692
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	517	569	444	468	607	676	763
Service Time	4.659	4.12	5.818	5.416	3.63	3.125	2.419
HCM Lane V/C Ratio	0.004	0.87	0.032	0.132	0.051	0.99	0.022
HCM Control Delay, s/veh	9.7	38.7	11.1	11.6	8.9	58.5	7.5
HCM Lane LOS	A	E	B	B	A	F	A
HCM 95th-tile Q	0	9.9	0.1	0.5	0.2	16	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	2	2	36	2	21	2	446	24	29	636	16
Future Volume (vph)	9	2	2	36	2	21	2	446	24	29	636	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	60			60			90			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		636			1354			680			287	
Travel Time (s)		14.5			30.8			10.3			4.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	22.5
Total Split (s)	23.0	23.0		23.0	23.0		10.0	65.0		12.0	67.0	67.0
Total Split (%)	23.0%	23.0%		23.0%	23.0%		10.0%	65.0%		12.0%	67.0%	67.0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Calhoun St. & Avenue 49



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	2	2	36	2	21	2	446	24	29	636	16
Future Volume (veh/h)	9	2	2	36	2	21	2	446	24	29	636	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	2	2	38	2	22	2	469	25	31	669	17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	25	14	106	5	29	5	1377	73	51	1512	1281
Arrive On Green	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.78	0.78	0.03	0.81	0.81
Sat Flow, veh/h	993	464	265	890	91	540	1781	1760	94	1781	1870	1585
Grp Volume(v), veh/h	13	0	0	62	0	0	2	0	494	31	669	17
Grp Sat Flow(s),veh/h/ln	1723	0	0	1521	0	0	1781	0	1853	1781	1870	1585
Q Serve(g_s), s	0.0	0.0	0.0	3.3	0.0	0.0	0.1	0.0	7.9	1.7	10.7	0.2
Cycle Q Clear(g_c), s	0.7	0.0	0.0	4.0	0.0	0.0	0.1	0.0	7.9	1.7	10.7	0.2
Prop In Lane	0.69		0.15	0.61		0.35	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	154	0	0	140	0	0	5	0	1450	51	1512	1281
V/C Ratio(X)	0.08	0.00	0.00	0.44	0.00	0.00	0.42	0.00	0.34	0.60	0.44	0.01
Avail Cap(c_a), veh/h	347	0	0	334	0	0	98	0	1450	134	1512	1281
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	0.0	0.0	46.6	0.0	0.0	49.8	0.0	3.2	48.0	2.9	1.9
Incr Delay (d2), s/veh	0.2	0.0	0.0	2.2	0.0	0.0	48.5	0.0	0.6	10.8	0.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	1.6	0.0	0.0	0.1	0.0	1.9	0.9	2.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.3	0.0	0.0	48.8	0.0	0.0	98.3	0.0	3.9	58.8	3.8	1.9
LnGrp LOS	D			D			F		A	E	A	A
Approach Vol, veh/h		13			62			496			717	
Approach Delay, s/veh		45.3			48.8			4.3			6.1	
Approach LOS		D			D			A			A	

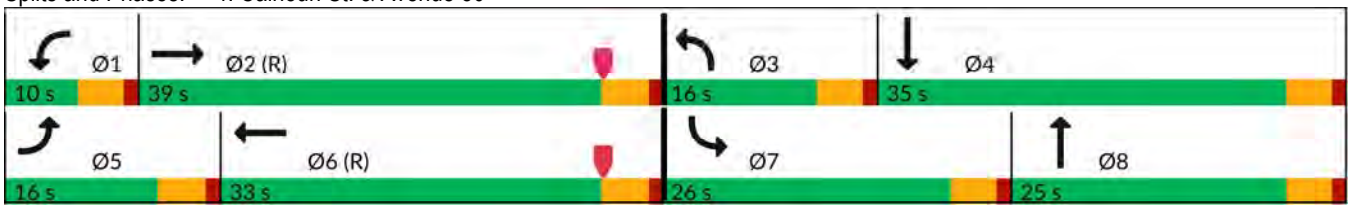
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	82.7		9.9	4.8	85.3		9.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	60.5		18.5	5.5	62.5		18.5				
Max Q Clear Time (g_c+I1), s	3.7	9.9		2.7	2.1	12.7		6.0				
Green Ext Time (p_c), s	0.0	3.1		0.0	0.0	4.8		0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	7.9	
HCM 7th LOS	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	439	45	10	331	148	58	226	69	170	295	72
Future Volume (vph)	63	439	45	10	331	148	58	226	69	170	295	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	115		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		2636			2238			1460			368	
Travel Time (s)		35.9			30.5			22.1			5.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	16.0	39.0		10.0	33.0		16.0	25.0		26.0	35.0	
Total Split (%)	16.0%	39.0%		10.0%	33.0%		16.0%	25.0%		26.0%	35.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	

Splits and Phases: 4: Calhoun St. & Avenue 50



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	439	45	10	331	148	58	226	69	170	295	72
Future Volume (veh/h)	63	439	45	10	331	148	58	226	69	170	295	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	457	47	10	345	154	60	235	72	177	307	75
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	1494	153	22	1018	446	78	618	185	212	866	208
Arrive On Green	0.05	0.46	0.46	0.01	0.42	0.42	0.04	0.23	0.23	0.12	0.31	0.31
Sat Flow, veh/h	1781	3254	333	1781	2404	1054	1781	2696	806	1781	2841	683
Grp Volume(v), veh/h	66	249	255	10	253	246	60	153	154	177	190	192
Grp Sat Flow(s),veh/h/ln	1781	1777	1810	1781	1777	1681	1781	1777	1725	1781	1777	1747
Q Serve(g_s), s	3.7	8.8	8.9	0.6	9.6	9.9	3.3	7.3	7.6	9.7	8.3	8.6
Cycle Q Clear(g_c), s	3.7	8.8	8.9	0.6	9.6	9.9	3.3	7.3	7.6	9.7	8.3	8.6
Prop In Lane	1.00		0.18	1.00		0.63	1.00		0.47	1.00		0.39
Lane Grp Cap(c), veh/h	85	816	831	22	752	712	78	407	396	212	542	533
V/C Ratio(X)	0.77	0.30	0.31	0.46	0.34	0.35	0.77	0.38	0.39	0.83	0.35	0.36
Avail Cap(c_a), veh/h	205	816	831	98	752	712	205	407	396	383	542	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	17.0	17.0	49.1	19.4	19.5	47.3	32.5	32.6	43.1	27.0	27.1
Incr Delay (d2), s/veh	13.6	1.0	1.0	14.6	1.2	1.3	14.8	2.6	2.9	8.2	1.8	1.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.5	3.6	0.3	3.9	3.8	1.7	3.3	3.3	4.6	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.7	18.0	18.0	63.7	20.6	20.8	62.2	35.1	35.5	51.3	28.8	29.0
LnGrp LOS	E	B	B	E	C	C	E	D	D	D	C	C
Approach Vol, veh/h		570			509			367			559	
Approach Delay, s/veh		22.9			21.5			39.7			36.0	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	50.4	8.9	35.0	9.3	46.8	16.4	27.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	34.5	11.5	30.5	11.5	28.5	21.5	20.5
Max Q Clear Time (g_c+I1), s	2.6	10.9	5.3	10.6	5.7	11.9	11.7	9.6
Green Ext Time (p_c), s	0.0	2.6	0.0	1.9	0.0	2.4	0.3	1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	29.3
HCM 7th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	2	23	7	2	16	21	481	10	25	637	76
Future Volume (vph)	67	2	23	7	2	16	21	481	10	25	637	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		50	0		0	100		150	100		205
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		590			2033			968			636	
Travel Time (s)		13.4			46.2			13.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	35
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	2	23	7	2	16	21	481	10	25	637	76
Future Vol, veh/h	67	2	23	7	2	16	21	481	10	25	637	76
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	2	24	7	2	17	22	501	10	26	664	79
Number of Lanes	0	1	1	0	1	0	1	1	0	1	2	0

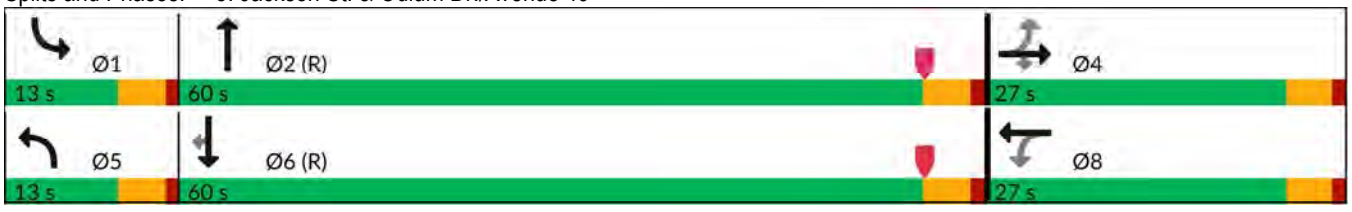
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	2
HCM Control Delay, s/veh	12.9	11.7	54.8	24.9
HCM LOS	B	B	F	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	97%	0%	28%	100%	0%	0%
Vol Thru, %	0%	98%	3%	0%	8%	0%	100%	74%
Vol Right, %	0%	2%	0%	100%	64%	0%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	491	69	23	25	25	425	288
LT Vol	21	0	67	0	7	25	0	0
Through Vol	0	481	2	0	2	0	425	212
RT Vol	0	10	0	23	16	0	0	76
Lane Flow Rate	22	511	72	24	26	26	442	300
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.044	0.964	0.179	0.052	0.061	0.051	0.807	0.532
Departure Headway (Hd)	7.303	6.784	8.985	7.769	8.491	7.075	6.568	6.381
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	487	532	402	464	424	502	549	559
Service Time	5.099	4.579	6.687	5.471	6.198	4.874	4.367	4.18
HCM Lane V/C Ratio	0.045	0.961	0.179	0.052	0.061	0.052	0.805	0.537
HCM Control Delay, s/veh	10.4	56.7	13.6	10.9	11.7	10.3	31.6	16.3
HCM Lane LOS	B	F	B	B	B	B	D	C
HCM 95th-tile Q	0.1	12.6	0.6	0.2	0.2	0.2	7.8	3.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	2	23	7	2	16	21	481	10	25	637	76
Future Volume (vph)	67	2	23	7	2	16	21	481	10	25	637	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		50	0		0	100		150	100		205
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		590			2033			968			636	
Travel Time (s)		13.4			46.2			13.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		9.5	22.5		9.5	22.5	22.5
Total Split (s)	27.0	27.0	27.0	27.0	27.0		13.0	60.0		13.0	60.0	60.0
Total Split (%)	27.0%	27.0%	27.0%	27.0%	27.0%		13.0%	60.0%		13.0%	60.0%	60.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 5: Jackson St. & Odlum Dr./Avenue 49



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	2	23	7	2	16	21	481	10	25	637	76
Future Volume (veh/h)	67	2	23	7	2	16	21	481	10	25	637	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	2	24	7	2	17	22	501	10	26	664	79
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	168	3	106	54	19	53	41	1411	28	46	2754	1228
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.07	0.02	0.77	0.77	0.03	0.78	0.78
Sat Flow, veh/h	1441	41	1585	128	290	790	1781	1827	36	1781	3554	1585
Grp Volume(v), veh/h	72	0	24	26	0	0	22	0	511	26	664	79
Grp Sat Flow(s),veh/h/ln	1482	0	1585	1208	0	0	1781	0	1864	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	1.4	0.0	0.0	0.0	1.2	0.0	8.6	1.4	5.2	1.2
Cycle Q Clear(g_c), s	4.7	0.0	1.4	4.7	0.0	0.0	1.2	0.0	8.6	1.4	5.2	1.2
Prop In Lane	0.97		1.00	0.27		0.65	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	170	0	106	127	0	0	41	0	1439	46	2754	1228
V/C Ratio(X)	0.42	0.00	0.23	0.21	0.00	0.00	0.54	0.00	0.36	0.57	0.24	0.06
Avail Cap(c_a), veh/h	392	0	357	370	0	0	151	0	1439	151	2754	1228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	0.0	44.2	44.2	0.0	0.0	48.3	0.0	3.6	48.2	3.1	2.7
Incr Delay (d2), s/veh	1.7	0.0	1.1	0.8	0.0	0.0	10.7	0.0	0.7	10.6	0.2	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.6	0.6	0.0	0.0	0.6	0.0	2.1	0.7	1.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.3	0.0	45.2	45.0	0.0	0.0	59.0	0.0	4.3	58.7	3.3	2.8
LnGrp LOS	D		D	D			E		A	E	A	A
Approach Vol, veh/h		96			26			533			769	
Approach Delay, s/veh		46.8			45.0			6.5			5.1	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	81.7		11.2	6.8	82.0		11.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	55.5		22.5	8.5	55.5		22.5				
Max Q Clear Time (g_c+I1), s	3.4	10.6		6.7	3.2	7.2		6.7				
Green Ext Time (p_c), s	0.0	3.1		0.3	0.0	4.7		0.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	9.2
HCM 7th LOS	A



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	28	47	432	611	62
Future Volume (vph)	38	28	47	432	611	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			45	45	
Link Distance (ft)	293			1762	680	
Travel Time (s)	6.7			26.7	10.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	28	47	432	611	62
Future Vol, veh/h	38	28	47	432	611	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	29	49	455	643	65

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1229	676	708	0	-	0
Stage 1	676	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	196	454	890	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	576	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	185	454	890	-	-	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	576	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	25.13	0.91	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	890	-	247	-	-
HCM Lane V/C Ratio	0.056	-	0.281	-	-
HCM Control Delay (s/veh)	9.3	-	25.1	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.2	-	1.1	-	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2	31	16	2	19	9
Future Volume (vph)	2	31	16	2	19	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	2033			636	356	
Travel Time (s)	46.2			14.5	8.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	31	16	2	19	9
Future Vol, veh/h	2	31	16	2	19	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	33	17	2	20	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	35	0	54	18
Stage 1	-	-	-	-	18	-
Stage 2	-	-	-	-	36	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1577	-	954	1060
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1577	-	944	1060
Mov Cap-2 Maneuver	-	-	-	-	944	-
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	976	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	6.5	8.79
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	978	-	-	1575	-
HCM Lane V/C Ratio	0.03	-	-	0.011	-
HCM Control Delay (s/veh)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

APPENDIX 6.1: EAPC (2026) CONDITIONS

INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	229	69	29	357	89	260	623	89	83	298	148
Future Volume (vph)	83	229	69	29	357	89	260	623	89	83	298	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	105		0	100		0	100		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	90			60			90			90		
Link Speed (mph)		40			40			45			40	
Link Distance (ft)		2582			982			2694			905	
Travel Time (s)		44.0			16.7			40.8			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	189.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	229	69	29	357	89	260	623	89	83	298	148
Future Vol, veh/h	83	229	69	29	357	89	260	623	89	83	298	148
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	88	244	73	31	380	95	277	663	95	88	317	157
Number of Lanes	1	1	1	1	1	0	1	1	1	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	3
HCM Control Delay, s/veh	38.3	235.1	308.9	39.5
HCM LOS	E	F	F	E

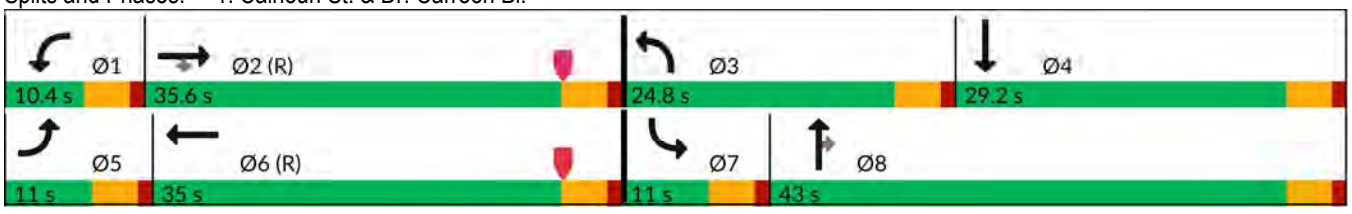
Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	80%	0%	100%	40%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	20%	0%	0%	60%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	260	623	89	83	229	69	29	446	83	199	247
LT Vol	260	0	0	83	0	0	29	0	83	0	0
Through Vol	0	623	0	0	229	0	0	357	0	199	99
RT Vol	0	0	89	0	0	69	0	89	0	0	148
Lane Flow Rate	277	663	95	88	244	73	31	474	88	211	263
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.843	1.93	0.258	0.292	0.774	0.219	0.099	1.447	0.282	0.645	0.773
Departure Headway (Hd)	12.223	11.697	10.96	13.812	13.289	12.555	12.663	12.023	13.546	13.017	12.573
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	299	318	329	262	275	288	285	308	267	279	289
Service Time	9.923	9.397	8.66	11.512	10.989	10.255	10.363	9.723	11.246	10.717	10.273
HCM Lane V/C Ratio	0.926	2.085	0.289	0.336	0.887	0.253	0.109	1.539	0.33	0.756	0.91
HCM Control Delay, s/veh	56.3	455.9	17.4	22.1	50.1	18.7	16.7	249.3	21.5	36.6	47.8
HCM Lane LOS	F	F	C	C	F	C	C	F	C	E	E
HCM 95th-tile Q	7.2	41.2	1	1.2	5.8	0.8	0.3	23.6	1.1	4.1	5.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	229	69	29	357	89	260	623	89	83	298	148
Future Volume (vph)	83	229	69	29	357	89	260	623	89	83	298	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	105		0	100		0	100		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	90			60			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			40			45			40	
Link Distance (ft)		2582			982			2694			905	
Travel Time (s)		44.0			16.7			40.8			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Detector Phase	5	2	2	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5	9.5	22.5	
Total Split (s)	11.0	35.6	35.6	10.4	35.0		24.8	43.0	43.0	11.0	29.2	
Total Split (%)	11.0%	35.6%	35.6%	10.4%	35.0%		24.8%	43.0%	43.0%	11.0%	29.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	Max	Max	None	Max	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Calhoun St. & Dr. Carreon Bl.



HCM 7th Signalized Intersection Summary
1: Calhoun St. & Dr. Carreon Bl.

EAPC (2026) AM Peak H
WITH IMPROVEMENTS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	229	69	29	357	89	260	623	89	83	298	148
Future Volume (veh/h)	83	229	69	29	357	89	260	623	89	83	298	148
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	244	73	31	380	95	277	663	95	88	317	157
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	642	544	51	447	112	311	720	610	112	634	307
Arrive On Green	0.06	0.34	0.34	0.03	0.31	0.31	0.17	0.38	0.38	0.06	0.27	0.27
Sat Flow, veh/h	1781	1870	1585	1781	1444	361	1781	1870	1585	1781	2321	1124
Grp Volume(v), veh/h	88	244	73	31	0	475	277	663	95	88	241	233
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1805	1781	1870	1585	1781	1777	1668
Q Serve(g_s), s	4.9	9.9	3.2	1.7	0.0	24.7	15.2	33.8	3.9	4.9	11.4	11.8
Cycle Q Clear(g_c), s	4.9	9.9	3.2	1.7	0.0	24.7	15.2	33.8	3.9	4.9	11.4	11.8
Prop In Lane	1.00		1.00	1.00		0.20	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	112	642	544	51	0	559	311	720	610	112	486	456
V/C Ratio(X)	0.79	0.38	0.13	0.60	0.00	0.85	0.89	0.92	0.16	0.79	0.50	0.51
Avail Cap(c_a), veh/h	116	642	544	105	0	559	362	720	610	116	486	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.75	0.75	0.75	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	24.8	22.6	48.0	0.0	32.4	40.4	29.3	20.1	46.2	30.5	30.7
Incr Delay (d2), s/veh	28.6	1.7	0.5	10.8	0.0	15.0	16.8	15.3	0.4	28.6	3.6	4.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.5	1.2	0.9	0.0	12.5	7.8	16.9	1.4	3.0	5.2	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	74.8	26.5	23.1	58.8	0.0	47.3	57.2	44.5	20.5	74.8	34.1	34.7
LnGrp LOS	E	C	C	E		D	E	D	C	E	C	C
Approach Vol, veh/h		405			506			1035			562	
Approach Delay, s/veh		36.4			48.0			45.7			40.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	38.8	21.9	31.8	10.8	35.5	10.8	43.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.9	31.1	20.3	24.7	6.5	30.5	6.5	38.5
Max Q Clear Time (g_c+I1), s	3.7	11.9	17.2	13.8	6.9	26.7	6.9	35.8
Green Ext Time (p_c), s	0.0	1.4	0.2	2.0	0.0	1.0	0.0	1.2

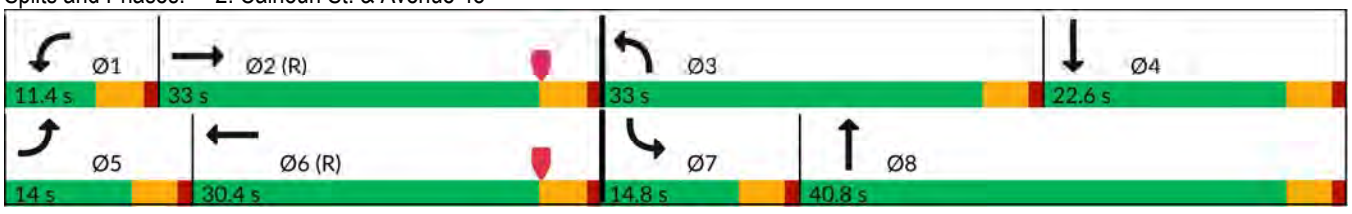
Intersection Summary	
HCM 7th Control Delay, s/veh	43.6
HCM 7th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	445	115	38	662	104	282	641	83	69	264	70
Future Volume (vph)	68	445	115	38	662	104	282	641	83	69	264	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	110		0	105		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		1021			1428			2333			2694	
Travel Time (s)		13.9			19.5			35.3			40.8	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	14.0	33.0		11.4	30.4		33.0	40.8		14.8	22.6	
Total Split (%)	14.0%	33.0%		11.4%	30.4%		33.0%	40.8%		14.8%	22.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 2: Calhoun St. & Avenue 48



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	445	115	38	662	104	282	641	83	69	264	70
Future Volume (veh/h)	68	445	115	38	662	104	282	641	83	69	264	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	536	139	46	798	125	340	772	100	83	318	84
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	1467	371	64	1507	234	378	1148	149	107	588	153
Arrive On Green	0.06	0.36	0.36	0.04	0.34	0.34	0.21	0.36	0.36	0.06	0.21	0.21
Sat Flow, veh/h	1781	4061	1028	1781	4456	693	1781	3164	410	1781	2791	726
Grp Volume(v), veh/h	82	447	228	46	608	315	340	433	439	83	201	201
Grp Sat Flow(s),veh/h/ln	1781	1702	1685	1781	1702	1746	1781	1777	1797	1781	1777	1740
Q Serve(g_s), s	4.5	9.7	10.0	2.6	14.4	14.6	18.6	20.6	20.6	4.6	10.1	10.3
Cycle Q Clear(g_c), s	4.5	9.7	10.0	2.6	14.4	14.6	18.6	20.6	20.6	4.6	10.1	10.3
Prop In Lane	1.00		0.61	1.00		0.40	1.00		0.23	1.00		0.42
Lane Grp Cap(c), veh/h	105	1229	609	64	1151	590	378	645	652	107	374	366
V/C Ratio(X)	0.78	0.36	0.37	0.72	0.53	0.53	0.90	0.67	0.67	0.78	0.54	0.55
Avail Cap(c_a), veh/h	169	1229	609	123	1151	590	508	645	652	183	374	366
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.4	23.5	23.6	47.7	26.7	26.7	38.4	26.8	26.8	46.4	35.1	35.2
Incr Delay (d2), s/veh	11.7	0.8	1.8	13.8	1.7	3.4	15.4	5.5	5.5	11.6	5.4	5.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	3.7	4.0	1.3	5.7	6.2	9.3	9.1	9.2	2.3	4.7	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.1	24.3	25.4	61.5	28.4	30.1	53.7	32.3	32.3	57.9	40.5	41.1
LnGrp LOS	E	C	C	E	C	C	D	C	C	E	D	D
Approach Vol, veh/h		757			969			1212			485	
Approach Delay, s/veh		28.3			30.5			38.3			43.7	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	40.6	25.7	25.6	10.4	38.3	10.5	40.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.9	28.5	28.5	18.1	9.5	25.9	10.3	36.3
Max Q Clear Time (g_c+I1), s	4.6	12.0	20.6	12.3	6.5	16.6	6.6	22.6
Green Ext Time (p_c), s	0.0	3.5	0.6	1.0	0.0	3.7	0.0	4.3

Intersection Summary	
HCM 7th Control Delay, s/veh	34.7
HCM 7th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	2	2	52	2	38	2	799	30	15	442	5
Future Volume (vph)	14	2	2	52	2	38	2	799	30	15	442	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	60			60			90			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		636			1354			680			287	
Travel Time (s)		14.5			30.8			10.3			4.3	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	211.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	2	2	52	2	38	2	799	30	15	442	5
Future Vol, veh/h	14	2	2	52	2	38	2	799	30	15	442	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	2	2	60	2	44	2	929	35	17	514	6
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	1

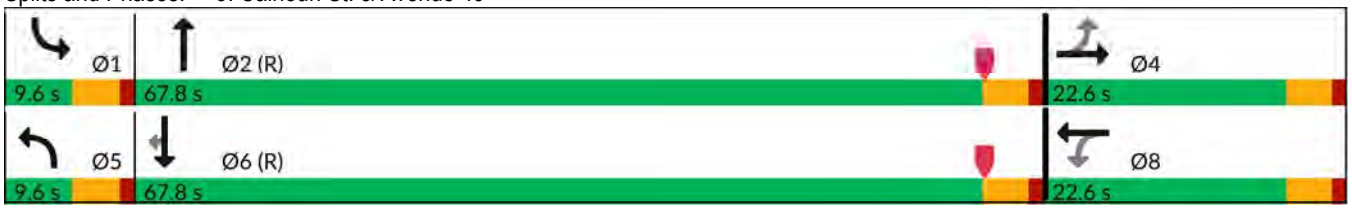
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay, s/veh	12.6	13.7	338.9	29.4
HCM LOS	B	B	F	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	78%	57%	100%	0%	0%
Vol Thru, %	0%	96%	11%	2%	0%	100%	0%
Vol Right, %	0%	4%	11%	41%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	829	18	92	15	442	5
LT Vol	2	0	14	52	15	0	0
Through Vol	0	799	2	2	0	442	0
RT Vol	0	30	2	38	0	0	5
Lane Flow Rate	2	964	21	107	17	514	6
Geometry Grp	6	6	5	5	5	5	5
Degree of Util (X)	0.004	1.702	0.047	0.22	0.03	0.808	0.008
Departure Headway (Hd)	6.886	6.355	9.408	8.606	6.809	6.299	5.585
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	523	578	383	420	529	581	645
Service Time	4.586	4.055	7.108	6.306	4.509	3.999	3.285
HCM Lane V/C Ratio	0.004	1.668	0.055	0.255	0.032	0.885	0.009
HCM Control Delay, s/veh	9.6	339.7	12.6	13.7	9.7	30.3	8.3
HCM Lane LOS	A	F	B	B	A	D	A
HCM 95th-tile Q	0	56.1	0.1	0.8	0.1	8	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	2	2	52	2	38	2	799	30	15	442	5
Future Volume (vph)	14	2	2	52	2	38	2	799	30	15	442	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	60			60			90			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		636			1354			680			287	
Travel Time (s)		14.5			30.8			10.3			4.3	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	22.5
Total Split (s)	22.6	22.6		22.6	22.6		9.6	67.8		9.6	67.8	67.8
Total Split (%)	22.6%	22.6%		22.6%	22.6%		9.6%	67.8%		9.6%	67.8%	67.8%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	C-Min

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 72.9 (73%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Calhoun St. & Avenue 49



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	2	2	52	2	38	2	799	30	15	442	5
Future Volume (veh/h)	14	2	2	52	2	38	2	799	30	15	442	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	2	2	60	2	44	2	929	35	17	514	6
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	20	13	125	9	56	5	1358	51	34	1448	1227
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.00	0.76	0.76	0.02	0.77	0.77
Sat Flow, veh/h	1093	231	147	785	106	632	1781	1791	67	1781	1870	1585
Grp Volume(v), veh/h	20	0	0	106	0	0	2	0	964	17	514	6
Grp Sat Flow(s),veh/h/ln	1470	0	0	1523	0	0	1781	0	1858	1781	1870	1585
Q Serve(g_s), s	0.0	0.0	0.0	5.6	0.0	0.0	0.1	0.0	26.1	0.9	8.5	0.1
Cycle Q Clear(g_c), s	1.1	0.0	0.0	6.8	0.0	0.0	0.1	0.0	26.1	0.9	8.5	0.1
Prop In Lane	0.80		0.10	0.57		0.42	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	194	0	0	190	0	0	5	0	1409	34	1448	1227
V/C Ratio(X)	0.10	0.00	0.00	0.56	0.00	0.00	0.42	0.00	0.68	0.51	0.35	0.00
Avail Cap(c_a), veh/h	326	0	0	329	0	0	91	0	1409	91	1448	1227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.1	0.0	0.0	44.6	0.0	0.0	49.8	0.0	6.1	48.6	3.5	2.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	2.5	0.0	0.0	48.5	0.0	2.7	11.4	0.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	2.7	0.0	0.0	0.1	0.0	7.4	0.5	2.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.3	0.0	0.0	47.1	0.0	0.0	98.3	0.0	8.8	60.0	4.2	2.6
LnGrp LOS	D			D			F		A	E	A	A
Approach Vol, veh/h		20			106			966			537	
Approach Delay, s/veh		42.3			47.1			9.0			5.9	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	80.3		13.3	4.8	81.9		13.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	63.3		18.1	5.1	63.3		18.1				
Max Q Clear Time (g_c+I1), s	2.9	28.1		3.1	2.1	10.5		8.8				
Green Ext Time (p_c), s	0.0	8.5		0.0	0.0	3.3		0.3				

Intersection Summary			
HCM 7th Control Delay, s/veh		10.9	
HCM 7th LOS		B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	242	29	30	502	224	113	397	163	154	284	101
Future Volume (vph)	46	242	29	30	502	224	113	397	163	154	284	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	115		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		2636			2238			1460			368	
Travel Time (s)		35.9			30.5			22.1			5.6	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	12.0	40.0		11.0	39.0		19.8	28.0		21.0	29.2	
Total Split (%)	12.0%	40.0%		11.0%	39.0%		19.8%	28.0%		21.0%	29.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

Splits and Phases: 4: Calhoun St. & Avenue 50



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	242	29	30	502	224	113	397	163	154	284	101
Future Volume (veh/h)	46	242	29	30	502	224	113	397	163	154	284	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	288	35	36	598	267	135	473	194	183	338	120
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1379	166	56	1012	452	167	579	236	217	680	237
Arrive On Green	0.04	0.43	0.43	0.03	0.42	0.42	0.09	0.24	0.24	0.12	0.26	0.26
Sat Flow, veh/h	1781	3193	385	1781	2389	1066	1781	2463	1003	1781	2583	902
Grp Volume(v), veh/h	55	159	164	36	445	420	135	340	327	183	231	227
Grp Sat Flow(s),veh/h/ln	1781	1777	1801	1781	1777	1679	1781	1777	1690	1781	1777	1708
Q Serve(g_s), s	3.1	5.6	5.7	2.0	19.2	19.3	7.4	18.1	18.3	10.1	11.0	11.3
Cycle Q Clear(g_c), s	3.1	5.6	5.7	2.0	19.2	19.3	7.4	18.1	18.3	10.1	11.0	11.3
Prop In Lane	1.00		0.21	1.00		0.64	1.00		0.59	1.00		0.53
Lane Grp Cap(c), veh/h	71	767	778	56	753	711	167	418	397	217	467	449
V/C Ratio(X)	0.78	0.21	0.21	0.64	0.59	0.59	0.81	0.81	0.82	0.84	0.49	0.51
Avail Cap(c_a), veh/h	134	767	778	116	753	711	273	418	397	294	467	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	17.7	17.8	47.9	22.2	22.2	44.5	36.2	36.3	43.0	31.2	31.3
Incr Delay (d2), s/veh	16.4	0.6	0.6	11.4	3.4	3.6	9.0	15.9	17.3	15.2	3.7	4.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.2	2.3	1.0	8.0	7.6	3.6	9.3	9.1	5.2	5.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	64.0	18.3	18.4	59.3	25.5	25.8	53.5	52.1	53.6	58.2	34.9	35.3
LnGrp LOS	E	B	B	E	C	C	D	D	D	E	C	D
Approach Vol, veh/h		378			901			802			641	
Approach Delay, s/veh		25.0			27.0			52.9			41.7	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	47.7	13.9	30.8	8.5	46.9	16.7	28.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	35.5	15.3	24.7	7.5	34.5	16.5	23.5
Max Q Clear Time (g_c+I1), s	4.0	7.7	9.4	13.3	5.1	21.3	12.1	20.3
Green Ext Time (p_c), s	0.0	1.6	0.1	1.9	0.0	4.1	0.2	1.2

Intersection Summary	
HCM 7th Control Delay, s/veh	37.8
HCM 7th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	2	33	14	2	64	7	594	6	24	547	27
Future Volume (vph)	93	2	33	14	2	64	7	594	6	24	547	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		50	0		0	100		150	100		205
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		590			2033			968			636	
Travel Time (s)		13.4			46.2			13.2			8.7	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	100
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	93	2	33	14	2	64	7	594	6	24	547	27
Future Vol, veh/h	93	2	33	14	2	64	7	594	6	24	547	27
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	104	2	37	16	2	72	8	667	7	27	615	30
Number of Lanes	0	1	1	0	1	0	1	1	0	1	2	0

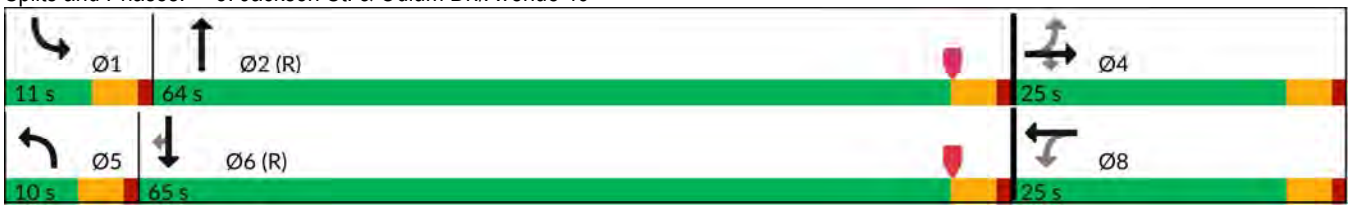
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	2
HCM Control Delay, s/veh	15.2	14.3	199.6	28.6
HCM LOS	C	B	F	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	98%	0%	18%	100%	0%	0%
Vol Thru, %	0%	99%	2%	0%	2%	0%	100%	87%
Vol Right, %	0%	1%	0%	100%	80%	0%	0%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	600	95	33	80	24	365	209
LT Vol	7	0	93	0	14	24	0	0
Through Vol	0	594	2	0	2	0	365	182
RT Vol	0	6	0	33	64	0	0	27
Lane Flow Rate	8	674	107	37	90	27	410	235
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.017	1.373	0.269	0.081	0.209	0.057	0.812	0.46
Departure Headway (Hd)	7.847	7.33	9.972	8.735	9.219	8.367	7.855	7.762
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	454	499	363	413	392	431	463	468
Service Time	5.624	5.107	7.672	6.435	6.919	6.067	5.555	5.462
HCM Lane V/C Ratio	0.018	1.351	0.295	0.09	0.23	0.063	0.886	0.502
HCM Control Delay, s/veh	10.8	201.8	16.3	12.2	14.3	11.6	36.5	16.9
HCM Lane LOS	B	F	C	B	B	B	E	C
HCM 95th-tile Q	0.1	30.8	1.1	0.3	0.8	0.2	7.6	2.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	2	33	14	2	64	7	594	6	24	547	27
Future Volume (vph)	93	2	33	14	2	64	7	594	6	24	547	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		50	0		0	100		150	100		205
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		590			2033			968			636	
Travel Time (s)		13.4			46.2			13.2			8.7	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		9.5	22.5		9.5	22.5	22.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	64.0		11.0	65.0	65.0
Total Split (%)	25.0%	25.0%	25.0%	25.0%	25.0%		10.0%	64.0%		11.0%	65.0%	65.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	

Splits and Phases: 5: Jackson St. & Odlum Dr./Avenue 49



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	2	33	14	2	64	7	594	6	24	547	27
Future Volume (veh/h)	93	2	33	14	2	64	7	594	6	24	547	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	2	37	16	2	72	8	667	7	27	615	30
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	3	325	42	26	105	18	1171	12	47	2310	1030
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.01	0.63	0.63	0.03	0.65	0.65
Sat Flow, veh/h	492	13	1585	0	128	511	1781	1847	19	1781	3554	1585
Grp Volume(v), veh/h	106	0	37	90	0	0	8	0	674	27	615	30
Grp Sat Flow(s),veh/h/ln	505	0	1585	639	0	0	1781	0	1867	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	1.9	0.0	0.0	0.0	0.4	0.0	20.7	1.5	7.3	0.7
Cycle Q Clear(g_c), s	20.5	0.0	1.9	20.5	0.0	0.0	0.4	0.0	20.7	1.5	7.3	0.7
Prop In Lane	0.98		1.00	0.18		0.80	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	175	0	325	173	0	0	18	0	1183	47	2310	1030
V/C Ratio(X)	0.61	0.00	0.11	0.52	0.00	0.00	0.45	0.00	0.57	0.57	0.27	0.03
Avail Cap(c_a), veh/h	175	0	325	173	0	0	98	0	1183	116	2310	1030
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	0.0	32.4	34.2	0.0	0.0	49.2	0.0	10.5	48.1	7.4	6.2
Incr Delay (d2), s/veh	5.9	0.0	0.2	2.7	0.0	0.0	16.8	0.0	2.0	10.6	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.7	2.0	0.0	0.0	0.3	0.0	7.4	0.8	2.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.8	0.0	32.5	37.0	0.0	0.0	66.1	0.0	12.5	58.7	7.7	6.3
LnGrp LOS	D		C	D			E		B	E	A	A
Approach Vol, veh/h		143			90			682			672	
Approach Delay, s/veh		42.4			37.0			13.1			9.7	
Approach LOS		D			D			B			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	67.9		25.0	5.5	69.5		25.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.5	59.5		20.5	5.5	60.5		20.5				
Max Q Clear Time (g_c+I1), s	3.5	22.7		22.5	2.4	9.3		22.5				
Green Ext Time (p_c), s	0.0	4.5		0.0	0.0	4.2		0.0				

Intersection Summary			
HCM 7th Control Delay, s/veh		15.7	
HCM 7th LOS		B	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	56	42	16	773	473	21
Future Volume (vph)	56	42	16	773	473	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			45	45	
Link Distance (ft)	293			1762	680	
Travel Time (s)	6.7			26.7	10.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

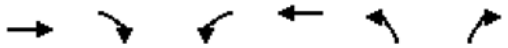
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	56	42	16	773	473	21
Future Vol, veh/h	56	42	16	773	473	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	44	17	814	498	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1356	509	520	0	-	0
Stage 1	509	-	-	-	-	-
Stage 2	847	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	164	564	1046	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	162	564	1046	-	-	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	594	-	-	-	-	-
Stage 2	420	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	32.17	0.17	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1046	-	233	-	-
HCM Lane V/C Ratio	0.016	-	0.443	-	-
HCM Control Delay (s/veh)	8.5	-	32.2	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	2.1	-	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2	10	5	2	28	14
Future Volume (vph)	2	10	5	2	28	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	2033			636	356	
Travel Time (s)	46.2			14.5	8.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	6.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	10	5	2	28	14
Future Vol, veh/h	2	10	5	2	28	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	11	5	2	29	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	13	0	20	7
Stage 1	-	-	-	-	7	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1606	-	997	1075
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	1010	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1606	-	994	1075
Mov Cap-2 Maneuver	-	-	-	-	994	-
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	1007	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	5.18	8.69
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1019	-	-	1286	-
HCM Lane V/C Ratio	0.043	-	-	0.003	-
HCM Control Delay (s/veh)	8.7	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	256	155	29	188	70	91	320	28	63	625	88
Future Volume (vph)	49	256	155	29	188	70	91	320	28	63	625	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	105		0	100		0	100		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	90			60			90			90		
Link Speed (mph)		40			40			45			40	
Link Distance (ft)		2582			982			2694			905	
Travel Time (s)		44.0			16.7			40.8			15.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	83.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	256	155	29	188	70	91	320	28	63	625	88
Future Vol, veh/h	49	256	155	29	188	70	91	320	28	63	625	88
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	275	167	31	202	75	98	344	30	68	672	95
Number of Lanes	1	1	1	1	1	0	1	1	1	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	3
HCM Control Delay, s/veh	39.3	51.8	77.6	124.1
HCM LOS	E	F	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	0%	73%	0%	100%	70%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	27%	0%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	91	320	28	49	256	155	29	258	63	417	296
LT Vol	91	0	0	49	0	0	29	0	63	0	0
Through Vol	0	320	0	0	256	0	0	188	0	417	208
RT Vol	0	0	28	0	0	155	0	70	0	0	88
Lane Flow Rate	98	344	30	53	275	167	31	277	68	448	319
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.311	1.048	0.086	0.168	0.84	0.477	0.102	0.859	0.206	1.301	0.907
Departure Headway (Hd)	12.046	11.525	10.795	12.054	11.537	10.813	12.047	11.357	11.212	10.691	10.474
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	300	317	334	299	317	335	299	322	322	345	347
Service Time	9.746	9.225	8.495	9.754	9.237	8.513	9.747	9.057	8.912	8.391	8.174
HCM Lane V/C Ratio	0.327	1.085	0.09	0.177	0.868	0.499	0.104	0.86	0.211	1.299	0.919
HCM Control Delay, s/veh	20.1	99.5	14.5	17.2	53.4	23	16.1	55.8	16.8	185.3	60.9
HCM Lane LOS	C	F	B	C	F	C	C	F	C	F	F
HCM 95th-tile Q	1.3	12.1	0.3	0.6	7.3	2.5	0.3	7.7	0.8	20.6	9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	256	155	29	188	70	91	320	28	63	625	88
Future Volume (vph)	49	256	155	29	188	70	91	320	28	63	625	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	105		0	100		0	100		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	90			60			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			40			45			40	
Link Distance (ft)		2582			982			2694			905	
Travel Time (s)		44.0			16.7			40.8			15.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Detector Phase	5	2	2	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5	22.5	9.5	22.5	
Total Split (s)	12.0	36.0	36.0	11.0	35.0		17.0	39.0	39.0	14.0	36.0	
Total Split (%)	12.0%	36.0%	36.0%	11.0%	35.0%		17.0%	39.0%	39.0%	14.0%	36.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	Max	Max	None	Max	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 1: Calhoun St. & Dr. Carreon Bl.



HCM 7th Signalized Intersection Summary
1: Calhoun St. & Dr. Carreon Bl.

EAPC (2026) PM Peak H
WITH IMPROVEMENTS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	256	155	29	188	70	91	320	28	63	625	88
Future Volume (veh/h)	49	256	155	29	188	70	91	320	28	63	625	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	275	167	31	202	75	98	344	30	68	672	95
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	742	629	51	504	187	125	645	547	88	1014	143
Arrive On Green	0.04	0.40	0.40	0.03	0.39	0.39	0.07	0.34	0.34	0.05	0.32	0.32
Sat Flow, veh/h	1781	1870	1585	1781	1301	483	1781	1870	1585	1781	3126	441
Grp Volume(v), veh/h	53	275	167	31	0	277	98	344	30	68	382	385
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1783	1781	1870	1585	1781	1777	1791
Q Serve(g_s), s	2.9	10.4	7.1	1.7	0.0	11.3	5.4	14.8	1.3	3.8	18.5	18.5
Cycle Q Clear(g_c), s	2.9	10.4	7.1	1.7	0.0	11.3	5.4	14.8	1.3	3.8	18.5	18.5
Prop In Lane	1.00		1.00	1.00		0.27	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	69	742	629	51	0	691	125	645	547	88	576	581
V/C Ratio(X)	0.77	0.37	0.27	0.60	0.00	0.40	0.79	0.53	0.05	0.77	0.66	0.66
Avail Cap(c_a), veh/h	134	742	629	116	0	691	223	645	547	169	576	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	21.3	20.3	48.0	0.0	22.2	45.8	26.3	21.9	47.0	29.1	29.1
Incr Delay (d2), s/veh	16.5	1.4	1.0	10.8	0.0	1.7	9.9	3.0	0.2	13.4	5.9	5.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.6	2.6	0.9	0.0	4.8	2.7	6.7	0.5	2.0	8.4	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	64.2	22.7	21.4	58.8	0.0	24.0	55.6	29.3	22.0	60.4	35.0	35.0
LnGrp LOS	E	C	C	E		C	E	C	C	E	C	C
Approach Vol, veh/h		495			308			472			835	
Approach Delay, s/veh		26.7			27.5			34.3			37.0	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	44.2	11.5	36.9	8.4	43.2	9.4	39.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	31.5	12.5	31.5	7.5	30.5	9.5	34.5
Max Q Clear Time (g_c+I1), s	3.7	12.4	7.4	20.5	4.9	13.3	5.8	16.8
Green Ext Time (p_c), s	0.0	1.9	0.1	3.4	0.0	1.4	0.0	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	32.6
HCM 7th LOS	C

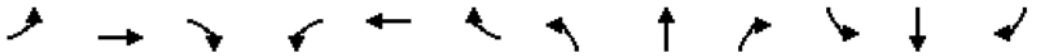
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	658	300	54	468	48	131	345	51	80	546	100
Future Volume (vph)	56	658	300	54	468	48	131	345	51	80	546	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	110		0	105		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		1021			1428			2333			2694	
Travel Time (s)		13.9			19.5			35.3			40.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	14.0	34.4		13.6	34.0		20.0	37.0		15.0	32.0	
Total Split (%)	14.0%	34.4%		13.6%	34.0%		20.0%	37.0%		15.0%	32.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: Calhoun St. & Avenue 48





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	658	300	54	468	48	131	345	51	80	546	100
Future Volume (veh/h)	56	658	300	54	468	48	131	345	51	80	546	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	678	309	56	482	49	135	356	53	82	563	103
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	1363	612	72	1857	186	167	1010	149	105	872	159
Arrive On Green	0.04	0.40	0.40	0.04	0.39	0.39	0.09	0.32	0.32	0.06	0.29	0.29
Sat Flow, veh/h	1781	3448	1547	1781	4716	473	1781	3106	459	1781	3001	547
Grp Volume(v), veh/h	58	669	318	56	346	185	135	202	207	82	333	333
Grp Sat Flow(s),veh/h/ln	1781	1702	1592	1781	1702	1785	1781	1777	1788	1781	1777	1772
Q Serve(g_s), s	3.2	14.8	15.1	3.1	6.9	7.0	7.4	8.7	8.8	4.5	16.3	16.4
Cycle Q Clear(g_c), s	3.2	14.8	15.1	3.1	6.9	7.0	7.4	8.7	8.8	4.5	16.3	16.4
Prop In Lane	1.00		0.97	1.00		0.26	1.00		0.26	1.00		0.31
Lane Grp Cap(c), veh/h	75	1346	629	72	1341	703	167	577	581	105	516	515
V/C Ratio(X)	0.77	0.50	0.51	0.78	0.26	0.26	0.81	0.35	0.36	0.78	0.64	0.65
Avail Cap(c_a), veh/h	169	1346	629	162	1341	703	276	577	581	187	516	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	22.8	22.8	47.5	20.5	20.5	44.5	25.7	25.8	46.4	31.0	31.0
Incr Delay (d2), s/veh	15.5	1.3	2.9	16.0	0.5	0.9	9.0	1.7	1.7	11.6	6.1	6.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.7	5.7	1.6	2.6	2.9	3.6	3.7	3.8	2.3	7.5	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.9	24.1	25.7	63.6	20.9	21.4	53.5	27.4	27.5	58.0	37.0	37.2
LnGrp LOS	E	C	C	E	C	C	D	C	C	E	D	D
Approach Vol, veh/h		1045			587			544			748	
Approach Delay, s/veh		26.7			25.1			33.9			39.4	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	44.0	13.9	33.6	8.7	43.9	10.4	37.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.1	29.9	15.5	27.5	9.5	29.5	10.5	32.5
Max Q Clear Time (g_c+I1), s	5.1	17.1	9.4	18.4	5.2	9.0	6.5	10.8
Green Ext Time (p_c), s	0.0	4.8	0.1	2.5	0.0	2.8	0.0	2.1

Intersection Summary	
HCM 7th Control Delay, s/veh	31.0
HCM 7th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	2	2	36	2	21	2	492	24	29	715	16
Future Volume (vph)	9	2	2	36	2	21	2	492	24	29	715	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	60			60			90			60		
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		636			1354			680			287	
Travel Time (s)		14.5			30.8			10.3			4.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	75.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	2	2	36	2	21	2	492	24	29	715	16
Future Vol, veh/h	9	2	2	36	2	21	2	492	24	29	715	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	2	2	38	2	22	2	518	25	31	753	17
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	1

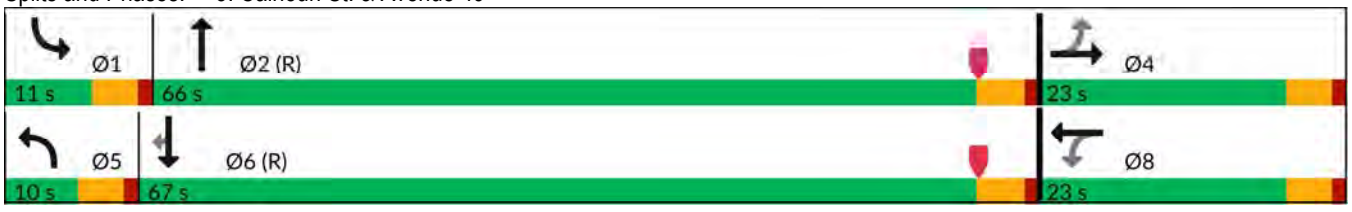
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	1
HCM Control Delay, s/veh	11.4	11.9	52.9	96.8
HCM LOS	B	B	F	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	69%	61%	100%	0%	0%
Vol Thru, %	0%	95%	15%	3%	0%	100%	0%
Vol Right, %	0%	5%	15%	36%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	516	13	59	29	715	16
LT Vol	2	0	9	36	29	0	0
Through Vol	0	492	2	2	0	715	0
RT Vol	0	24	2	21	0	0	16
Lane Flow Rate	2	543	14	62	31	753	17
Geometry Grp	6	6	5	5	5	5	5
Degree of Util (X)	0.004	0.953	0.031	0.132	0.051	1.143	0.022
Departure Headway (Hd)	7.162	6.625	8.424	8.001	5.973	5.467	4.76
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	503	554	427	451	602	670	755
Service Time	4.862	4.325	6.124	5.701	3.681	3.175	2.468
HCM Lane V/C Ratio	0.004	0.98	0.033	0.137	0.051	1.124	0.023
HCM Control Delay, s/veh	9.9	53.1	11.4	11.9	9	102.4	7.6
HCM Lane LOS	A	F	B	B	A	F	A
HCM 95th-tile Q	0	12.4	0.1	0.5	0.2	23.7	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	2	2	36	2	21	2	492	24	29	715	16
Future Volume (vph)	9	2	2	36	2	21	2	492	24	29	715	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		1
Taper Length (ft)	60			60			90			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		636			1354			680			287	
Travel Time (s)		14.5			30.8			10.3			4.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Detector Phase	4	4		8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	22.5
Total Split (s)	23.0	23.0		23.0	23.0		10.0	66.0		11.0	67.0	67.0
Total Split (%)	23.0%	23.0%		23.0%	23.0%		10.0%	66.0%		11.0%	67.0%	67.0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Calhoun St. & Avenue 49



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	2	2	36	2	21	2	492	24	29	715	16
Future Volume (veh/h)	9	2	2	36	2	21	2	492	24	29	715	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	2	2	38	2	22	2	518	25	31	753	17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	25	14	106	5	29	5	1384	67	51	1512	1281
Arrive On Green	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.78	0.78	0.03	0.81	0.81
Sat Flow, veh/h	993	464	265	890	91	540	1781	1770	85	1781	1870	1585
Grp Volume(v), veh/h	13	0	0	62	0	0	2	0	543	31	753	17
Grp Sat Flow(s),veh/h/ln	1723	0	0	1521	0	0	1781	0	1855	1781	1870	1585
Q Serve(g_s), s	0.0	0.0	0.0	3.3	0.0	0.0	0.1	0.0	9.0	1.7	12.9	0.2
Cycle Q Clear(g_c), s	0.7	0.0	0.0	4.0	0.0	0.0	0.1	0.0	9.0	1.7	12.9	0.2
Prop In Lane	0.69		0.15	0.61		0.35	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	154	0	0	140	0	0	5	0	1451	51	1512	1281
V/C Ratio(X)	0.08	0.00	0.00	0.44	0.00	0.00	0.42	0.00	0.37	0.60	0.50	0.01
Avail Cap(c_a), veh/h	347	0	0	334	0	0	98	0	1451	116	1512	1281
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	0.0	0.0	46.6	0.0	0.0	49.8	0.0	3.4	48.0	3.1	1.9
Incr Delay (d2), s/veh	0.2	0.0	0.0	2.2	0.0	0.0	48.5	0.0	0.7	10.8	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	1.6	0.0	0.0	0.1	0.0	2.2	0.9	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.3	0.0	0.0	48.8	0.0	0.0	98.3	0.0	4.1	58.8	4.2	1.9
LnGrp LOS	D			D			F		A	E	A	A
Approach Vol, veh/h		13			62			545			801	
Approach Delay, s/veh		45.3			48.8			4.4			6.3	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	82.7		9.9	4.8	85.3		9.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.5	61.5		18.5	5.5	62.5		18.5				
Max Q Clear Time (g_c+I1), s	3.7	11.0		2.7	2.1	14.9		6.0				
Green Ext Time (p_c), s	0.0	3.5		0.0	0.0	5.7		0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	7.8	
HCM 7th LOS	A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	501	59	10	371	176	66	244	69	218	326	72
Future Volume (vph)	63	501	59	10	371	176	66	244	69	218	326	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	115		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			45			45	
Link Distance (ft)		2636			2238			1460			368	
Travel Time (s)		35.9			30.5			22.1			5.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	15.0	37.0		10.0	32.0		15.0	24.0		29.0	38.0	
Total Split (%)	15.0%	37.0%		10.0%	32.0%		15.0%	24.0%		29.0%	38.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

Splits and Phases: 4: Calhoun St. & Avenue 50



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	501	59	10	371	176	66	244	69	218	326	72
Future Volume (veh/h)	63	501	59	10	371	176	66	244	69	218	326	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	522	61	10	386	183	69	254	72	227	340	75
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	1356	158	22	910	425	89	650	180	264	972	212
Arrive On Green	0.05	0.42	0.42	0.01	0.39	0.39	0.05	0.24	0.24	0.15	0.34	0.34
Sat Flow, veh/h	1781	3206	374	1781	2350	1099	1781	2747	762	1781	2901	632
Grp Volume(v), veh/h	66	289	294	10	290	279	69	162	164	227	207	208
Grp Sat Flow(s),veh/h/ln	1781	1777	1803	1781	1777	1673	1781	1777	1733	1781	1777	1757
Q Serve(g_s), s	3.7	11.2	11.3	0.6	12.0	12.2	3.8	7.7	8.0	12.4	8.7	9.0
Cycle Q Clear(g_c), s	3.7	11.2	11.3	0.6	12.0	12.2	3.8	7.7	8.0	12.4	8.7	9.0
Prop In Lane	1.00		0.21	1.00		0.66	1.00		0.44	1.00		0.36
Lane Grp Cap(c), veh/h	85	751	762	22	688	647	89	421	410	264	595	588
V/C Ratio(X)	0.77	0.38	0.39	0.46	0.42	0.43	0.77	0.39	0.40	0.86	0.35	0.35
Avail Cap(c_a), veh/h	187	751	762	98	688	647	187	421	410	436	595	588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	19.9	19.9	49.1	22.5	22.5	46.9	32.1	32.2	41.6	25.0	25.1
Incr Delay (d2), s/veh	13.7	1.5	1.5	14.6	1.9	2.1	13.2	2.7	2.9	9.0	1.6	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	4.5	4.6	0.3	5.0	4.8	2.0	3.5	3.5	5.9	3.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.8	21.4	21.4	63.7	24.4	24.6	60.1	34.7	35.1	50.6	26.6	26.8
LnGrp LOS	E	C	C	E	C	C	E	C	D	D	C	C
Approach Vol, veh/h		649			579			395			642	
Approach Delay, s/veh		25.4			25.2			39.3			35.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	46.8	9.5	38.0	9.3	43.2	19.3	28.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	32.5	10.5	33.5	10.5	27.5	24.5	19.5
Max Q Clear Time (g_c+I1), s	2.6	13.3	5.8	11.0	5.7	14.2	14.4	10.0
Green Ext Time (p_c), s	0.0	2.9	0.0	2.2	0.0	2.5	0.4	1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	30.5
HCM 7th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	2	23	10	2	43	21	502	15	71	673	76
Future Volume (vph)	67	2	23	10	2	43	21	502	15	71	673	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		50	0		0	100		150	100		205
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	60			60			60			60		
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		590			2033			968			636	
Travel Time (s)		13.4			46.2			13.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	47.9
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	2	23	10	2	43	21	502	15	71	673	76
Future Vol, veh/h	67	2	23	10	2	43	21	502	15	71	673	76
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	2	24	10	2	45	22	523	16	74	701	79
Number of Lanes	0	1	1	0	1	0	1	1	0	1	2	0

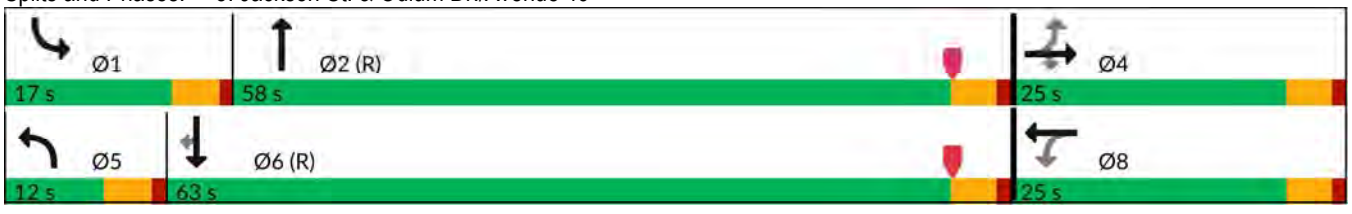
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	3	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	3	1	2
HCM Control Delay, s/veh	13.7	12.8	83.5	30.7
HCM LOS	B	B	F	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	97%	0%	18%	100%	0%	0%
Vol Thru, %	0%	97%	3%	0%	4%	0%	100%	75%
Vol Right, %	0%	3%	0%	100%	78%	0%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	517	69	23	55	71	449	300
LT Vol	21	0	67	0	10	71	0	0
Through Vol	0	502	2	0	2	0	449	224
RT Vol	0	15	0	23	43	0	0	76
Lane Flow Rate	22	539	72	24	57	74	467	313
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.047	1.069	0.183	0.053	0.134	0.15	0.881	0.574
Departure Headway (Hd)	7.671	7.144	9.533	8.31	8.737	7.508	6.999	6.819
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	464	506	379	434	413	481	523	532
Service Time	5.465	4.937	7.233	6.01	6.437	5.208	4.699	4.519
HCM Lane V/C Ratio	0.047	1.065	0.19	0.055	0.138	0.154	0.893	0.588
HCM Control Delay, s/veh	10.8	86.5	14.4	11.5	12.8	11.5	42	18.3
HCM Lane LOS	B	F	B	B	B	B	E	C
HCM 95th-tile Q	0.1	16.4	0.7	0.2	0.5	0.5	9.8	3.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	2	23	10	2	43	21	502	15	71	673	76
Future Volume (vph)	67	2	23	10	2	43	21	502	15	71	673	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		50	0		0	100		150	100		205
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	60			60			60			60		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		590			2033			968			636	
Travel Time (s)		13.4			46.2			13.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		9.5	22.5		9.5	22.5	22.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0		12.0	58.0		17.0	63.0	63.0
Total Split (%)	25.0%	25.0%	25.0%	25.0%	25.0%		12.0%	58.0%		17.0%	63.0%	63.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 5: Jackson St. & Odlum Dr./Avenue 49



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	2	23	10	2	43	21	502	15	71	673	76
Future Volume (veh/h)	67	2	23	10	2	43	21	502	15	71	673	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	2	24	10	2	45	22	523	16	74	701	79
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	168	3	123	48	13	69	41	1324	41	96	2716	1211
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.02	0.73	0.73	0.05	0.76	0.76
Sat Flow, veh/h	1248	36	1585	76	161	890	1781	1805	55	1781	3554	1585
Grp Volume(v), veh/h	72	0	24	57	0	0	22	0	539	74	701	79
Grp Sat Flow(s),veh/h/ln	1284	0	1585	1127	0	0	1781	0	1860	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	1.4	0.1	0.0	0.0	1.2	0.0	10.9	4.1	5.8	1.2
Cycle Q Clear(g_c), s	5.6	0.0	1.4	5.7	0.0	0.0	1.2	0.0	10.9	4.1	5.8	1.2
Prop In Lane	0.97		1.00	0.18		0.79	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	171	0	123	130	0	0	41	0	1364	96	2716	1211
V/C Ratio(X)	0.42	0.00	0.19	0.44	0.00	0.00	0.54	0.00	0.40	0.77	0.26	0.07
Avail Cap(c_a), veh/h	345	0	325	328	0	0	134	0	1364	223	2716	1211
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	0.0	43.2	44.1	0.0	0.0	48.3	0.0	5.0	46.7	3.5	2.9
Incr Delay (d2), s/veh	1.6	0.0	0.8	2.3	0.0	0.0	10.7	0.0	0.9	12.4	0.2	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.6	1.4	0.0	0.0	0.6	0.0	3.1	2.1	1.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.8	0.0	43.9	46.4	0.0	0.0	59.0	0.0	5.9	59.1	3.7	3.0
LnGrp LOS	D		D	D			E		A	E	A	A
Approach Vol, veh/h		96			57			561			854	
Approach Delay, s/veh		46.0			46.4			7.9			8.4	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	77.8		12.3	6.8	80.9		12.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.5	53.5		20.5	7.5	58.5		20.5				
Max Q Clear Time (g_c+I1), s	6.1	12.9		7.6	3.2	7.8		7.7				
Green Ext Time (p_c), s	0.1	3.3		0.3	0.0	5.1		0.2				

Intersection Summary			
HCM 7th Control Delay, s/veh		11.9	
HCM 7th LOS		B	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	28	47	478	690	62
Future Volume (vph)	38	28	47	478	690	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	60		60			
Link Speed (mph)	30			45	45	
Link Distance (ft)	293			1762	680	
Travel Time (s)	6.7			26.7	10.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	28	47	478	690	62
Future Vol, veh/h	38	28	47	478	690	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	29	49	503	726	65

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1361	759	792	0	-	0
Stage 1	759	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	163	406	829	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	154	406	829	-	-	-
Mov Cap-2 Maneuver	154	-	-	-	-	-
Stage 1	435	-	-	-	-	-
Stage 2	547	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	30.6	3 0.86	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	829	-	209	-	-
HCM Lane V/C Ratio	0.06	-	0.333	-	-
HCM Control Delay (s/veh)	9.6	-	30.6	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.2	-	1.4	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2	31	16	2	19	9
Future Volume (vph)	2	31	16	2	19	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			30	30	
Link Distance (ft)	2033			636	356	
Travel Time (s)	46.2			14.5	8.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	31	16	2	19	9
Future Vol, veh/h	2	31	16	2	19	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	33	17	2	20	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	35	0	54	18
Stage 1	-	-	-	-	18	-
Stage 2	-	-	-	-	36	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1577	-	954	1060
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1577	-	944	1060
Mov Cap-2 Maneuver	-	-	-	-	944	-
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	976	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	6.5	8.79
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	978	-	-	1575	-
HCM Lane V/C Ratio	0.03	-	-	0.011	-
HCM Control Delay (s/veh)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Appendix G
Calhoun Street Housing Development Vehicle Miles Traveled Screening Assessment

URBAN CROSSROADS

June 18, 2024

Mr. Andrew Simmons, P.E.
City of Coachella
53990 Enterprise Way
Coachella, CA 92236

CALHOUN STREET SUBDIVISION VEHICLE MILES TRAVELED (VMT) SCREENING

Mr. Andrew Simmons, P.E.,

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Screening for the Calhoun Street Subdivision development (Project), which is located at the southwest corner of Calhoun Street and Avenue 49 in the City of Coachella.

PROJECT OVERVIEW

It is our understanding that the Project is to consist of 258 dwelling units and an 1.5 acre park with dog run on approximately 40 acres. A preliminary site plan for the proposed Project is shown on Exhibit 1. Access to the Project is provided via two full access driveways (Access 1 at Calhoun Street and Access 2 at Avenue 49), and one right-in/right-out only access for the park (Access 3 at Calhoun Street).

BACKGROUND

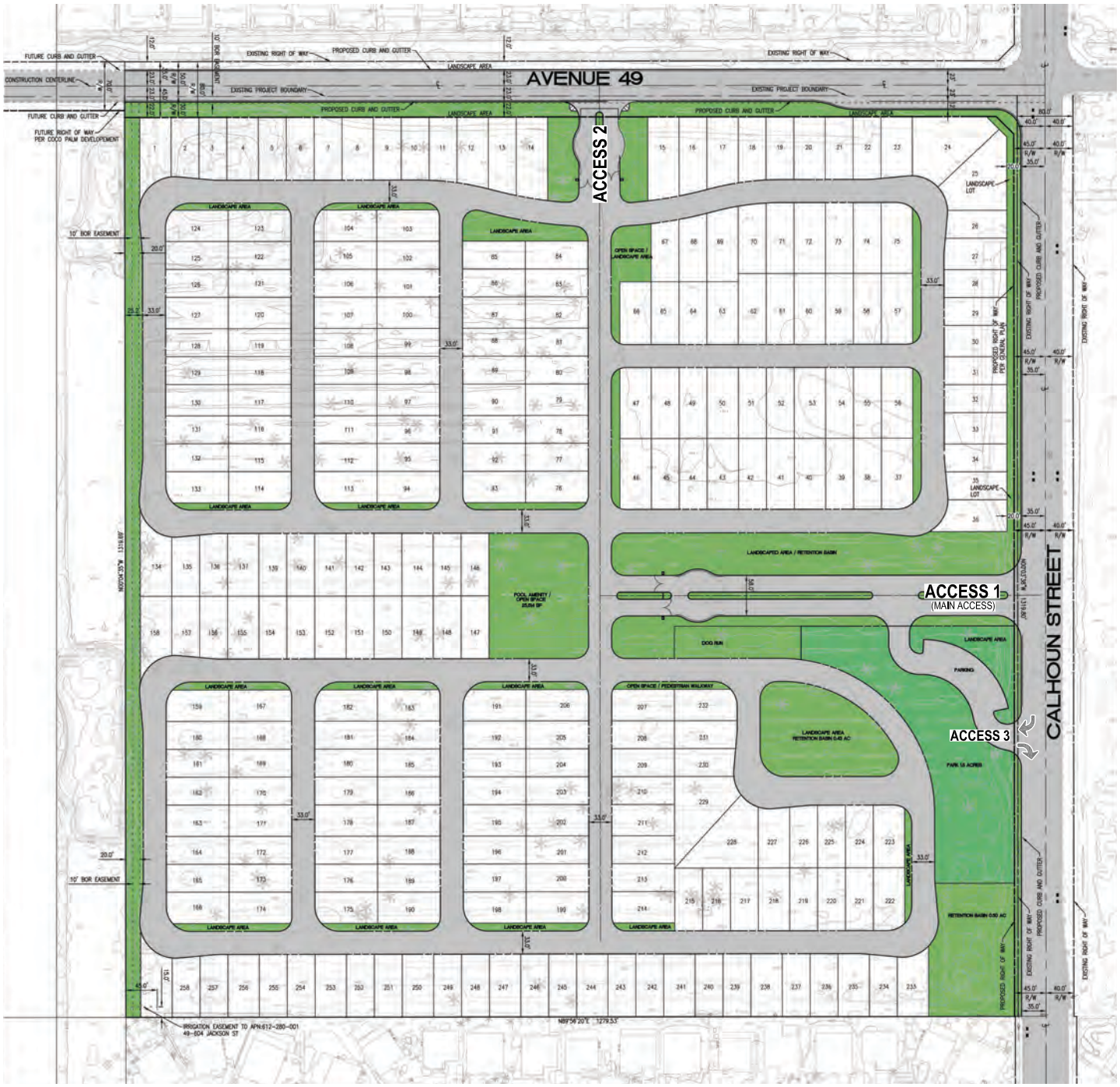
Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which requires all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**) (1). Based on OPR's Technical Advisory, the County of Riverside adopted their Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled (December of 2020) (**County Guidelines**) (2). The City of Coachella utilizes the adopted County Guidelines.

Consistent with County Guidelines, projects should evaluate available screening criteria based on their location and project type to determine if a presumption of a less than significant transportation impact can be made. The following project screening thresholds were selected for review based on their applicability to the proposed Project:

- Small Projects Screening
- High Quality Transit Areas (HQTA) Screening
- Map-Based Screening
- Local Essential Service Screening

20341 SW Birch Street | Suite 230 | Newport B[illegible]0 | (949) 660-1994 | urbanxroads.com

EXHIBIT 1: PRELIMINARY SITE PLAN



LEGEND:

▪ RIGHT-IN/RIGHT-OUT ONLY

N

SMALL PROJECTS SCREENING

County Guidelines identify those projects forecasted to generate greenhouse gas (GHG) emissions below 3,000 Metric Tons of Carbon Dioxide Equivalent ($MTCO_2e$) per year are also assumed to cause a less than significant VMT impact.[1] The County Guidelines provides a list of land use types based on quantity (i.e., dwelling units or square footage) and provides a typical development potential to be below the 3,000 $MTCO_2e$ per year. Single Family Housing projects less than or equal to 110 dwelling units have been identified to meet the County threshold[2].

The Project quantity of 258 dwelling units is more than the residential VMT screening criteria.

Small Projects screening criteria is not met.

HIGH QUALITY TRANSIT AREAS (HQTA) SCREENING

Projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing "major transit stop"[3] or an existing stop along a "high-quality transit corridor"[4]) may be presumed to have a less than significant impact absent substantial evidence to the contrary. The Project is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

HQTA screening criteria is not met.

MAP-BASED SCREENING

The County Guidelines note that "residential projects that locate in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility), will tend to exhibit similarly low VMT."[5] Urban Crossroads has obtained a VMT data table from County Staff for all TAZs within Riverside County that identifies VMT per capita for the purposes of identifying low VMT areas. The data utilizes the sub-regional Riverside Transportation Analysis Model (RIVTAM) to measure baseline VMT performance, and a comparison was made to the applicable impact threshold.

The Project's TAZ was identified in the Riverside County Transportation Analysis Model (RIVTAM) as TAZ 4787.

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[1] County Guidelines; Page 19.
[2] County Guidelines; Page 42, Table 1
[3] Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").
[4] Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").
[5] Technical Advisory; Page 12

The County's data table identifies the Project's TAZ 4787 to generate 7.974 VMT per capita. The County regional threshold is 15.2 VMT per capita[6]; therefore the Project is located in a low VMT area.

Map-Based screening criteria is met for residential.

LOCAL ESSENTIAL SERVICE SCREENING

The introduction of new local essential services shortens non-discretionary trips by putting those goods and services closer to complimentary land uses, resulting in conditions which do not increase overall VMT. The park with dog run provides a local service to adjacent land uses that otherwise attract travelers from more distant locations; therefore, the park with dog run is presumed to not increase overall VMT.

Local Essential Service screening criteria is met for park with dog run.

CONCLUSION

In summary, the Project was evaluated consistent with available screening criteria as presented in the County Guidelines. The map based screening criteria is met for residential uses and the local essential service screening criteria is met for park with dog run, so a full analysis of VMT associated with site is not required. The Project is presumed to have a less than significant impact on VMT.

If you have any questions, please contact us at jkain@urbanxroads.com for John or mwhiteman@urbanxroads.com for Marlie.

Respectfully submitted,

URBAN CROSSROADS, INC.

John Kain, AICP
Principal

Marlie Whiteman, P.E.
Senior Associate

[6] County Guidelines; Page 22

REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.

2. **County of Riverside.** *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled.* County of Riverside : s.n., December 2020.

Calhoun Street Housing Development
Environmental Assessment EA 25-02
Tentative Tract Map TTM 39051
Conditional Use Permit 390
Planned Unit Development

Response to Comments

The City received 3 comment letters to the Initial Study/Mitigated Negative Declaration (ISMND) for the Calhoun Street Housing Development (Project). Comment Letters were received from the Department of Toxic Substance Control, U.S Fish and Wildlife Services, and the California Department of Fish and Wildlife. Responses to each letter are provided below. The comment letters are provided in Appendix A.

A. Department of Toxic Substance Control
Letter dated November 21, 2025

Comment 1:

The Department of Toxic Substances Control (DTSC) reviewed the Mitigated Negative Declaration (MND) for the Calhoun Street Housing Development (Project). The proposed Project is a Tentative Tract Map, Environmental Assessment, Conditional Use Permit and Planned Unit Development for a single-family residential project. The Project is located on the southwest corner of Calhoun Street and Avenue 49 in the City of Coachella, California. The site encompasses 39.98 acres and is identified as Assessor's Parcel Number (APN) 612-260-010. The applicant proposes to subdivide the Project site for a future build out of a private, gated residential community containing 257 single-family homes and a public park with a total area of 3.53 acres. DTSC recommends and requests consideration of the following comments:

Response 1:

The commenter describes the Project, and no further response is required. Responses to individual issues raised by the commenter are provided individually below.

Comment 2:

1. When agricultural crops and/or land uses are proposed or rezoned for residential use, several contaminants of concern (COCs) can be present. The Lead Agency shall identify the amounts of Pesticides and Organochlorine Pesticides (OCPs) historically used on the property. If present, OCPs requiring further analysis aredichloro-diphenyl-trichloroethane, toxaphene, and dieldrin. Additionally, any level of arsenic present would require further analysis and sampling and must meet approved local area baselines or thresholds. If they do not, remedial action must take place to mitigate them below those thresholds. Additional COCs may be found in mixing/loading/storage areas, drainage ditches, farmhouses, or any other outbuildings and should be sampled and analyzed. If smudge pots had been routinely utilized, additional sampling for Polycyclic Aromatic Hydrocarbons and/or Total Petroleum

Hydrocarbons may be required. These recommendations should be adhered to and become part of the environmental document. Please refer to the DTSC's Human and Ecological Risk Office (HERO) webpage for the most recent guidance and screening levels.

Response 2:

The comment is noted. As noted in Section IX, Hazards and Hazardous Materials, the Project will be subject to all local, regional and state requirements, including the levels of the chemicals identified in the comment. Traditionally, high levels of agricultural chemicals have not been identified in Coachella Valley farming activities. The City thanks the commenter for the information provided, and will condition the Project to provide soil sampling results with the submittal of grading plans. This local requirement will assure that impacts associated with these chemicals remain less than significant.

Comment 3

2. DTSC recommends all imported soil/fill material be tested to ensure all COCs meet screening levels as outlined in DTSC's Preliminary Endangerment Assessment Guidance Manual. Furthermore, DTSC advises referencing the DTSC Information Advisory Clean Imported Fill Material Fact Sheet if importing fill is necessary. To minimize the possibility of introducing contaminated soil/fill material there should be documentation of the origins of the soil/fill material and, if applicable, sampling be conducted to ensure that the imported soil/fill material are suitable for the intended land use. The soil sampling should include analysis based on the source of the soil/fill and knowledge of prior land use.

Response 3:

The City thanks the commenter for the information provided. Clean fill is a requirement for all imported soils into any project in the City, and its origin must be documented. Furthermore, the Project geologist will monitor grading and certify the pads for the Project, also insuring that oversight occurs during grading.

Comment 4:

3. The City of Coachella should consider soil testing as mentioned in comment #1. If, in the event any COC results are above DTSC residential screening levels, DTSC recommends the City of Coachella address the contaminations within the Project area through an Environmental Site Assessment and/or receive oversight from a self-certified local agency, DTSC or Regional Water Quality Control Board. If entering into one of DTSC's voluntary agreements, please note that DTSC uses a single standard Request for Lead Agency Oversight Application for all agreement types. Please apply for DTSC oversight using this link: Request for Agency Oversight Application. Submittal of the online application includes an agreement to pay costs incurred during agreement preparation. If you have any questions about the application portal, please contact the relevant Regional Brownfield Coordinator for your Project.

Response 4:

The commenter's recommendations are noted. Please also see Response 1.

Comment 5:

DTSC would like to thank you for the opportunity to comment on the MND for the Calhoun Street Housing Development. Thank you for your assistance in protecting California's people and environment from the harmful effects of toxic substances. If you have any questions or would like clarification on DTSC's comments, please respond to this letter or via our CEQA Review email for additional guidance.

Response 5:

The City thanks the Department for participating in the City's CEQA process for this Project.

B. U.S. Fish and Wildlife Service
Letter dated December 4, 2025

Comment 1:

This letter is in response to the notice of availability dated November 18, 2025, soliciting comments on the draft Initial Study Mitigated Negative Declaration (ISMND) for the Calhoun Street Housing Development Project (Project), located in the City of Coachella, Riverside County, California. The proposed Project site is located on the southwest corner of Calhoun Street and Avenue 49 in the City of Coachella (City) and is bounded along the west perimeter by lands within the City of Indio, California.

We offer the following comments on the ISMND as they relate to potential impacts on public trust resources. The primary concern and mandate of the U.S. Fish and Wildlife Service (Service) is the conservation, protection, and enhancement of fish and wildlife resources and their habitats for the continuing benefit of the American people. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and threatened or endangered animals and plants listed under the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq*.). The comments provided herein are based on the information provided in the ISMND and our knowledge of sensitive and declining fish and wildlife resources.

The Project site is within the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) Area, and the City is a Local Permittee to the CVMSHCP. The Project applicant proposes to subdivide the 39.98 acres (ac) Project site for a future build of a private, gated residential community containing 257 single-family homes and a 3.53-ac public park, with 3.13-ac for recreational open space and 0.40 ac for a landscaped retention basin. The proposed Project also includes right-of-way allowances for future road improvements along Avenue 49 and Calhoun Street. The Project site is surrounded by single-family residential land uses on the north, south, and west, and a vacant lot occurs on the east of the Project site. Currently, the Project site is zoned as "General Neighborhood" in the City's General Plan 2035 Update. The applicant proposes a Planned Unit Development that would permit flexible standards for smaller lot sizes and a higher density for a private gated community than the Project site's current designation allows.

Response 1:

The comment relates the Service's role and provides a project description. Responses to the Service's primary concerns are provided below:

Comment 2:

NESTING BIRDS

The draft ISMND states that a field assessment occurred on February 29, 2024. The field assessment included the 39.98-ac Project site and a 500-foot buffer zone. The Project site, which previously hosted a date palm grove, contains rows of leftover date palms on the southern and western portions of the site. The northeast portion is graded and has not been used to grow dates since 2002. Sparse perennial vegetation occurs throughout the Project site, particularly under the remaining date palms and in the northwest corner, which contains a small irrigation reservoir. The draft ISMND states that due to existing site disturbances, including the previous date palm grove, grading, and recent off-road vehicle use and dumping of trash, the probability of special status-species occurring on the site is low. No special-status species, including nesting birds, were observed during the field assessment; however, the draft ISMND notes that due to the existing vegetative scrub and date palms, the Project site may still be used by resident and migratory nesting birds.

Due to the presence of sparse vegetation throughout the Project site, the Service agrees that special-status species have the potential to occur within the Project site. The presence of sparse vegetation, particularly cover of shrubs, is suitable habitat for ground-nesting birds. Moreover, the presence of bare ground on the northeast portion of the Project site also constitutes suitable nesting habitat for some ground-nesting birds. Therefore, the proposed development has the potential to impact nesting birds. However, the ISMND does not indicate that focused nesting bird surveys were completed, likely contributing to the lack of nesting bird observations during the field assessment. Focused nesting bird surveys, both within and outside of nesting season, are necessary to accurately confirm nesting bird presence or absence. A complete assessment of the biological resources within the Project area is required to assess the Project's potential impacts to nesting birds. Please revise the ISMND to include a complete assessment of the Project's potential impacts to nesting bird habitat, including completion of nesting bird surveys during the appropriate time of year, to determine the extent of nesting birds on the Project site.

The draft ISMND includes Mitigation Measure (MM) BIO-1, which states that "[b]ird nesting season for resident birds in Southern California occurs between February 1 and August 31." Please note that the timing of nesting season is highly variable. Changing climate conditions have resulted in nesting birds breeding both earlier and later in the year than suggested in previous guidance. Nesting season may generally be considered to occur between January and October; however, timing varies on a species-by-species basis. Coordination with the Service and the California Department of Fish and Wildlife (CDFW; collectively, the Wildlife Agencies) is necessary to determine appropriate timing of nesting season surveys. Additionally, to address the variability in nesting season, we recommend that MM-BIO-1 be revised to require nesting bird surveys throughout construction, both within and outside of nesting season, to avoid any potential adverse effects to nesting.

Response 2:

The comment is noted. However, the need for nesting bird surveys at this time is not supported by substantial evidence. The Project biologist and the Initial Study clearly identify that there is potential for nesting birds on the property, even in its degraded condition, provides an assessment of the likely species, and states that there could be impacts to MBTA covered species (pages 37-40). To mitigate any impacts on MBTA covered species, the Initial Study provides for pre-construction bird surveys consistent with MBTA requirements. Finally, as it relates to the commenter's request that nesting bird surveys be conducted throughout construction, the request is made without evidence that birds could nest on the site once it is cleared of vegetation. The Initial Study correctly identified the impact, and provided mitigation which will reduce impacts to less than significant levels. No change is required.

Comment 3:

BURROWING OWL

The draft ISMND states that marginally suitable habitat for western burrowing owl (*Athene cunicularia hypugaea*; burrowing owl), a CVMSHCP-Covered Species, Service Bird of Conservation Concern, and candidate species under the California Endangered Species Act, occurs intermittently throughout the Project site, and suitable California ground squirrel burrows were observed during the field assessment. Additionally, the draft ISMND states that the Project site is largely disturbed. Burrowing owl are known to occupy disturbed habitat; therefore, due to the presence of disturbed habitat, sparse vegetation, and suitable burrows within the Project area, the Service agrees with the conclusion that suitable habitat for burrowing owl occurs on the Project site, and burrowing owls have the potential to inhabit the site. No burrowing owls or signs of burrowing owls were observed during the field assessment; however, the draft ISMND does not indicate completion of focused burrowing owl surveys. Focused burrowing owl surveys during the breeding season and nonbreeding season are necessary to accurately confirm burrowing owl presence or absence. Pursuant to the CDFW Staff Report on Burrowing Owl Mitigation (2012 or most recent version), for both breeding and non-breeding season surveys, a minimum of four survey visits are required to assess a site for burrowing owl presence. Given the lack of multiple, focused burrowing owl surveys, the total number of burrowing owl individuals or suitable and occupied burrows within the Project site and 500-foot buffer is unknown. Please revise the draft ISMND to include an accurate assessment of the Project's potential impacts to burrowing owl, including focused survey results following the protocols outlined in the 2012 Staff Report on Burrowing Owl Mitigation.

MM BIO-2 states that burrowing owl avoidance surveys must be conducted immediately preceding development, including 14-30 days prior to initiating ground disturbance activities, and within 24 hours of ground disturbance, in compliance with the 2012 Staff Report on Burrowing Owl Mitigation. As stated in the 2012 Staff Report on Burrowing Owl Mitigation, burrowing owls may re-colonize a Project site should any time lapses between Project activities occur. Such time lapses would trigger subsequent take avoidance surveys, which may include a final survey conducted within 24 hours prior to ground disturbance. Due to the potential for burrowing owl to occur throughout the construction period, in addition to focused surveys (breeding season and

non-breeding season) and take avoidance surveys prior to initiating ground disturbance, additional surveillance monitoring surveys for burrowing owls should be continued throughout construction to avoid any potential impacts to burrowing owl [see the 2012 Staff Report, Site Surveillance (page 9), Appendix D, Take Avoidance Surveys (page 29-30)].

MM BIO-2 also states that "Should burrowing owls be detected, CDFW shall be contacted as soon as possible to determine the next course of action. CDFW must grant permission to relocate burrowing owls." As stated above, burrowing owl is a Covered Species under the CVMSHCP. The CVMSHCP is governed by both CDFW's Natural Community Conservation Plan Permit and the Service's section 10(a)(1)(B) permit issued under the Act. Although burrowing owl is not a federally listed species under the Act, a non-listed species covered in a Habitat Conservation Plan (HCP) must be treated as if it were already listed, and all conservation measures described in the HCP for that species must be fully implemented. Please revise MM BIO-2 to require that, if the focused surveys and/or pre-construction surveys confirm burrowing owl presence, the Project applicant shall submit a Burrowing Owl Plan that includes avoidance, minimization, and mitigation measures to both Wildlife Agencies for review and approval prior to any ground disturbance or vegetation removal. The Project proponent shall coordinate with the Wildlife Agencies on the appropriate avoidance, minimization, and mitigation measures to be included in the Burrowing Owl Plan. Per Section 4.4 and Section 8.5.2 of the CVMSHCP, relocation of burrowing owls must follow protocols accepted by the Wildlife Agencies, and active relocation and eviction/passive relocation must be determined through coordination with the Wildlife Agencies for all Covered Activities. As such, please revise MM BIO-2 to state that if avoidance of burrowing owl is not possible, the Project applicant shall coordinate with both Wildlife Agencies on a burrowing owl relocation plan. Additionally, please include language that states that the Project proponent shall submit the relocation plan to the Wildlife Agencies for review and approval. Both the Burrowing Owl Plan and relocation plan should be submitted to the Wildlife Agencies for review and approval as soon as possible to avoid project delays due to the burrowing owl breeding season. These measures are necessary for the City in fulfilling its obligations as a CVMSHCP Permittee.

Response 3:

The Initial Study clearly states that burrowing owl and their sign were not identified on the Project site (page 37-40). The habitat is marginal. Further, burrowing owl in the Coachella Valley are not migratory. Therefore, although an owl could relocate to the site prior to its construction, there is no need for seasonal surveys. On the other hand, BIO-2 clearly requires pre-construction surveys, which will establish conditions on the site prior to disturbance, and allow for their safe relocation, if necessary, at that time should they occur. In addition, the mitigation measure specifically states that pre-construction surveys be conducted in compliance with the CDFW Staff Report, which includes specific measures required for relocation plans if required. The Initial Study correctly identifies the potential impact and provides mitigation that will ensure that impacts to burrowing owl remain less than significant, if the species were to occur on the Project site. No change to the Initial Study is required.

Comment 4:

WESTERN YELLOW BAT

The draft ISMND states that roosting habitat for the western yellow bat (*Lasiurus xanthinus*), a CVMSHCP-Covered Species, is absent on the Project site, and probability of foraging is low. The draft ISMND concludes that the western yellow bat is absent from the Project site. Western yellow bat habitat includes valley foothill riparian, desert riparian, desert wash, and palm oasis habitats, and the species typically roosts in the skirt of dead fronds of fan palms. Western yellow bat has been documented to roost in both native and non-native palm trees, and additional information has shown that they may roost in the dead fronds of other plants with structural similarities to fan palms. Additionally, the species has also been documented to occur in open grassy areas, residential areas, over swimming pools, and in orchards. Dead palm fronds occur within the fallow date palm grove portion of the Project site, and the Project site and surrounding residential areas may provide foraging opportunities; therefore, the Service considers the Project site to contain suitable habitat for western yellow bat, and western yellow bat have the potential to occur within the Project site.

The draft ISMND indicates that western yellow bats were not observed during the field assessment. However, the draft ISMND does not indicate completion of focused bat surveys, likely contributing to the lack of western yellow bat observations during the field assessment. Focused bat surveys are necessary to accurately confirm the presence or absence of special-status bat species. Please revise the draft ISMND to include a complete assessment of the Project's potential impacts to bat habitat, including completion of focused bat surveys following accepted survey methods, to accurately determine the extent of bats on and adjacent to the proposed Project site. In addition to focused surveys, pre-construction clearance surveys are necessary to avoid any potential impacts to western yellow bat. Please revise the draft ISMND to require bat pre-construction surveys conducted by a qualified biologist, with detailed information regarding the survey methods, including the number of days of acoustic monitoring, emergence roost counts, and number of roost count observers included. Additionally, please note that multiple surveys are required during the maternity season to accurately document roost activity. A minimum of two surveys during the maternity season, one during spring and one during summer, are required. In addition to bat maternity season surveys, a winter survey and migration period survey should also be required to identify presence of bats in the Project site throughout the year. If special status bats are determined to be present at the Project site, please coordinate with the Service on implementation of the appropriate avoidance, minimization, and mitigation measures prior to beginning project activities.

We appreciate the opportunity to provide comments on the draft ISMND. If you have any questions regarding these comments, please contact Lory Salazar-Velasquez.

Response 4:

As stated in the IS (Table IV-1), there is no roosting habitat for western yellow bat, and it is a covered species under the CVMSHCP. The habitat on the site is highly degraded, and only scattered date palms remain. As such, there is no need for bat surveys, and the provisions of

the CVMSHCP apply. The applicant will be required to pay the MSHCP fee at the time of development. No change to the Initial Study is required.

The City thanks the Service for participating in the CEQA process.

C. California Department of Fish and Wildlife
Letter dated December 8, 2025

Comment 1:

The California Department of Fish and Wildlife (CDFW) received a Draft Mitigated Negative Declaration (MND) from the City of Coachella (City) for the Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.1

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife.

Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE
CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on Projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY
Proponent: Pacific Modern Builders LLC

Objective: The Project proposes to subdivide the Project site for a future build out of a residential community containing 257 single-family homes and a public park with a total area of 3.53 acres, 3.13 acres for recreational open space, and four retention basins that will accept all on-site flows.

Construction activities would occur during the day, and there would be no need to apply nighttime security lighting on the Project site. Construction activities would not introduce new sources of light or glare. Project buildout would introduce additional sources of nighttime light from security lighting, landscape and pathway lighting, street lighting, and interior home lighting seen from windows. Landscaped areas and retention basins would be xeriscaped with drought-tolerant plants while the park would contain grass and native, drought-tolerant trees and bushes.

Location: The Project site is located on the southwest corner of Calhoun Street and Avenue 49 in the City of Coachella, Riverside County, California. The site encompasses 39.98 acres and is identified as Assessor's Parcel Number 612-260-010.

Timeframe: The MND indicates that construction activities would be completed by 2026.

Response 1:

The comment is noted. It provides a description of the Project and requires no further response.

Comment 2:

COMMENTS AND RECOMMENDATIONS
CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (i.e., biological resources). CDFW offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. The MND has not adequately identified and disclosed the Project's impacts (i.e., direct, indirect, and cumulative) on biological resources and whether those impacts are reduced to less than significant.

CDFW's comments and recommendations on the MND are explained in greater detail below and summarized here. CDFW is concerned that the MND does not adequately identify or mitigate the Project's significant, or potentially significant, impacts to biological resources. CDFW also concludes that the MND lacks sufficient information to facilitate a meaningful review by CDFW, including a complete and accurate assessment of biological resources on the Project site. CDFW requests that additional information and analyses be added to a revised MND, along with avoidance, minimization, and mitigation measures that avoid or reduce impacts to less than significant.

<u>Existing Environmental Setting</u>

Compliance with CEQA is predicated on a complete and accurate description of the environmental setting that may be affected by the proposed Project. CDFW is concerned that the assessment of the existing environmental setting has not been adequately analyzed in the MND. CDFW is concerned that without a complete and accurate description of the existing environmental setting, the MND may provide an incomplete analysis of Project-related environmental impacts.

The MND lacks a complete assessment of biological resources associated with burrowing owl (*Athene cunicularia*) and western yellow bat (*Lasiurus xanthinus*) within the Project site and surrounding area. A complete and accurate assessment of the environmental setting and Project-related impacts to biological resources is needed to both identify appropriate avoidance, minimization, and mitigation measures and demonstrate that these measures reduce Project impacts to less than significant.

Response 2:

The comment is noted. The comment is overbroad and non-specific. Individual responses to burrowing owl and western yellow bat concerns are provided below.

Comment 3:

Mitigation Measures

CEQA requires that an MND include mitigation measures to avoid or reduce significant impacts. CDFW is concerned that the mitigation measures proposed in the MND are not adequate to avoid or reduce impacts to biological resources to below a level of significance. To support the City in ensuring that Project impacts to biological resources are reduced to less than significant, CDFW recommends adding mitigation measures for surveys for bats, avoidance of bats during tree removal, artificial nighttime lighting, and compliance with the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), as well as revising the mitigation measures for nesting birds and burrowing owls.

1) Nesting Birds

It is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Codeor any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

With regard to the CVMSHCP, per its associated Implementing Agreement (IA) and Permits from CDFW and the U.S. Fish and Wildlife Service (the Wildlife Agencies), Take associated with Covered Activities will not be in violation of the Migratory Bird Treaty Act and will be consistent with Fish and Game Code sections 3503 and 3503.5; therefore, all Covered Activities within and outside Conservation Areas must undertake measures to avoid the take of individuals, nests, and eggs of nesting birds. The CVMSHCP includes a general conservation measure that applies to all bird species to avoid impacts to habitat for nesting birds during the nesting season (CVMSHCP Section 9.7). Per IA Section 13.2, the City is obligated to ensure the projects to which it confers Take Authorization under the CVMSHCP comply with all terms and

requirements of the CVMSHCP, the Wildlife Agencies' Permits that create the CVMSHCP, and the IA, including compliance with laws that protect nesting birds..

Page 39 of the MND indicates that "existing vegetative scrub and date palms found on the Project site could potentially be used by both resident and migratory nesting birds." CDFW adds that the Project site contains suitable habitat for both ground-nesting birds and birds that nest in shrubs and trees.

The MND includes Mitigation Measure BIO-1 for nesting birds, which indicates that the "bird nesting season for resident birds in Southern California occurs between February 1 and August 31. To avoid impacts to nesting birds, all vegetation clearing, ground disturbance, and construction activity should be scheduled between September 1 and January 31 if possible. If construction occurs during the nesting season, a certified avian biologist must conduct a pre-construction nesting bird survey (NBS) immediately prior to scheduled construction activity." CDFW considers the mitigation measure for nesting birds in the MND to be inadequate in scope and timing to avoid or reduce impacts to nesting birds to a level less than significant. In alignment with the CVMSHCP's general conservation measure for nesting birds (CVMSHCP Section 9.7), CDFW recommends Project construction activities are conducted outside of the peak nesting bird season. CDFW also recommends the completion of nesting bird surveys *regardless* of the time of year to ensure that impacts to nesting birds and their nests and eggs are avoided. The timing of the nesting season varies greatly depending on several factors, such as bird species, weather conditions in any given year, and long-term climate changes (e.g., drought, warming, etc.). In response to warming, birds have been reported to breed earlier, thereby reducing temperatures that nests are exposed to during breeding and tracking shifts in availability of resources (Socolar et al., 2017[2]). CDFW staff have observed that climate change conditions may result in the nesting bird season occurring earlier and later in the year than historical nesting season dates. CDFW recommends that disturbance of occupied nests of migratory birds and raptors within the Project site and surrounding area be avoided any time birds are nesting on-site. CDFW therefore recommends the completion of nesting bird surveys *regardless of the time of year* to ensure compliance with all applicable laws pertaining to nesting and migratory birds.

To support the City in avoiding or reducing impacts to nesting birds to a level less than significant, CDFW recommends Mitigation Measure BIO-1 is revised as follows, with additions in **bold** and removals in ~~strikethrough~~:

Mitigation Measure BIO-1: Nesting Birds
To the greatest extent feasible, the Project will avoid construction activities during the peak nesting season (January 15 through September 15). Regardless of the time of year, nesting bird surveys shall be performed by a qualified avian biologist no more than 3 days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the pre-construction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting

phenology of the nesting species and based on nest and buffer monitoring results. Construction activities may not occur inside the established buffers, which shall remain on-site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance. ~~Bird nesting season for resident birds in Southern California occurs between February 1 and August 31. To avoid impacts to nesting birds, all vegetation clearing, ground disturbance, and construction activity should be scheduled between September 1 and January 31 if possible. If construction occurs during the nesting season, a certified avian biologist must conduct a pre- construction nesting bird survey (NBS) immediately prior to scheduled construction activity. If active nests are identified, the biologist will demarcate a no-work buffer zone(s) around the active nest(s) and check the nest site(s) weekly until the young birds fledge and the nest(s) become inactive. The buffer zone size would be based on the nesting species, its sensitivity to disturbance, nesting stage and the expected intensity and duration of disturbance. No ground or vegetation disturbance shall occur within the nest site buffer zone(s) until the qualified biologist determines that the young have successfully fledged, and the nest is inactive. Per CDFW recommendations, a buffer of 500 feet shall be set for listed species and birds of prey, and a buffer of 100 to 300 feet shall be set for unlisted songbirds.~~

Pursuant to the CEQA Guidelines, section 15097(f), CDFW has prepared a draft mitigation monitoring and reporting program (MMRP) in Attachment 1 for revised MM BIO-1 and MM BIO-2, as well as CDFW-recommended MM BIO-[A], MM BIO-[B], MM BIO-[C], and MM BIO-[D].

Response 3:

The comment is noted. However, the commenter appears to imply that birds may nest on the site outside of the established nesting period, outside of that recommended through MBTA. The City's responsibility is to assure that nesting birds are not disturbed, and that construction be avoided until the young have fledged. It is important to note that MBTA covered species include almost all bird species that could nest on the site, and that since a pre-construction survey will be required, all birds nesting on the site will be identified, regardless of MBTA status. The Initial Study mitigates impacts to nesting bird species to less than significant levels as written. The mitigation measure and the Initial Study correctly protect nesting birds, and do not require amendment.

Comment 4:

2) Burrowing Owl

On October 10, 2024, the Fish and Game Commission determined that western burrowing owl warrants protection as a candidate species under the California Endangered Species Act (Fish & G. Code, § 2050 et seq.). During the candidacy period, western burrowing owl will be afforded the same protection as threatened and endangered species under CESA. If Project activities, including relocation, could result in take, appropriate CESA authorization (i.e., Incidental Take Permit under Fish and Game Code section 2081) should be obtained prior to commencement of Project activities.

Take of individual burrowing owls and their nests or eggs is defined by Fish and Game Code section 86, and prohibited by sections 3503, 3503.5, and 3513. Take is defined in Fish and Game Code section 86 as "hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, catch, capture or kill." Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

With regard to the CVMSHCP, the CDFW Natural Community Conservation Plan (NCCP) Permit #2835-2008-001-06 does not provide Take Authorization for burrowing owl individuals, nests, or eggs. To the contrary, section 3.5.6 of the NCCP Permit states burrowing owl "pairs or individuals will not be Taken" and reiterates that the "HCP/NCCP does not authorize Take of [burrowing owl] nests [or] eggs[.]" Therefore, throughout the CVMSHCP area—both within and without Conservation Areas—Permittees must ensure that activities occurring within their jurisdictions do not result in the take, possession, or destruction of burrowing owl individuals, nests, or eggs. Any activity occurring within the CVMSHCP area that results in the take of burrowing owl individuals, nests, or eggs would be unlawful and would not be a Covered Activity under the CVMSHCP. Per IA Section 13.2, the City is obligated to ensure the projects to which it confers Take Authorization under the CVMSHCP comply with all terms and requirements of the CVMSHCP, the Wildlife Agencies' Permits that created the CVMSHCP, and the IA, including compliance with laws that protect burrowing owls.

Page 40 of the MND states that "no burrowing owls, or signs of burrowing owls were observed during the site survey, however, suitable habitat and burrows suitable for burrowing owls were observed on the Project site. Burrowing owls could potentially relocate to the Project site between the time of the site survey and the start of construction due to their attraction to open dry areas and agricultural sites." CDFW agrees that the Project site contains suitable nesting and foraging habitat for burrowing owl. The MND and its supporting documents lack information on whether focused surveys for burrowing owl were conducted and the methods used to conduct any surveys for burrowing owl. Because the MND lacks the findings of recent focused surveys for burrowing owl following the guidelines in the *Staff Report on Burrowing Owl Mitigation*,[3] the number and locations of suitable and occupied burrows within the Project site are unknown. Given the lack of results from focused surveys for burrowing owl following recommended protocols and the lack of survey reports, CDFW is limited in its ability to provide biological expertise to support the City in reducing impacts to burrowing owl to a level less than significant. CDFW recommends that the MND is revised to include the results of four focused surveys for burrowing owl within the entire Project site and surrounding area, including survey reports,[4] following the guidelines outlined in Appendix D of the *Staff Report on Burrowing Owl Mitigation* and to incorporate appropriate avoidance, minimization, and mitigation measures for burrowing owl. Focused surveys are needed to inform appropriate avoidance, minimization, and mitigation

measures and support the City in avoiding or reducing impacts to burrowing owl to a level less than significant. CDFW requests that if burrowing owls are detected during focused surveys, survey results are submitted to the Wildlife Agencies, and the City initiate consultation with the Wildlife Agencies to identify a path forward regarding the protection of burrowing owls.

The MND includes Mitigation Measure BIO-2, which indicates that "to ensure that no burrowing owls have moved to the Project site since the biological site survey was conducted." In addition to pre-construction surveys, CDFW recommends that focused burrowing owl surveys are first conducted and the results submitted to Wildlife Agencies. This provides time for the City and Project proponent to start coordination with the Wildlife Agencies early to identify appropriate avoidance, minimization, and mitigation measures and reduce the chance of Project delays. Without details on focused surveys and appropriate information sharing and coordination with the Wildlife Agencies, CDFW considers Mitigation Measure BIO-2 to be inadequate in scope and timing to avoid or reduce impacts to burrowing owl to a level less than significant.

To support the City in avoiding or reducing impacts to burrowing owl to a level less than significant, CDFW recommends that Mitigation Measure BIO-2 is revised with the following additions in **bold** and removals in ~~strikethrough~~:

Mitigation Measure BIO-2: Burrowing Owl Focused and Pre-Construction Surveys

Suitable burrowing owl habitat has been confirmed on the site; therefore, focused burrowing owl surveys shall be conducted by a CDFW-approved qualified biologist prior to any Project activities, including vegetation- or ground-disturbing activities. CDFW strongly recommends that focused surveys are conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version)[5]. If burrowing owls are detected during the focused surveys, the qualified biologist and Project proponent shall begin coordination with CDFW and USFWS immediately, and shall submit the results of focused surveys to CDFW and USFWS as soon results become available and before commencement of any Project activities, including any vegetation- or ground-disturbing activities. CDFW recommends that the information included in the survey results be consistent with Appendix D of the *Staff Report on Burrowing Owl Mitigation*, including a detailed map showing locations of all burrowing owls, burrowing owl sign, potential burrows, and occupied burrows (occupied means at least one burrowing owl or its sign has been observed within the last three years; may be indicated by owl sign including feathers, pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance or perch site); a description of the behavior of burrowing owls during surveys; a description of survey methods; and other items listed in Appendix D of the *Staff Report on Burrowing Owl Mitigation* under "Survey Reports." Consultation with CDFW and USFWS must be completed prior to commencement of any Project activities, including vegetation- or ground-disturbing activities. If impacts to occupied burrowing owl habitat or burrow(s) or burrowing owl individuals, nests, or eggs cannot be avoided, appropriate NCCP (Fish and Game Code section 2835) or CESA authorization (i.e., Incidental Take Permit under Fish and Game Code section 2081(b)) should be obtained from CDFW prior to commencement of Project activities, including vegetation- or ground-disturbing activities.

Preconstruction burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version). Preconstruction surveys should be repeated when there is a pause in construction of more than 30 days. Preconstruction surveys shall be performed by a CDFW-approved qualified biologist following the recommendations and guidelines provided in the *Staff Report on Burrowing Owl Mitigation*. If the preconstruction surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted and the qualified biologist shall coordinate with CDFW and USFWS. Project activities shall not recommence until consultation with CDFW and USFWS is completed. ~~To ensure that no burrowing owls have moved to the Project site since the biological site survey was conducted, avoidance surveys of the Project site must be conducted immediately preceding development, in compliance with the CDFW Staff Report for Burrowing Owl (2012) protocols. The first survey should occur 14-30 days prior to initiating ground disturbance activities, and the second survey should take place withing 24 hours of ground disturbance. Should burrowing owls be detected, CDFW shall be contacted as soon as possible to determine the next course of action. CDFW must grant permission to relocate burrowing owls.~~

Response 4:

First, it is noted that the Commission found, in October 2024, that burrowing owl should be considered a candidate for listing. The species has not been listed by the Commission. Further, the biological resource study and the Initial Study correctly identify that no owls or their sign were found on the site, and that habitat is poor, but that the species could utilize existing mammal burrows on the site. Based on the poor habitat and the complete lack of sign, the qualified biologist did not recommend breeding season surveys, nor are they warranted. The Initial Study correctly requires pre-construction surveys “in compliance with the CDFW Staff Report for Burrowing Owl (2012) protocols.” These protocols provide detailed performance standards for how the surveys are to be undertaken, and how the biologist is to work with CDFW if the species is identified on-site. The mitigation measure correctly assures that impacts to burrowing owl will remain less than significant, and no change in the Initial Study is required.

Comment 5:

3) Bats

Page 4 of the MND indicates that the Project “site has been partially cleared, although many date palms remain scattered throughout 75% of the parcel while the northeast corner of the parcel is graded and barren.” Regarding the probability for western yellow bat to occur on the Project site, page 39 of the MND indicates the following: “Nesting: Absent. Roosting habitat lacking.” The MND and its supporting documents lack additional information on the presence or avoidance, minimization, or mitigation measures for western yellow bat. CDFW disagrees with the conclusion that no suitable roosting habitat for western yellow bat is located within or adjacent to the Project site. CDFW notes that palm trees are the preferred roost site of western yellow bats, which roost in the attached dead leaf fronds, or “skirts,” of both native and non-native palm trees. Street View imagery using Google Earth and photos included in the Biological Assessment show that some of the date palms within the Project site contain relatively full

"skirts," habitat that is suitable for western yellow bat (and other bat species). CDFW considers the Project site to contain suitable roosting habitat for western yellow bat. Without appropriate avoidance, minimization, and mitigation measures, such as surveys to assess presence and appropriate methods to remove fan palms, CDFW considers the MND to be inadequate in avoiding or reducing impacts to western yellow bat to a level less than significant.

To support the City in avoiding or reducing impacts to western yellow bat to a level less than significant, CDFW recommends that the City add the following mitigation measures to a revised MND:

Mitigation Measure BIO-[A]: Surveys for Daytime, Nighttime, Wintering (Hibernacula), and Maternity Roosting Sites for Western Yellow Bat

Prior to commencing Project activities, a CDFW-approved qualified bat biologist shall perform bat habitat/roosting surveys to determine presence of daytime, nighttime, wintering (hibernacula), and maternity roost sites. Surveys shall be conducted during favorable weather conditions only. Each survey shall consist of one dusk emergence survey (start one hour before sunset and last for three hours), followed by one pre-dawn re-entry survey (start one hour before sunrise and last for two hours), and one daytime visual inspection of all potential roosting habitat on the Project site. Surveys shall be conducted within one 24-hour period. Visual inspections shall focus on the identification of bat sign (i.e., individuals, guano, urine staining, corpses, feeding remains, scratch marks and bats squeaking and chattering). Bat detectors, bat call analysis, and visual observation shall be used during all dusk emergence and pre-dawn re-entry surveys. If active maternity roosts are identified in the work area or 500 feet extending from the work area, Project construction will only occur between October 1 and February 28, outside of the maternity roosting season when young bats are present but are not yet ready to fly out of the roost. Maternity roosts shall not be evicted, excluded, removed, or disturbed. If active hibernacula are identified in the work area or 500 feet extending from the work area, a minimum 500-foot no-work buffer shall be provided around hibernacula. Buffers shall be left in place until the end of Project construction and activities or until a qualified bat biologist determines that the hibernacula are no longer active. Project-related construction and activities shall not occur between 30 minutes before sunset and 30 minutes after sunrise. Hibernacula roosts shall not be evicted, excluded, removed, or disturbed.

The Project proposes removal of the date palms within the Project site. The removal of palm trees that contain roosting habitat for bats can subject bats to impacts ranging from permanent loss of day roosts, including maternity roosts, to direct mortality if avoidance, minimization, and mitigation measures are not implemented. To support the City in avoiding or reducing impacts to western yellow bats to less than significant, CDFW also recommends that the following mitigation measure is added to a revised MND:

Mitigation Measure BIO-[B]: Avoidance of Bats during Tree Removal
Tree removal work with the potential to house roosting bats shall be performed between September 15 and October 31 to minimize direct impacts to roosting bats. This time period is after young are volant (flying) but before expected onset of torpor (wintering

inactivity). Tree removal work may also be conducted between February 15 and March 31, following winter torpor and prior to the start of the maternity season. No tree removals shall occur during the hibernation season, which typically begins in November or December (depending on weather conditions) and continues through mid-February, due to the high potential for mortality of hibernating bats. Depending on weather conditions and the best professional judgement of a qualified bat biologist approved by CDFW, tree removal work may be performed in November if the forecasted nighttime low temperatures on the evening of removal and the subsequent four evenings do not drop below 45˚F. In November, if weather is cold (i.e., forecasted nighttime low temperatures reach 45˚F or less for that evening and the next four evenings), then no tree removals shall be performed. All palm removals shall require a two-step removal process and the involvement of a CDFW-approved qualified bat biologist to ensure that no roosting bats are killed during this activity. The following two-step tree removal process shall be implemented over two consecutive days: on Day 1, live palm fronds located above the frond skirt, and as identified by a qualified bat biologist, will be removed. On Day 2, the remainder of the tree may be removed without supervision by a qualified bat biologist.

Response 5:

See Response B.4., above. The commenter's review of aerial photos from 2022, as identified in GoogleEarth imagery, is not representative of current conditions, nor does it supplant a site visit by a qualified biologist, as was conducted for the Initial Study. No change to the Initial Study is required.

Comment 6:

4) Coachella Valley Multiple Species Habitat Conservation Plan

Local Development Mitigation Fee

The Project is located within the CVMSHCP Plan Boundary and outside of a Conservation Area and contains habitat for Covered Species and/or conserved natural communities. Per CVMSHCP Section 5.2.1.1 and IA Sections 12.2.1 and 13.2, the City is obligated to impose a local development mitigation fee for new development within the Plan Area that impacts vacant land containing Habitat for Covered Species and/or conserved natural communities, including small vacant lots within urban areas that contain natural open space, and to transmit collected fees to CVCC at least quarterly and prior to impacts to Covered Species and their Habitats. Page 40 of the MND states that the "City of Coachella is a signatory to the CVMSHCP and therefore the Project is required to pay a Development Mitigation Fee." To accurately document the City's obligation to impose and transmit a Local Development Mitigation Fee for the Project, CDFW recommends the City add the following mitigation measure to a revised MND:

Mitigation Measure BIO-[C]: CVMSHCP Compliance
Prior to construction and issuance of any grading permit, the City shall ensure compliance with the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) and its associated Implementing Agreement and shall ensure the collection of payment of the CVMSHCP Local Development Mitigation Fee and transfer of revenues to the Coachella Valley Conservation Commission.

Response 6:

As stated in the Initial Study, page 40, the Project is required to pay the CVMSHCP fee. Standard requirements do not require mitigation under CEQA, and no change to the Initial Study is therefore required.

Comment 7:

5) Artificial Nighttime Lighting

Page 22 of the MND indicates that the "Project buildout would introduce additional sources of nighttime light from security lighting, landscape and pathway lighting, street lighting, and interior home lighting seen from windows. Daytime glare may also be expected from windows. However, the Project's sources of lighting and glare would be consistent with and not exceed light and glare emissions from existing nearby development. The Project would adhere to the City's lighting requirements and would not produce light and glare upward into the sky." The MND lacks an analysis of direct, indirect, and cumulative impacts of artificial nighttime lighting, including impacts associated with long-term operations, on biological resources including migratory birds that fly at night, burrowing owls, bats, and other nocturnal and crepuscular wildlife. The Project is located adjacent to vacant, sparsely vegetated areas to the west and east of the Project site—areas that provide suitable nesting, roosting, foraging, and refugia habitat for birds, migratory birds that fly at night, burrowing owls, bats, and other nocturnal and crepuscular wildlife. The Project's proposed artificial nighttime lighting has the potential to significantly and adversely affect wildlife in these vacant areas adjacent to the Project site. Artificial lighting alters ecological processes including, but not limited to, the temporal niches of species; the repair and recovery of physiological function; the measurement of time through interference with the detection of circadian and lunar and seasonal cycles; the detection of resources and natural enemies; and navigation.[6] Many species use photoperiod cues for communication (e.g., bird song[7]), determining when to begin foraging,[8] behavioral thermoregulation,[9] and migration.[10] Phototaxis, a phenomenon that results in attraction and movement towards light, can disorient, entrap, and temporarily blind wildlife species that experience it.[10]

CDFW recommends that the MND is revised to include an analysis of the direct, indirect, and cumulative impacts of artificial nighttime lighting associated with the Project's long-term operations on biological resources, and appropriate avoidance, minimization, and mitigation measures that will avoid or reduce impacts to less than significant.

To support the City in avoiding, minimizing, and mitigating for the Project's direct and indirect impacts of artificial nighttime lighting on biological resources, CDFW recommends that the City include in a revised MND the following mitigation measure:

Mitigation Measure BIO-[D]: Artificial Nighttime Lightin

Throughout construction and the lifetime operations of the Project, the City shall eliminate all nonessential lighting throughout the Project area and avoid or limit the use of artificial light at night during the hours of dawn and dusk when many wildlife species are most active. The City shall ensure that all lighting for the Project is fully shielded, cast downward and directed away from surrounding open-space and agricultural areas,

reduced in intensity to the greatest extent possible, and does not result in lighting trespass including glare into surrounding areas or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). The City shall ensure use of LED lighting with a correlated color temperature of 3,000 Kelvins or less, proper disposal of hazardous waste, and recycling of lighting that contains toxic compounds with a qualified recycler.

Response 7:

The commenter's opinion is noted, but provides no substantial evidence that the Project will result in substantial lighting, or that the lighting proposed for the Project will impact biological resources. The site is surrounded by development, and is required to comply with the City's ordinances which strictly limit lighting. The City's construction hour restrictions make it unlikely that construction will occur at night. There is no evidence that lighting on the property would be significant, and no change to the Initial Study is required.

Comment 8:

6) Landscaping

Page 114 of the MND states that the "landscaped areas and retention basins would be xeriscaped with drought-tolerant plants while the park would contain grass and native, drought-tolerant trees and bushes." The MND lacks additional information on landscaping plans. CDFW recommends that the MND include recommendations regarding landscaping from Section 4.0 of the CVMSHCP "Table 4-112: Coachella Valley Native Plants Recommended for Landscaping" (pp. 4-180 to 4-182; https://cvmshcp.org/plan-documents/). CDFW also recommends incorporation of water-wise concepts in any Project landscape design plans. In particular, CDFW recommends xeriscaping with locally native California species and installing water-efficient and targeted irrigation systems (such as drip irrigation). Native plants support butterflies, birds, reptiles, amphibians, small mammals, bees, and other pollinators that evolved with those plants. More information on native plants suitable for the Project location and nearby nurseries is available at Calscape: https://calscape.org/. Local water agencies/cities and resource conservation cities in your area may be able to provide information on plant nurseries that carry locally native species, and some facilities display drought-tolerant locally native species demonstration gardens. Information on drought-tolerant landscaping and water-efficient irrigation systems is available on California's Save our Water website: https://saveourwater.com/.

Response 8:

The comment is noted. The Project is required to comply with both the City's water efficient landscaping standards and CVWD's water conservation requirements in landscaping, which include water budgeting for landscaped areas. The Project will therefore be regulated to assure low water use in landscaping, as clearly stated in the Initial Study.

Comment 9:

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be filled out and submitted online at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

ENVIRONMENTAL DOCUMENT FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the environmental document filing fee is required in order for the underlying Project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the MND to assist City in identifying and mitigating Project impacts to biological resources. CDFW concludes that the MND does not adequately identify or mitigate the Project's significant, or potentially significant, impacts to biological resources. CDFW recommends that revised and additional mitigation measures and analysis as described in this letter be added to a revised MND.

CDFW personnel are available for consultation regarding biological resources and strategies to avoid and minimize impacts. Questions regarding this letter or further coordination should be directed to Jacob Skaggs, Senior Environmental Scientist Specialist, at jacob.skaggs@wildlife.ca.gov.

Response 9:

The City will continue to assure that biologists report their findings when studies are prepared, and that CDFW fees are paid when necessary.

The commenter's opinions are noted, but as described above, the City has prepared an Initial Study which complies with CEQA and which will mitigate the impacts of the Project to less than significant levels. No changes to the document are necessary.

APPENDIX A

Comment Letters

Department of Toxic Substances Control

Yana Garcia
Secretary for
Environmental Protection

Katherine M. Butler, MPH, Director
8800 Cal Center Drive
Sacramento, California 95826-3200
dtsc.ca.gov

Gavin Newsom
Governor

SENT VIA ELECTRONIC MAIL

November 21, 2025

Adrian Moreno
Associate Planner
City of Coachella
53990 Enterprise Way
Coachella, CA 92236
amoreno@coachella.org

RE: MITIGATED NEGATIVE DECLARATION FOR THE CALHOUN STREET HOUSING DEVELOPMENT DATED NOVEMBER 19, 2025, STATE CLEARINGHOUSE NUMBER 2025110786

Dear Adrian Moreno,

The Department of Toxic Substances Control (DTSC) reviewed the Mitigated Negative Declaration (MND) for the Calhoun Street Housing Development (Project). The proposed Project is a Tentative Tract Map, Environmental Assessment, Conditional Use Permit and Planned Unit Development for a single-family residential project. The Project is located on the southwest corner of Calhoun Street and Avenue 49 in the City of Coachella, California. The site encompasses 39.98 acres and is identified as Assessor's Parcel Number (APN) 612-260-010. The applicant proposes to subdivide the Project site for a future build out of a private, gated residential community containing 257 single-family homes and a public park with a total area of 3.53 acres. DTSC recommends and requests consideration of the following comments:

1. When agricultural crops and/or land uses are proposed or rezoned for residential use, several contaminants of concern (COCs) can be present. The Lead Agency shall identify the amounts of Pesticides and Organochlorine Pesticides (OCPs) historically used on the property. If present, OCPs requiring further analysis are

dichloro-diphenyl-trichloroethane, toxaphene, and dieldrin. Additionally, any level of arsenic present would require further analysis and sampling and must meet approved local area baselines or thresholds. If they do not, remedial action must take place to mitigate them below those thresholds. Additional COCs may be found in mixing/loading/storage areas, drainage ditches, farmhouses, or any other outbuildings and should be sampled and analyzed. If smudge pots had been routinely utilized, additional sampling for Polycyclic Aromatic Hydrocarbons and/or Total Petroleum Hydrocarbons may be required. These recommendations should be adhered to and become part of the environmental document. Please refer to the DTSC's Human and Ecological Risk Office (HERO) webpage for the most recent guidance and screening levels.

2. DTSC recommends all imported soil/fill material be tested to ensure all COCs meet screening levels as outlined in DTSC's Preliminary Endangerment Assessment Guidance Manual. Furthermore, DTSC advises referencing the DTSC Information Advisory Clean Imported Fill Material Fact Sheet if importing fill is necessary. To minimize the possibility of introducing contaminated soil/fill material there should be documentation of the origins of the soil/fill material and, if applicable, sampling be conducted to ensure that the imported soil/fill material are suitable for the intended land use. The soil sampling should include analysis based on the source of the soil/fill and knowledge of prior land use.

3. The City of Coachella should consider soil testing as mentioned in comment #1. If, in the event any COC results are above DTSC residential screening levels, DTSC recommends the City of Coachella address the contaminations within the Project area through an Environmental Site Assessment and/or receive oversight from a self-certified local agency, DTSC or Regional Water Quality Control Board. If entering into one of DTSC's voluntary agreements, please note that DTSC uses a single standard Request for Lead Agency Oversight Application for all agreement types. Please apply for DTSC oversight using this link: Request for Agency Oversight Application. Submittal of the online application includes an agreement to pay costs incurred during agreement preparation. If you have any

questions about the application portal, please contact the relevant Regional Brownfield Coordinator for your Project.

DTSC would like to thank you for the opportunity to comment on the MND for the Calhoun Street Housing Development. Thank you for your assistance in protecting California's people and environment from the harmful effects of toxic substances. If you have any questions or would like clarification on DTSC's comments, please respond to this letter or via our CEQA Review email for additional guidance.

Sincerely,

Dave Kereazis

Dave Kereazis
Associate Environmental Planner
HWMP-Permitting Division – CEQA Unit
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

cc: (via email)

Governor's Office of Land Use and Climate Innovation
State Clearinghouse
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United States Department of the Interior
U.S. FISH AND WILDLIFE SERVICE
Ecological Services
Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262

In Reply Refer to:
2026-0019760 -CEQA-TA-ERIV

December 4, 2025
Sent Electronically

Adrian Moreno
Associate Planner
City of Coachella
53990 Enterprise Way
Coachella, California 92236

Subject: Notice of Availability of a Draft Initial Study Mitigated Negative Declaration for the Calhoun Street Housing Development Project, City of Coachella, Riverside County, California

Dear Adrian Moreno:

This letter is in response to the notice of availability dated November 18, 2025, soliciting comments on the draft Initial Study Mitigated Negative Declaration (ISMND) for the Calhoun Street Housing Development Project (Project), located in the City of Coachella, Riverside County, California. The proposed Project site is located on the southwest corner of Calhoun Street and Avenue 49 in the City of Coachella (City) and is bounded along the west perimeter by lands within the City of Indio, California.

We offer the following comments on the ISMND as they relate to potential impacts on public trust resources. The primary concern and mandate of the U.S. Fish and Wildlife Service (Service) is the conservation, protection, and enhancement of fish and wildlife resources and their habitats for the continuing benefit of the American people. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and threatened or endangered animals and plants listed under the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq*.). The comments provided herein are based on the information provided in the ISMND and our knowledge of sensitive and declining fish and wildlife resources.

The Project site is within the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) Area, and the City is a Local Permittee to the CVMSHCP. The Project applicant proposes to subdivide the 39.98 acres (ac) Project site for a future build of a private, gated residential community containing 257 single-family homes and a 3.53-ac public park, with 3.13-ac for recreational open space and 0.40 ac for a landscaped retention basin. The proposed Project also includes right-of-way allowances for future road improvements along Avenue 49 and Calhoun Street. The Project site is surrounded by single-family residential land uses on the north, south, and west, and a vacant lot occurs on the east of the Project site. Currently, the Project site is zoned as “General Neighborhood” in the City’s General Plan 2035 Update. The applicant

proposes a Planned Unit Development that would permit flexible standards for smaller lot sizes and a higher density for a private gated community than the Project site's current designation allows.

NESTING BIRDS

The draft ISMND states that a field assessment occurred on February 29, 2024. The field assessment included the 39.98-ac Project site and a 500-foot buffer zone. The Project site, which previously hosted a date palm grove, contains rows of leftover date palms on the southern and western portions of the site. The northeast portion is graded and has not been used to grow dates since 2002. Sparse perennial vegetation occurs throughout the Project site, particularly under the remaining date palms and in the northwest corner, which contains a small irrigation reservoir. The draft ISMND states that due to existing site disturbances, including the previous date palm grove, grading, and recent off-road vehicle use and dumping of trash, the probability of special status-species occurring on the site is low. No special-status species, including nesting birds, were observed during the field assessment; however, the draft ISMND notes that due to the existing vegetative scrub and date palms, the Project site may still be used by resident and migratory nesting birds.

Due to the presence of sparse vegetation throughout the Project site, the Service agrees that special-status species have the potential to occur within the Project site. The presence of sparse vegetation, particularly cover of shrubs, is suitable habitat for ground-nesting birds. Moreover, the presence of bare ground on the northeast portion of the Project site also constitutes suitable nesting habitat for some ground-nesting birds. Therefore, the proposed development has the potential to impact nesting birds. However, the ISMND does not indicate that focused nesting bird surveys were completed, likely contributing to the lack of nesting bird observations during the field assessment. Focused nesting bird surveys, both within and outside of nesting season, are necessary to accurately confirm nesting bird presence or absence. A complete assessment of the biological resources within the Project area is required to assess the Project's potential impacts to nesting birds. Please revise the ISMND to include a complete assessment of the Project's potential impacts to nesting bird habitat, including completion of nesting bird surveys during the appropriate time of year, to determine the extent of nesting birds on the Project site.

The draft ISMND includes Mitigation Measure (MM) BIO-1, which states that "[b]ird nesting season for resident birds in Southern California occurs between February 1 and August 31." Please note that the timing of nesting season is highly variable. Changing climate conditions have resulted in nesting birds breeding both earlier and later in the year than suggested in previous guidance. Nesting season may generally be considered to occur between January and October; however, timing varies on a species-by-species basis. Coordination with the Service and the California Department of Fish and Wildlife (CDFW; collectively, the Wildlife Agencies) is necessary to determine appropriate timing of nesting season surveys. Additionally, to address the variability in nesting season, we recommend that MM-BIO-1 be revised to require nesting bird surveys throughout construction, both within and outside of nesting season, to avoid any potential adverse effects to nesting.

BURROWING OWL

The draft ISMND states that marginally suitable habitat for western burrowing owl (*Athene cunicularia hypugaea*; burrowing owl), a CVMSHCP-Covered Species, Service Bird of Conservation Concern, and candidate species under the California Endangered Species Act, occurs intermittently throughout the Project site, and suitable California ground squirrel burrows were observed during the field assessment. Additionally, the draft ISMND states that the Project site is largely disturbed. Burrowing owl are known to occupy disturbed habitat; therefore, due to the presence of disturbed habitat, sparse vegetation, and suitable burrows within the Project area, the Service agrees with the conclusion that suitable habitat for burrowing owl occurs on the Project site, and burrowing owls have the potential to inhabit the site. No burrowing owls or signs of burrowing owls were observed during the field assessment; however, the draft ISMND does not indicate completion of focused burrowing owl surveys. Focused burrowing owl surveys during the breeding season and nonbreeding season are necessary to accurately confirm burrowing owl presence or absence. Pursuant to the CDFW Staff Report on Burrowing Owl Mitigation (2012 or most recent version), for both breeding and non-breeding season surveys, a minimum of four survey visits are required to assess a site for burrowing owl presence. Given the lack of multiple, focused burrowing owl surveys, the total number of burrowing owl individuals or suitable and occupied burrows within the Project site and 500-foot buffer is unknown. Please revise the draft ISMND to include an accurate assessment of the Project's potential impacts to burrowing owl, including focused survey results following the protocols outlined in the 2012 Staff Report on Burrowing Owl Mitigation.

MM BIO-2 states that burrowing owl avoidance surveys must be conducted immediately preceding development, including 14-30 days prior to initiating ground disturbance activities, and within 24 hours of ground disturbance, in compliance with the 2012 Staff Report on Burrowing Owl Mitigation. As stated in the 2012 Staff Report on Burrowing Owl Mitigation, burrowing owls may re-colonize a Project site should any time lapses between Project activities occur. Such time lapses would trigger subsequent take avoidance surveys, which may include a final survey conducted within 24 hours prior to ground disturbance. Due to the potential for burrowing owl to occur throughout the construction period, in addition to focused surveys (breeding season and non-breeding season) and take avoidance surveys prior to initiating ground disturbance, additional surveillance monitoring surveys for burrowing owls should be continued throughout construction to avoid any potential impacts to burrowing owl [see the 2012 Staff Report, Site Surveillance (page 9), Appendix D, Take Avoidance Surveys (page 29-30)].

MM BIO-2 also states that "Should burrowing owls be detected, CDFW shall be contacted as soon as possible to determine the next course of action. CDFW must grant permission to relocate burrowing owls." As stated above, burrowing owl is a Covered Species under the CVMSHCP. The CVMSHCP is governed by both CDFW's Natural Community Conservation Plan Permit and the Service's section 10(a)(1)(B) permit issued under the Act. Although burrowing owl is not a federally listed species under the Act, a non-listed species covered in a Habitat Conservation Plan (HCP) must be treated as if it were already listed, and all conservation measures described in the HCP for that species must be fully implemented. Please revise MM BIO-2 to require that, if the focused surveys and/or pre-construction surveys confirm burrowing owl presence, the Project

applicant shall submit a Burrowing Owl Plan that includes avoidance, minimization, and mitigation measures to both Wildlife Agencies for review and approval prior to any ground disturbance or vegetation removal. The Project proponent shall coordinate with the Wildlife Agencies on the appropriate avoidance, minimization, and mitigation measures to be included in the Burrowing Owl Plan. Per Section 4.4 and Section 8.5.2 of the CVMSHCP, relocation of burrowing owls must follow protocols accepted by the Wildlife Agencies, and active relocation and eviction/passive relocation must be determined through coordination with the Wildlife Agencies for all Covered Activities. As such, please revise MM BIO-2 to state that if avoidance of burrowing owl is not possible, the Project applicant shall coordinate with both Wildlife Agencies on a burrowing owl relocation plan. Additionally, please include language that states that the Project proponent shall submit the relocation plan to the Wildlife Agencies for review and approval. Both the Burrowing Owl Plan and relocation plan should be submitted to the Wildlife Agencies for review and approval as soon as possible to avoid project delays due to the burrowing owl breeding season. These measures are necessary for the City in fulfilling its obligations as a CVMSHCP Permittee.

WESTERN YELLOW BAT

The draft ISMND states that roosting habitat for the western yellow bat (*Lasiurus xanthinus*), a CVMSHCP-Covered Species, is absent on the Project site, and probability of foraging is low. The draft ISMND concludes that the western yellow bat is absent from the Project site. Western yellow bat habitat includes valley foothill riparian, desert riparian, desert wash, and palm oasis habitats, and the species typically roosts in the skirt of dead fronds of fan palms. Western yellow bat has been documented to roost in both native and non-native palm trees, and additional information has shown that they may roost in the dead fronds of other plants with structural similarities to fan palms. Additionally, the species has also been documented to occur in open grassy areas, residential areas, over swimming pools, and in orchards. Dead palm fronds occur within the fallow date palm grove portion of the Project site, and the Project site and surrounding residential areas may provide foraging opportunities; therefore, the Service considers the Project site to contain suitable habitat for western yellow bat, and western yellow bat have the potential to occur within the Project site.

The draft ISMND indicates that western yellow bats were not observed during the field assessment. However, the draft ISMND does not indicate completion of focused bat surveys, likely contributing to the lack of western yellow bat observations during the field assessment. Focused bat surveys are necessary to accurately confirm the presence or absence of special-status bat species. Please revise the draft ISMND to include a complete assessment of the Project's potential impacts to bat habitat, including completion of focused bat surveys following accepted survey methods, to accurately determine the extent of bats on and adjacent to the proposed Project site. In addition to focused surveys, pre-construction clearance surveys are necessary to avoid any potential impacts to western yellow bat. Please revise the draft ISMND to require bat pre-construction surveys conducted by a qualified biologist, with detailed information regarding the survey methods, including the number of days of acoustic monitoring, emergence roost counts, and number of roost count observers included. Additionally, please note that multiple surveys are required during the maternity season to accurately document roost activity. A

minimum of two surveys during the maternity season, one during spring and one during summer, are required. In addition to bat maternity season surveys, a winter survey and migration period survey should also be required to identify presence of bats in the Project site throughout the year. If special status bats are determined to be present at the Project site, please coordinate with the Service on implementation of the appropriate avoidance, minimization, and mitigation measures prior to beginning project activities.

We appreciate the opportunity to provide comments on the draft ISMND. If you have any questions regarding these comments, please contact Lory Salazar-Velasquez.[1]

Sincerely,

for Brian Croft
Field Supervisor

[1] lory_salazar-velasquez@fws.gov.

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

December 8, 2025
Sent via email

Adrian Moreno
Associate Planner
City of Coachella
53990 Enterprise Way
Coachella, CA 92236
amoreno@coachella.org

Calhoun Street Housing Development Project (PROJECT)
Mitigated Negative Declaration (MND)
SCH# 2025110786

Dear Adrian Moreno:

The California Department of Fish and Wildlife (CDFW) received a Draft Mitigated Negative Declaration (MND) from the City of Coachella (City) for the Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on Projects and related activities that have the potential to adversely affect fish and wildlife resources.

[1]CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

Proponent: Pacific Modern Builders LLC

Objective: The Project proposes to subdivide the Project site for a future build out of a residential community containing 257 single-family homes and a public park with a total area of 3.53 acres, 3.13 acres for recreational open space, and four retention basins that will accept all on-site flows. Construction activities would occur during the day, and there would be no need to apply nighttime security lighting on the Project site. Construction activities would not introduce new sources of light or glare. Project buildout would introduce additional sources of nighttime light from security lighting, landscape and pathway lighting, street lighting, and interior home lighting seen from windows. Landscaped areas and retention basins would be xeriscaped with drought-tolerant plants while the park would contain grass and native, drought-tolerant trees and bushes.

Location: The Project site is located on the southwest corner of Calhoun Street and Avenue 49 in the City of Coachella, Riverside County, California. The site encompasses 39.98 acres and is identified as Assessor's Parcel Number 612-260-010.

Timeframe: The MND indicates that construction activities would be completed by 2026.

COMMENTS AND RECOMMENDATIONS

CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (i.e., biological resources). CDFW offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. The MND has not adequately identified and disclosed the Project's impacts (i.e., direct, indirect, and cumulative) on biological resources and whether those impacts are reduced to less than significant.

CDFW's comments and recommendations on the MND are explained in greater detail below and summarized here. CDFW is concerned that the MND does not adequately

identify or mitigate the Project's significant, or potentially significant, impacts to biological resources. CDFW also concludes that the MND lacks sufficient information to facilitate a meaningful review by CDFW, including a complete and accurate assessment of biological resources on the Project site. CDFW requests that additional information and analyses be added to a revised MND, along with avoidance, minimization, and mitigation measures that avoid or reduce impacts to less than significant.

Existing Environmental Setting

Compliance with CEQA is predicated on a complete and accurate description of the environmental setting that may be affected by the proposed Project. CDFW is concerned that the assessment of the existing environmental setting has not been adequately analyzed in the MND. CDFW is concerned that without a complete and accurate description of the existing environmental setting, the MND may provide an incomplete analysis of Project-related environmental impacts.

The MND lacks a complete assessment of biological resources associated with burrowing owl (*Athene cunicularia*) and western yellow bat (*Lasiurus xanthinus*) within the Project site and surrounding area. A complete and accurate assessment of the environmental setting and Project-related impacts to biological resources is needed to both identify appropriate avoidance, minimization, and mitigation measures and demonstrate that these measures reduce Project impacts to less than significant.

Mitigation Measures

CEQA requires that an MND include mitigation measures to avoid or reduce significant impacts. CDFW is concerned that the mitigation measures proposed in the MND are not adequate to avoid or reduce impacts to biological resources to below a level of significance. To support the City in ensuring that Project impacts to biological resources are reduced to less than significant, CDFW recommends adding mitigation measures for surveys for bats, avoidance of bats during tree removal, artificial nighttime lighting, and compliance with the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), as well as revising the mitigation measures for nesting birds and burrowing owls.

1) Nesting Birds

It is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code

or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

With regard to the CVMSHCP, per its associated Implementing Agreement (IA) and Permits from CDFW and the U.S. Fish and Wildlife Service (the Wildlife Agencies), Take associated with Covered Activities will not be in violation of the Migratory Bird Treaty Act and will be consistent with Fish and Game Code sections 3503 and 3503.5; therefore, all Covered Activities within and outside Conservation Areas must undertake measures to avoid the take of individuals, nests, and eggs of nesting birds. The CVMSHCP includes a general conservation measure that applies to all bird species to avoid impacts to habitat for nesting birds during the nesting season (CVMSHCP Section 9.7). Per IA Section 13.2, the City is obligated to ensure the projects to which it confers Take Authorization under the CVMSHCP comply with all terms and requirements of the CVMSHCP, the Wildlife Agencies' Permits that create the CVMSHCP, and the IA, including compliance with laws that protect nesting birds..

Page 39 of the MND indicates that "existing vegetative scrub and date palms found on the Project site could potentially be used by both resident and migratory nesting birds." CDFW adds that the Project site contains suitable habitat for both ground-nesting birds and birds that nest in shrubs and trees.

The MND includes Mitigation Measure BIO-1 for nesting birds, which indicates that the "bird nesting season for resident birds in Southern California occurs between February 1 and August 31. To avoid impacts to nesting birds, all vegetation clearing, ground disturbance, and construction activity should be scheduled between September 1 and January 31 if possible. If construction occurs during the nesting season, a certified avian biologist must conduct a pre-construction nesting bird survey (NBS) immediately prior to scheduled construction activity." CDFW considers the mitigation measure for nesting birds in the MND to be inadequate in scope and timing to avoid or reduce impacts to nesting birds to a level less than significant. In alignment with the CVMSHCP's general conservation measure for nesting birds (CVMSHCP Section 9.7), CDFW recommends Project construction activities are conducted outside of the peak nesting bird season. CDFW also recommends the completion of nesting bird surveys *regardless* of the time of year to ensure that impacts to nesting birds and their nests and eggs are avoided. The timing of the nesting season varies greatly depending on several factors, such as bird species, weather conditions in any given year, and long-term climate changes (e.g., drought, warming, etc.). In response to warming, birds have been reported to breed earlier, thereby reducing temperatures that nests are exposed to during breeding and

tracking shifts in availability of resources (Socolar et al., 2017[2]). CDFW staff have observed that climate change conditions may result in the nesting bird season occurring earlier and later in the year than historical nesting season dates. CDFW recommends that disturbance of occupied nests of migratory birds and raptors within the Project site and surrounding area be avoided any time birds are nesting on-site. CDFW therefore recommends the completion of nesting bird surveys *regardless of the time of year* to ensure compliance with all applicable laws pertaining to nesting and migratory birds.

To support the City in avoiding or reducing impacts to nesting birds to a level less than significant, CDFW recommends Mitigation Measure BIO-1 is revised as follows, with additions in **bold** and removals in ~~strikethrough~~:

Mitigation Measure BIO-1: Nesting Birds

To the greatest extent feasible, the Project will avoid construction activities during the peak nesting season (January 15 through September 15). Regardless of the time of year, nesting bird surveys shall be performed by a qualified avian biologist no more than 3 days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the pre-construction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Construction activities may not occur inside the established buffers, which shall remain on-site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance. ~~Bird nesting season for resident birds in Southern California occurs between February 1 and August 31. To avoid impacts to nesting birds, all vegetation clearing, ground disturbance, and construction activity should be scheduled between September 1 and January 31 if possible. If construction occurs during the nesting season, a certified avian biologist must conduct a pre-~~

[2] Socolar JB, Epanchin PN, Beissinger SR and Tingley MW (2017). Phenological shifts conserve thermal niches. Proceedings of the National Academy of Sciences 114(49): 12976-12981.

~~construction nesting bird survey (NBS) immediately prior to scheduled construction activity. If active nests are identified, the biologist will demarcate a no-work buffer zone(s) around the active nest(s) and check the nest site(s) weekly until the young birds fledge and the nest(s) become inactive. The buffer zone size would be based on the nesting species, its sensitivity to disturbance, nesting stage and the expected intensity and duration of disturbance. No ground or vegetation disturbance shall occur within the nest site buffer zone(s) until the qualified biologist determines that the young have successfully fledged, and the nest is inactive. Per CDFW recommendations, a buffer of 500 feet shall be set for listed species and birds of prey, and a buffer of 100 to 300 feet shall be set for unlisted songbirds.~~

Pursuant to the CEQA Guidelines, section 15097(f), CDFW has prepared a draft mitigation monitoring and reporting program (MMRP) in Attachment 1 for revised MM BIO-1 and MM BIO-2, as well as CDFW-recommended MM BIO-[A], MM BIO-[B], MM BIO-[C], and MM BIO-[D].

2) Burrowing Owl

On October 10, 2024, the Fish and Game Commission determined that western burrowing owl warrants protection as a candidate species under the California Endangered Species Act (Fish & G. Code, § 2050 et seq.). During the candidacy period, western burrowing owl will be afforded the same protection as threatened and endangered species under CESA. If Project activities, including relocation, could result in take, appropriate CESA authorization (i.e., Incidental Take Permit under Fish and Game Code section 2081) should be obtained prior to commencement of Project activities.

Take of individual burrowing owls and their nests or eggs is defined by Fish and Game Code section 86, and prohibited by sections 3503, 3503.5, and 3513. Take is defined in Fish and Game Code section 86 as “hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, catch, capture or kill.” Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

With regard to the CVMSHCP, the CDFW Natural Community Conservation Plan (NCCP) Permit #2835-2008-001-06 does not provide Take Authorization for burrowing owl individuals, nests, or eggs. To the contrary, section 3.5.6 of the NCCP Permit states

burrowing owl “pairs or individuals will not be Taken” and reiterates that the “HCP/NCCP does not authorize Take of [burrowing owl] nests [or] eggs[.]” Therefore, throughout the CVMSHCP area—both within and without Conservation Areas—Permittees must ensure that activities occurring within their jurisdictions do not result in the take, possession, or destruction of burrowing owl individuals, nests, or eggs. Any activity occurring within the CVMSHCP area that results in the take of burrowing owl individuals, nests, or eggs would be unlawful and would not be a Covered Activity under the CVMSHCP. Per IA Section 13.2, the City is obligated to ensure the projects to which it confers Take Authorization under the CVMSHCP comply with all terms and requirements of the CVMSHCP, the Wildlife Agencies’ Permits that created the CVMSHCP, and the IA, including compliance with laws that protect burrowing owls.

Page 40 of the MND states that “no burrowing owls, or signs of burrowing owls were observed during the site survey, however, suitable habitat and burrows suitable for burrowing owls were observed on the Project site. Burrowing owls could potentially relocate to the Project site between the time of the site survey and the start of construction due to their attraction to open dry areas and agricultural sites.” CDFW agrees that the Project site contains suitable nesting and foraging habitat for burrowing owl. The MND and its supporting documents lack information on whether focused surveys for burrowing owl were conducted and the methods used to conduct any surveys for burrowing owl. Because the MND lacks the findings of recent focused surveys for burrowing owl following the guidelines in the *Staff Report on Burrowing Owl Mitigation*,[3] the number and locations of suitable and occupied burrows within the Project site are unknown. Given the lack of results from focused surveys for burrowing owl following recommended protocols and the lack of survey reports, CDFW is limited in its ability to provide biological expertise to support the City in reducing impacts to burrowing owl to a level less than significant. CDFW recommends that the MND is revised to include the results of four focused surveys for burrowing owl within the entire Project site and surrounding area, including survey reports,[4] following the guidelines outlined in Appendix D of the *Staff Report on Burrowing Owl Mitigation* and to incorporate appropriate avoidance, minimization, and mitigation measures for burrowing owl. Focused surveys are needed to inform appropriate avoidance, minimization, and mitigation measures and support the City in avoiding or reducing impacts to burrowing owl to a level less than significant. CDFW requests that if burrowing owls are detected

[3] California Department of Fish and Game (CDFG). 2012. Staff report on burrowing owl mitigation. State of California, Natural Resources Agency. Available for download at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843&inline

[4] Survey reports should include details on survey methods and results, including, but not limited to, the names and qualifications of surveyor(s); a description of survey methods; a description of the conditions of the project site and recent photos; map(s) showing the locations of all suitable burrows, occupied burrows, burrowing owls, and burrowing owl sign; descriptions of burrowing owl behavior observed; California Natural Diversity Database (CNDDB) field survey forms, etc. For more information, see Appendix D, Survey Reports, of the CDFW 2012 Staff Report on Burrowing Owl Mitigation.

during focused surveys, survey results are submitted to the Wildlife Agencies, and the City initiate consultation with the Wildlife Agencies to identify a path forward regarding the protection of burrowing owls.

The MND includes Mitigation Measure BIO-2, which indicates that "to ensure that no burrowing owls have moved to the Project site since the biological site survey was conducted." In addition to pre-construction surveys, CDFW recommends that focused burrowing owl surveys are first conducted and the results submitted to Wildlife Agencies. This provides time for the City and Project proponent to start coordination with the Wildlife Agencies early to identify appropriate avoidance, minimization, and mitigation measures and reduce the chance of Project delays. Without details on focused surveys and appropriate information sharing and coordination with the Wildlife Agencies, CDFW considers Mitigation Measure BIO-2 to be inadequate in scope and timing to avoid or reduce impacts to burrowing owl to a level less than significant.

To support the City in avoiding or reducing impacts to burrowing owl to a level less than significant, CDFW recommends that Mitigation Measure BIO-2 is revised with the following additions in **bold** and removals in ~~strikethrough~~:

Mitigation Measure BIO-2: Burrowing Owl Focused and Pre-Construction Surveys

Suitable burrowing owl habitat has been confirmed on the site; therefore, focused burrowing owl surveys shall be conducted by a CDFW-approved qualified biologist prior to any Project activities, including vegetation- or ground-disturbing activities. CDFW strongly recommends that focused surveys are conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version)[5]. If burrowing owls are detected during the focused surveys, the qualified biologist and Project proponent shall begin coordination with CDFW and USFWS immediately, and shall submit the results of focused surveys to CDFW and USFWS as soon results become available and before commencement of any Project activities, including any vegetation- or ground-disturbing activities. CDFW recommends that the information included in the survey results be consistent with Appendix D of the *Staff Report on Burrowing Owl Mitigation*, including a detailed map showing locations of all burrowing owls, burrowing owl sign, potential burrows, and occupied burrows (occupied means at least one burrowing owl or its sign has been observed within the last three years; may be indicated by owl sign including feathers, pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance or perch site); a description of the behavior of burrowing owls during surveys; a description of survey

[5] California Department of Fish and Wildlife (CDFW). 2012. Staff Report on Burrowing Owl Mitigation. State of California, Natural Resources Agency. Available for download at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843.

methods; and other items listed in Appendix D of the *Staff Report on Burrowing Owl Mitigation* under "Survey Reports." Consultation with CDFW and USFWS must be completed prior to commencement of any Project activities, including vegetation- or ground-disturbing activities. If impacts to occupied burrowing owl habitat or burrow(s) or burrowing owl individuals, nests, or eggs cannot be avoided, appropriate NCCP (Fish and Game Code section 2835) or CESA authorization (i.e., Incidental Take Permit under Fish and Game Code section 2081(b)) should be obtained from CDFW prior to commencement of Project activities, including vegetation- or ground-disturbing activities.

Preconstruction burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version). Preconstruction surveys should be repeated when there is a pause in construction of more than 30 days. Preconstruction surveys shall be performed by a CDFW-approved qualified biologist following the recommendations and guidelines provided in the *Staff Report on Burrowing Owl Mitigation*. If the preconstruction surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted and the qualified biologist shall coordinate with CDFW and USFWS. Project activities shall not recommence until consultation with CDFW and USFWS is completed. ~~To ensure that no burrowing owls have moved to the Project site since the biological site survey was conducted, avoidance surveys of the Project site must be conducted immediately preceding development, in compliance with the CDFW Staff Report for Burrowing Owl (2012) protocols. The first survey should occur 14-30 days prior to initiating ground disturbance activities, and the second survey should take place withing 24 hours of ground disturbance. Should burrowing owls be detected, CDFW shall be contacted as soon as possible to determine the next course of action. CDFW must grant permission to relocate burrowing owls.~~

3) Bats

Page 4 of the MND indicates that the Project "site has been partially cleared, although many date palms remain scattered throughout 75% of the parcel while the northeast corner of the parcel is graded and barren." Regarding the probability for western yellow bat to occur on the Project site, page 39 of the MND indicates the following: "Nesting: Absent. Roosting habitat lacking." The MND and its supporting documents lack additional information on the presence or avoidance, minimization, or mitigation measures for western yellow bat. CDFW disagrees with the conclusion that no suitable roosting habitat for western yellow bat is located within or adjacent to the Project site. CDFW notes that palm trees are the preferred roost site of western yellow bats, which roost in the attached dead leaf fronds, or "skirts," of both native and non-native palm trees. Street View imagery using Google Earth and photos included in the Biological Assessment show that some of the date palms within the Project site contain relatively full "skirts," habitat that is suitable for western yellow bat (and other bat species). CDFW

considers the Project site to contain suitable roosting habitat for western yellow bat. Without appropriate avoidance, minimization, and mitigation measures, such as surveys to assess presence and appropriate methods to remove fan palms, CDFW considers the MND to be inadequate in avoiding or reducing impacts to western yellow bat to a level less than significant.

To support the City in avoiding or reducing impacts to western yellow bat to a level less than significant, CDFW recommends that the City add the following mitigation measures to a revised MND:

Mitigation Measure BIO-[A]: Surveys for Daytime, Nighttime, Wintering (Hibernacula), and Maternity Roosting Sites for Western Yellow Bat

Prior to commencing Project activities, a CDFW-approved qualified bat biologist shall perform bat habitat/roosting surveys to determine presence of daytime, nighttime, wintering (hibernacula), and maternity roost sites. Surveys shall be conducted during favorable weather conditions only. Each survey shall consist of one dusk emergence survey (start one hour before sunset and last for three hours), followed by one pre-dawn re-entry survey (start one hour before sunrise and last for two hours), and one daytime visual inspection of all potential roosting habitat on the Project site. Surveys shall be conducted within one 24-hour period. Visual inspections shall focus on the identification of bat sign (i.e., individuals, guano, urine staining, corpses, feeding remains, scratch marks and bats squeaking and chattering). Bat detectors, bat call analysis, and visual observation shall be used during all dusk emergence and pre-dawn re-entry surveys. If active maternity roosts are identified in the work area or 500 feet extending from the work area, Project construction will only occur between October 1 and February 28, outside of the maternity roosting season when young bats are present but are not yet ready to fly out of the roost. Maternity roosts shall not be evicted, excluded, removed, or disturbed. If active hibernacula are identified in the work area or 500 feet extending from the work area, a minimum 500-foot no-work buffer shall be provided around hibernacula. Buffers shall be left in place until the end of Project construction and activities or until a qualified bat biologist determines that the hibernacula are no longer active. Project-related construction and activities shall not occur between 30 minutes before sunset and 30 minutes after sunrise. Hibernacula roosts shall not be evicted, excluded, removed, or disturbed.

The Project proposes removal of the date palms within the Project site. The removal of palm trees that contain roosting habitat for bats can subject bats to impacts ranging from permanent loss of day roosts, including maternity roosts, to direct mortality if avoidance, minimization, and mitigation measures are not implemented. To support the City in avoiding or reducing impacts to western yellow bats to less than significant, CDFW also recommends that the following mitigation measure is added to a revised

MND:

Mitigation Measure BIO-[B]: Avoidance of Bats during Tree Removal

Tree removal work with the potential to house roosting bats shall be performed between September 15 and October 31 to minimize direct impacts to roosting bats. This time period is after young are volant (flying) but before expected onset of torpor (wintering inactivity). Tree removal work may also be conducted between February 15 and March 31, following winter torpor and prior to the start of the maternity season. No tree removals shall occur during the hibernation season, which typically begins in November or December (depending on weather conditions) and continues through mid-February, due to the high potential for mortality of hibernating bats. Depending on weather conditions and the best professional judgement of a qualified bat biologist approved by CDFW, tree removal work may be performed in November if the forecasted nighttime low temperatures on the evening of removal and the subsequent four evenings do not drop below 45˚F. In November, if weather is cold (i.e., forecasted nighttime low temperatures reach 45˚F or less for that evening and the next four evenings), then no tree removals shall be performed. All palm removals shall require a two-step removal process and the involvement of a CDFW-approved qualified bat biologist to ensure that no roosting bats are killed during this activity. The following two-step tree removal process shall be implemented over two consecutive days: on Day 1, live palm fronds located above the frond skirt, and as identified by a qualified bat biologist, will be removed. On Day 2, the remainder of the tree may be removed without supervision by a qualified bat biologist.

4) Coachella Valley Multiple Species Habitat Conservation Plan

Local Development Mitigation Fee

The Project is located within the CVMSHCP Plan Boundary and outside of a Conservation Area and contains habitat for Covered Species and/or conserved natural communities. Per CVMSHCP Section 5.2.1.1 and IA Sections 12.2.1 and 13.2, the City is obligated to impose a local development mitigation fee for new development within the Plan Area that impacts vacant land containing Habitat for Covered Species and/or conserved natural communities, including small vacant lots within urban areas that contain natural open space, and to transmit collected fees to CVCC at least quarterly and prior to impacts to Covered Species and their Habitats. Page 40 of the MND states that the “City of Coachella is a signatory to the CVMSHCP and therefore the Project is required to pay a Development Mitigation Fee.” To accurately document the City’s obligation to impose and transmit a Local Development Mitigation Fee for the Project, CDFW recommends the City add the following mitigation measure to a revised MND:

Mitigation Measure BIO-[C]: CVMSHCP Compliance

Prior to construction and issuance of any grading permit, the City shall ensure compliance with the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) and its associated Implementing Agreement and shall ensure the collection of payment of the CVMSHCP Local Development Mitigation Fee and transfer of revenues to the Coachella Valley Conservation Commission.

5) Artificial Nighttime Lighting

Page 22 of the MND indicates that the "Project buildout would introduce additional sources of nighttime light from security lighting, landscape and pathway lighting, street lighting, and interior home lighting seen from windows. Daytime glare may also be expected from windows. However, the Project's sources of lighting and glare would be consistent with and not exceed light and glare emissions from existing nearby development. The Project would adhere to the City's lighting requirements and would not produce light and glare upward into the sky." The MND lacks an analysis of direct, indirect, and cumulative impacts of artificial nighttime lighting, including impacts associated with long-term operations, on biological resources including migratory birds that fly at night, burrowing owls, bats, and other nocturnal and crepuscular wildlife. The Project is located adjacent to vacant, sparsely vegetated areas to the west and east of the Project site—areas that provide suitable nesting, roosting, foraging, and refugia habitat for birds, migratory birds that fly at night, burrowing owls, bats, and other nocturnal and crepuscular wildlife. The Project's proposed artificial nighttime lighting has the potential to significantly and adversely affect wildlife in these vacant areas adjacent to the Project site. Artificial lighting alters ecological processes including, but not limited to, the temporal niches of species; the repair and recovery of physiological function; the measurement of time through interference with the detection of circadian and lunar and seasonal cycles; the detection of resources and natural enemies; and navigation.[6] Many species use photoperiod cues for communication (e.g., bird song[7]), determining when to begin foraging,[8] behavioral thermoregulation,[9] and migration.[10] Phototaxis, a phenomenon that results in attraction and movement towards light, can disorient, entrap, and temporarily blind wildlife species that experience it.[10]

CDFW recommends that the MND is revised to include an analysis of the direct, indirect, and cumulative impacts of artificial nighttime lighting associated with the Project's long-term operations on biological resources, and appropriate avoidance,

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[6] Gatson, K. J., Bennie, J., Davies, T., Hopkins, J. 2013. The ecological impacts of nighttime light pollution: a mechanistic appraisal. Biological Reviews, 88.4: 912-927.
[7] Miller, M. W. 2006. Apparent effects of light pollution on singing behavior of American robins. The Condor 108:130–139.
[8] Stone, E. L., G. Jones, and S. Harris. 2009. Street lighting disturbs commuting bats. Current Biology 19:1123–1127.
[9] Beiswenger, R. E. 1977. Diet patterns of aggregative behavior in tadpoles of *Bufo americanus*, in relation to light and temperature. Ecology 58:98–108.
[10] Longcore, T., and C. Rich. 2004. Ecological light pollution - Review. Frontiers in Ecology and the Environment 2:191–198.

minimization, and mitigation measures that will avoid or reduce impacts to less than significant.

To support the City in avoiding, minimizing, and mitigating for the Project's direct and indirect impacts of artificial nighttime lighting on biological resources, CDFW recommends that the City include in a revised MND the following mitigation measure:

Mitigation Measure BIO-[D]: Artificial Nighttime Lighting

Throughout construction and the lifetime operations of the Project, the City shall eliminate all nonessential lighting throughout the Project area and avoid or limit the use of artificial light at night during the hours of dawn and dusk when many wildlife species are most active. The City shall ensure that all lighting for the Project is fully shielded, cast downward and directed away from surrounding open-space and agricultural areas, reduced in intensity to the greatest extent possible, and does not result in lighting trespass including glare into surrounding areas or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). The City shall ensure use of LED lighting with a correlated color temperature of 3,000 Kelvins or less, proper disposal of hazardous waste, and recycling of lighting that contains toxic compounds with a qualified recycler.

6) Landscaping

Page 114 of the MND states that the "landscaped areas and retention basins would be xeriscaped with drought-tolerant plants while the park would contain grass and native, drought- tolerant trees and bushes." The MND lacks additional information on landscaping plans. CDFW recommends that the MND include recommendations regarding landscaping from Section 4.0 of the CVMSHCP "Table 4-112: Coachella Valley Native Plants Recommended for Landscaping" (pp. 4-180 to 4-182; https://cvmshcp.org/plan-documents/). CDFW also recommends incorporation of water-wise concepts in any Project landscape design plans. In particular, CDFW recommends xeriscaping with locally native California species and installing water-efficient and targeted irrigation systems (such as drip irrigation). Native plants support butterflies, birds, reptiles, amphibians, small mammals, bees, and other pollinators that evolved with those plants. More information on native plants suitable for the Project location and nearby nurseries is available at Calscape: https://calscape.org/. Local water agencies/cities and resource conservation cities in your area may be able to provide information on plant nurseries that carry locally native species, and some facilities display drought-tolerant locally native species demonstration gardens. Information on drought-tolerant landscaping and water-efficient irrigation systems is available on California's Save our Water website: https://saveourwater.com/.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be filled out and submitted online at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

ENVIRONMENTAL DOCUMENT FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the environmental document filing fee is required in order for the underlying Project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the MND to assist City in identifying and mitigating Project impacts to biological resources. CDFW concludes that the MND does not adequately identify or mitigate the Project's significant, or potentially significant, impacts to biological resources. CDFW recommends that revised and additional mitigation measures and analysis as described in this letter be added to a revised MND.

CDFW personnel are available for consultation regarding biological resources and strategies to avoid and minimize impacts. Questions regarding this letter or further coordination should be directed to Jacob Skaggs, Senior Environmental Scientist Specialist, at jacob.skaggs@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Kim Freeburn
84F92FFEEFD24C8...

Kim Freeburn
Environmental Program Manager

Attachment 1: MMRP for CDFW-Proposed Mitigation Measures

ec:

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Noelle Ronan, U.S. Fish and Wildlife Service
noelle_ronan@fws.gov

Office of Planning and Research, State Clearinghouse, Sacramento
state.clearinghouse@lci.ca.gov

ATTACHMENT 1: MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation Measures	**Timing and Methods**	**Responsible Parties**
Mitigation Measure BIO-1: Nesting Birds **To the greatest extent feasible, the Project will avoid construction activities during the peak nesting season (January 15 through September 15). Regardless of the time of year, nesting bird surveys shall be performed by a qualified avian biologist no more than 3 days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the pre-construction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines**	**Timing:** No more than 3 days prior to all vegetation removal or ground-disturbing activities throughout all phases of the Project. **Methods:** See Mitigation Measure	**Implementation**: City of Coachella and Project Proponent **Monitoring and Reporting**: City of Coachella

and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Construction activities may not occur inside the established buffers, which shall remain on-site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance.		
Mitigation Measure BIO-2: Burrowing Owl Focused and Pre-Construction Surveys **Suitable burrowing owl habitat has been confirmed on the site; therefore, focused burrowing owl surveys shall be conducted by a CDFW-approved qualified biologist prior to any Project activities, including vegetation- or ground-disturbing activities. CDFW strongly recommends that focused surveys are conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version)[11]. If burrowing owls are detected during the focused surveys, the qualified biologist and Project proponent shall begin coordination with CDFW and USFWS immediately, and shall submit the results of focused surveys to CDFW and USFWS as soon results become available and before commencement of any Project activities,**	**Timing: Focused surveys:** Consistent with timing in Appendix D of the Staff Report on Burrowing Owl Mitigation and prior to commencement of any Project activities, including vegetation- or ground-disturbing activities for all phases of the Project. **Pre-construction surveys:** No less than 14 days prior to start of Project-related activities and within 24 hours prior to	**Implementation**: City of Coachella and Project Proponent **Monitoring and Reporting**: City of Coachella

[11] California Department of Fish and Wildlife (CDFW). 2012. Staff Report on Burrowing Owl Mitigation. State of California, Natural Resources Agency. Available for download at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843.

including any vegetation- or ground-disturbing activities. CDFW recommends that the information included in the survey results be consistent with Appendix D of the *Staff Report on Burrowing Owl Mitigation*, including a detailed map showing locations of all burrowing owls, burrowing owl sign, potential burrows, and occupied burrows (occupied means at least one burrowing owl or its sign has been observed within the last three years; may be indicated by owl sign including feathers, pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance or perch site); a description of the behavior of burrowing owls during surveys; a description of survey methods; and other items listed in Appendix D of the *Staff Report on Burrowing Owl Mitigation* under "Survey Reports." Consultation with CDFW and USFWS must be completed prior to commencement of any Project activities, including vegetation- or ground-disturbing activities. If impacts to occupied burrowing owl habitat or burrow(s) or burrowing owl individuals, nests, or eggs cannot be avoided, appropriate NCCP (Fish and Game Code section 2835) or CESA authorization (i.e., Incidental Take Permit under Fish and Game Code section 2081(b)) should be obtained from CDFW prior to commencement of Project activities, including vegetation- or ground-disturbing activities. **Preconstruction burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version). Preconstruction surveys should be repeated when there is a pause in construction of more than 30 days. Preconstruction surveys shall be performed**	ground disturbance for all phases of the Project and when there is a pause in construction of more than 30 days. **Methods:** See Mitigation Measure	

by a CDFW-approved qualified biologist following the recommendations and guidelines provided in the *Staff Report on Burrowing Owl Mitigation*. If the preconstruction surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted and the qualified biologist shall coordinate with CDFW and USFWS. Project activities shall not recommence until consultation with CDFW and USFWS is completed.		
Mitigation Measure BIO-[A]: Surveys for Daytime, Nighttime, Wintering (Hibernacula), and Maternity Roosting Sites for Western Yellow Bat **Prior to commencing Project activities, a CDFW-approved qualified bat biologist shall perform bat habitat/roosting surveys to determine presence of daytime, nighttime, wintering (hibernacula), and maternity roost sites. Surveys shall be conducted during favorable weather conditions only. Each survey shall consist of one dusk emergence survey (start one hour before sunset and last for three hours), followed by one pre-dawn re-entry survey (start one hour before sunrise and last for two hours), and one daytime visual inspection of all potential roosting habitat on the Project site. Surveys shall be conducted within one 24-hour period. Visual inspections shall focus on the identification of bat sign (i.e., individuals, guano, urine staining, corpses, feeding remains, scratch marks and bats squeaking and chattering). Bat detectors, bat call analysis, and visual observation shall be used during all dusk emergence and pre-dawn re-entry surveys. If active maternity roosts are identified in the work area or 500 feet extending from the work area, Project construction will only occur between**	**Timing:** Prior to commencement of Project Activities. **Methods:** See Mitigation Measure	**Implementation**: City of Coachella and Project Proponent **Monitoring and Reporting**: City of Coachella

October 1 and February 28, outside of the maternity roosting season when young bats are present but are not yet ready to fly out of the roost. Maternity roosts shall not be evicted, excluded, removed, or disturbed. If active hibernacula are identified in the work area or 500 feet extending from the work area, a minimum 500-foot no-work buffer shall be provided around hibernacula. Buffers shall be left in place until the end of Project construction and activities or until a qualified bat biologist determines that the hibernacula are no longer active. Project-related construction and activities shall not occur between 30 minutes before sunset and 30 minutes after sunrise. Hibernacula roosts shall not be evicted, excluded, removed, or disturbed.		
Mitigation Measure BIO-[B]: Avoidance of Bats during Tree Removal **Tree removal work with the potential to house roosting bats shall be performed between September 15 and October 31 to minimize direct impacts to roosting bats. This time period is after young are volant (flying) but before expected onset of torpor (wintering inactivity). Tree removal work may also be conducted between February 15 and March 31, following winter torpor and prior to the start of the maternity season. No tree removals shall occur during the hibernation season, which typically begins in November or December (depending on weather conditions) and continues through mid-February, due to the high potential for mortality of hibernating bats. Depending on weather conditions and the best professional judgement of a qualified bat biologist approved by CDFW, tree removal work may be performed in November if the forecasted nighttime low temperatures on**	**Timing:** See Mitigation Measure. **Methods:** See Mitigation Measure	**Implementation**: City of Coachella and Project Proponent **Monitoring and Reporting**: City of Coachella

the evening of removal and the subsequent four evenings do not drop below 45˚F. In November, if weather is cold (i.e., forecasted nighttime low temperatures reach 45˚F or less for that evening and the next four evenings), then no tree removals shall be performed. All palm removals shall require a two-step removal process and the involvement of a CDFW-approved qualified bat biologist to ensure that no roosting bats are killed during this activity. The following two-step tree removal process shall be implemented over two consecutive days: on Day 1, live palm fronds located above the frond skirt, and as identified by a qualified bat biologist, will be removed. On Day 2, the remainder of the tree may be removed without supervision by a qualified bat biologist.		
Mitigation Measure BIO-[C]: CVMSHCP Compliance **Prior to construction and issuance of any grading permit, the City shall ensure compliance with the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) and its associated Implementing Agreement and shall ensure the collection of payment of the CVMSHCP Local Development Mitigation Fee and transfer of revenues to the Coachella Valley Conservation Commission.**	**Timing:** Prior to construction and issuance of any grading permit. **Methods:** See Mitigation Measure	**Implementation**: City of Coachella **Monitoring and Reporting**: City of Coachella
Mitigation Measure BIO-[D]: Artificial Nighttime Lighting **Throughout construction and the lifetime operations of the Project, the City shall eliminate all nonessential lighting throughout the Project area and avoid or limit the use of artificial light at night during the hours of dawn and dusk when many**	**Timing:** Throughout construction and the lifetime operations of the Project **Methods:** See Mitigation Measure	**Implementation**: City of Coachella and Project Proponent **Monitoring and Reporting**: City of Coachella

wildlife species are most active. The City shall ensure that all lighting for the Project is fully shielded, cast downward and directed away from surrounding open-space and agricultural areas, reduced in intensity to the greatest extent possible, and does not result in lighting trespass including glare into surrounding areas or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). The City shall ensure use of LED lighting with a correlated color temperature of 3,000 Kelvins or less, proper disposal of hazardous waste, and recycling of lighting that contains toxic compounds with a qualified recycler.		

The Altum Group
44-600 Village Court, Suite 100
Palm Desert, CA 92260
760.346.4750 Tel
760.340.0089 Fax

Project Justification Statement

Calhoun Street Housing Development – Planned Unit Development (PUD)

a. How the proposed development is superior to what is permitted by the underlying zone;

The underlying General Neighborhood (G-N) zoning designation allows for medium- to high-density residential development. If developed conventionally under base zoning, the site could result in a standard tract subdivision without coordinated open space, setbacks, sidewalks, amenities, or enhanced public improvements.

The PUD provides a superior outcome by:

- Delivering a 3.13-acre public park with active and passive recreational amenities connected to the residential community with private access while maintaining good public access and visibility.
- Establishing enhanced perimeter setbacks (26 feet along Calhoun Street and Avenue 49) with 6ft wide sidewalks, landscaped parkways, and decorative entry treatments, creating a stronger neighborhood edge and higher quality streetscape.
- Designing a walkable internal circulation system with sidewalks that connect directly to Avenue 49 and Calhoun Street, with multiple egress and ingress for pedestrians and bicyclists.
- Providing flexible lot standards that allow for attainable housing while maintaining potential for high-quality architecture, landscaping, and open space.

b. How the proposed project conforms to Chapter 17.38 – Planned Unit Developments

The project satisfies the intent of Chapter 17.38 by:

- Establishing custom development standards and design guidelines tailored to the site while remaining consistent with the General Plan.
- Demonstrating superior site design and amenities compared to the base zone, including coordinated landscaping, open space, and pedestrian circulation improvements.
- Providing defined public benefits as required by Section 17.38.035, including on-site public amenities, off-site infrastructure improvements, and contributions to community livability.
- Utilizing the PUD process to achieve flexibility in lot size and setbacks while ensuring compatibility with adjacent neighborhoods through perimeter landscaping, walls, and architectural review.

- Use of Street trees will not be used between sidewalk and street curb to prevent damage to underground utilities. The applicant will place extra canopy trees elsewhere along the street line to provide maximum shade.

- One of the advantages of this project to the City and the future residents is the open space that is built into the project. There will be a major open space on the southeast corner of the site which will provide shade and turf area for people to rest and recreate. This is more than what most provide.

- Building massing, architectural theming, and signage will be deferred to a future builder to allow project branding that reflects current market trends and buyer preferences. The PUD establishes overarching architectural guidelines to ensure compatibility with the surrounding area and

provides a flexible material palette for perimeter walls and residential architecture, maintaining consistency in community character while allowing appropriate design flexibility.

- Section 17.38.030 – Design Guidelines of the Coachella Municipal Code requires streets to include a landscaped parkway with street trees located between the sidewalk and the street curb. While interior streets comply with this standard, the project proposes that perimeter street trees be located between the perimeter sidewalk and the perimeter CMU wall. This placement is necessary for two key reasons: (1) the root systems of large street trees would conflict with IID underground utilities located within the traditional landscape parkway between the sidewalk and curb, and (2) positioning street trees west and south of the sidewalk will provide significantly improved pedestrian shading due to the solar path and angle throughout the day.

- Subdivision signage and entry monument design will be coordinated with the future architectural theming of the development. As the final architectural character has not yet been determined, specific sign designs will be required of the project's Conditions of Approval. A detailed sign and monument plan shall be submitted to the Development Services Director, and final design approval shall be required prior to installation.

c. Exceptions to the underlying zoning regulations being requested and why they are necessary;

The PUD seeks modest exceptions from the G-N standards to allow for a more efficient and attainable neighborhood design. These include:

- Minimum lot size: 3,400 sq. ft. (vs. 4,000 sq. ft. required).
- Lot depth: 85 ft. (vs. 90 ft. required).
- Side yard setback: 5 ft. (vs. 10 ft. required).
- Rear yard setback: 15 ft. (vs. 20 ft. required).

These adjustments are necessary in the PUD to:

- Provide a broad range of housing types on smaller lots, consistent with General Plan goals of supporting attainable and diverse housing opportunities.
- Achieve a more efficient subdivision layout while preserving required parking, private yard space, and open space.
- Enable the project to contribute additional land and resources toward public benefits (park, landscaping, street and infrastructure improvements).

d. Public benefit provided that justifies exceptions to underlying zoning standards;

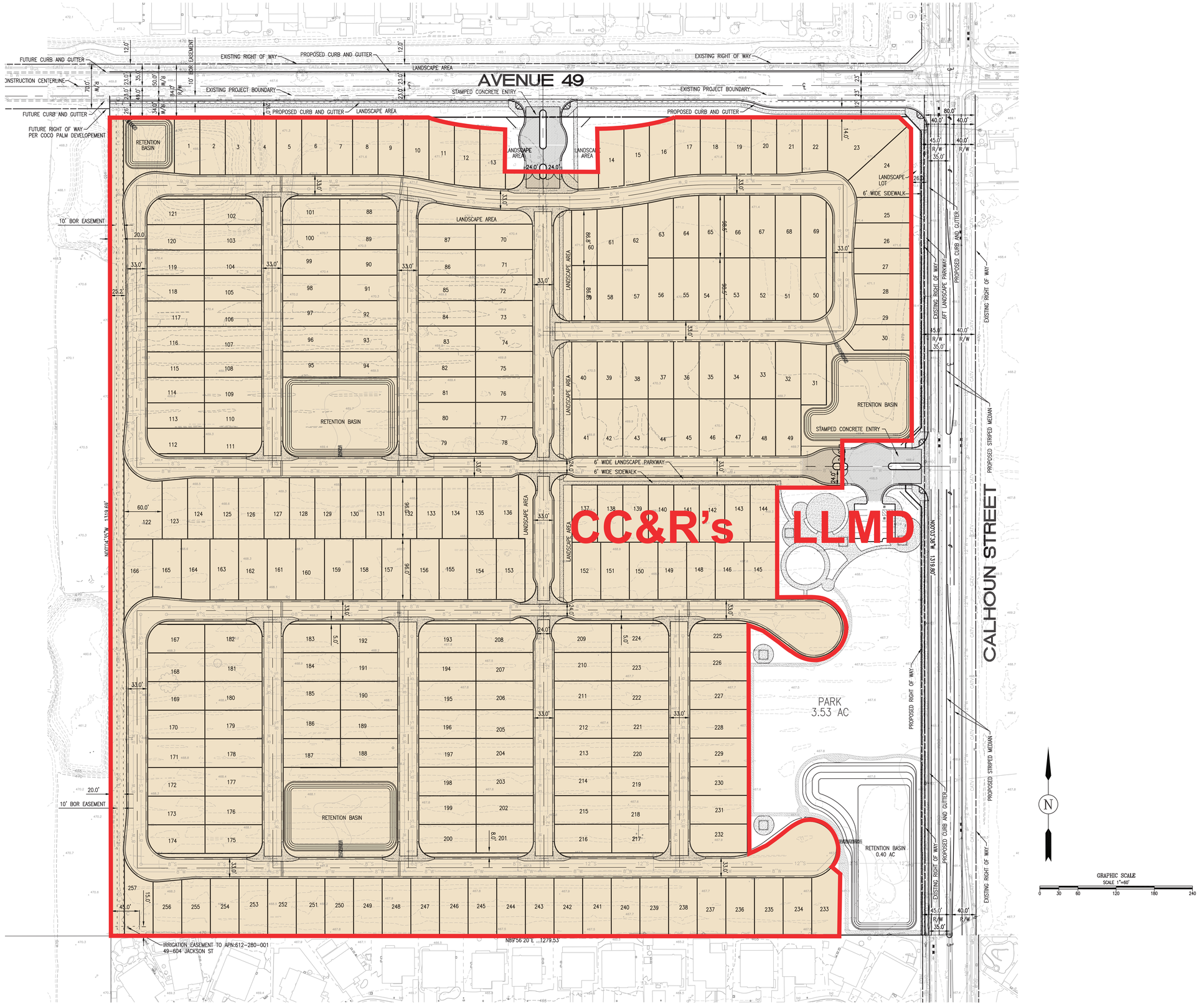
The project provides multiple, tangible public benefits that offset the requested zoning exceptions:

1. Public Park (3.13 acres) – A centrally located, fully accessible public park with tot lot, basketball court, shade structures, bike racks, seating areas, lighting, and both active and passive recreation areas. This park will serve not only future residents but the surrounding community as well.
2. Calhoun Street Improvements (1,300 linear feet) – Half-street improvements including new pavement, curb, gutter, undergrounding of existing overhead utilities, new streetlights, and a 26-foot landscaped setback with 6-foot sidewalks and landscaped parkway.
3. Avenue 49 Improvements (1,300 linear feet) – Full-street improvements along a currently undeveloped roadway, including curb, gutter, sidewalks, and landscaping on both sides. These

improvements complete a critical east-west corridor and create long-term circulation benefits for the community.

4. Stormwater Infrastructure – Construction of an above-ground retention basin along Avenue 49 to capture and retain 100% of off-site stormwater flows, providing a local benefit that supports future growth beyond the project site.
5. Enhanced Streetscape and Entry Design – Decorative pavers, stamped concrete, wide landscaped setbacks, and coordinated public park, wall, and fencing treatments that elevate the overall character of the project and surrounding area.

Collectively, the public park, major infrastructure improvements, off-site stormwater facilities, and enhanced landscaping exceed the baseline requirements. These improvements represent substantial public benefits that justify the requested deviations from the base zoning and demonstrate compliance with the purpose and intent of the City's Planned Unit Development ordinance.



12/05/2025

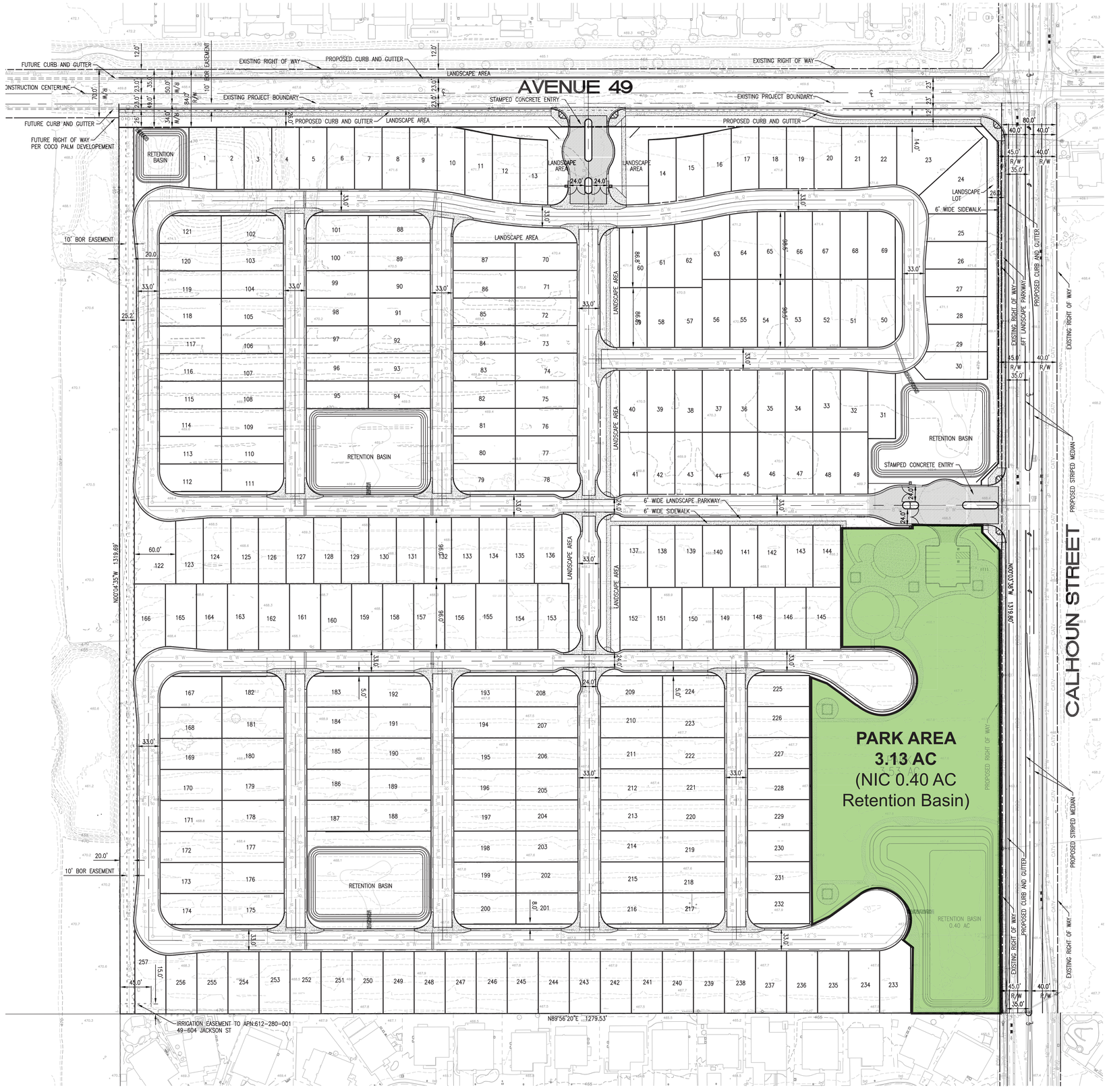
Calhoun Street Housing Development

Coachella, California
APN: 612-260-010

The Altum Group

SHEET TITLE:

LLMD & CC&R's Exhibit



12/05/2025

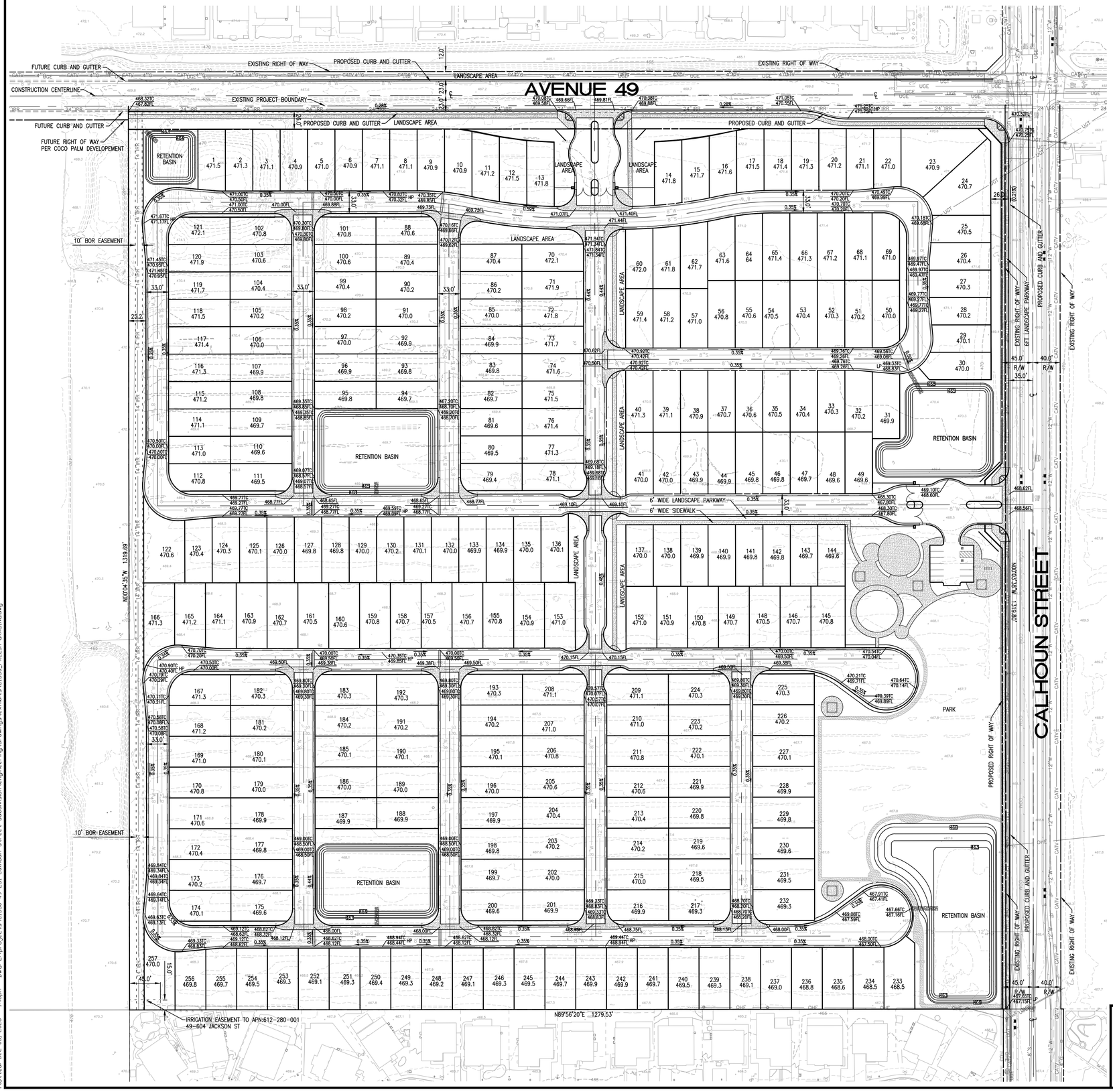
Calhoun Street Housing Development
Coachella, California
APN: 612-260-010

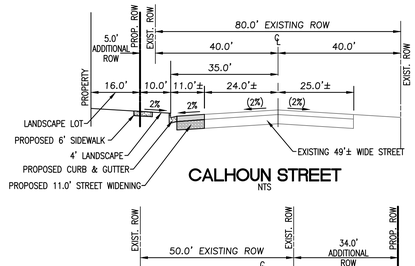
The Altum Group

SHEET TITLE:
PARK AREA EXHIBIT

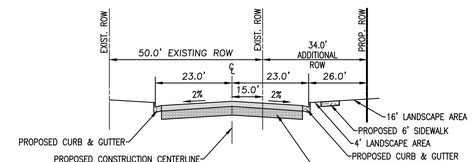
PRELIMINARY GRADING PLAN

IN THE CITY OF COACHELLA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

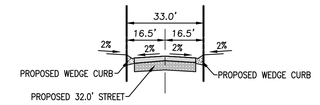




CALHOUN STREET
NTS



AVENUE 49
NTS



PRIVATE ON-SITE STREETS
(ONE SIDED STREET PARKING ONLY)
NTS

GRAPHIC SCALE
SCALE 1"=60'
0 30 60 120 180 240

EARTHWORK

RAW CUT	–	36,477 C.Y.
RAW FILL	–	52,266 C.Y.
IMPORT	–	15,749 C.Y.

Dec 05, 2025

PREPARED BY:
The Altum Group
ENGINEERING | PLANNING | SURVEY | ENVIRONMENTAL
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Palm Desert, CA 92260
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TheAltumGroup.com

CITY OF COACHELLA, CALIFORNIA

PRELIMINARY GRADING PLAN

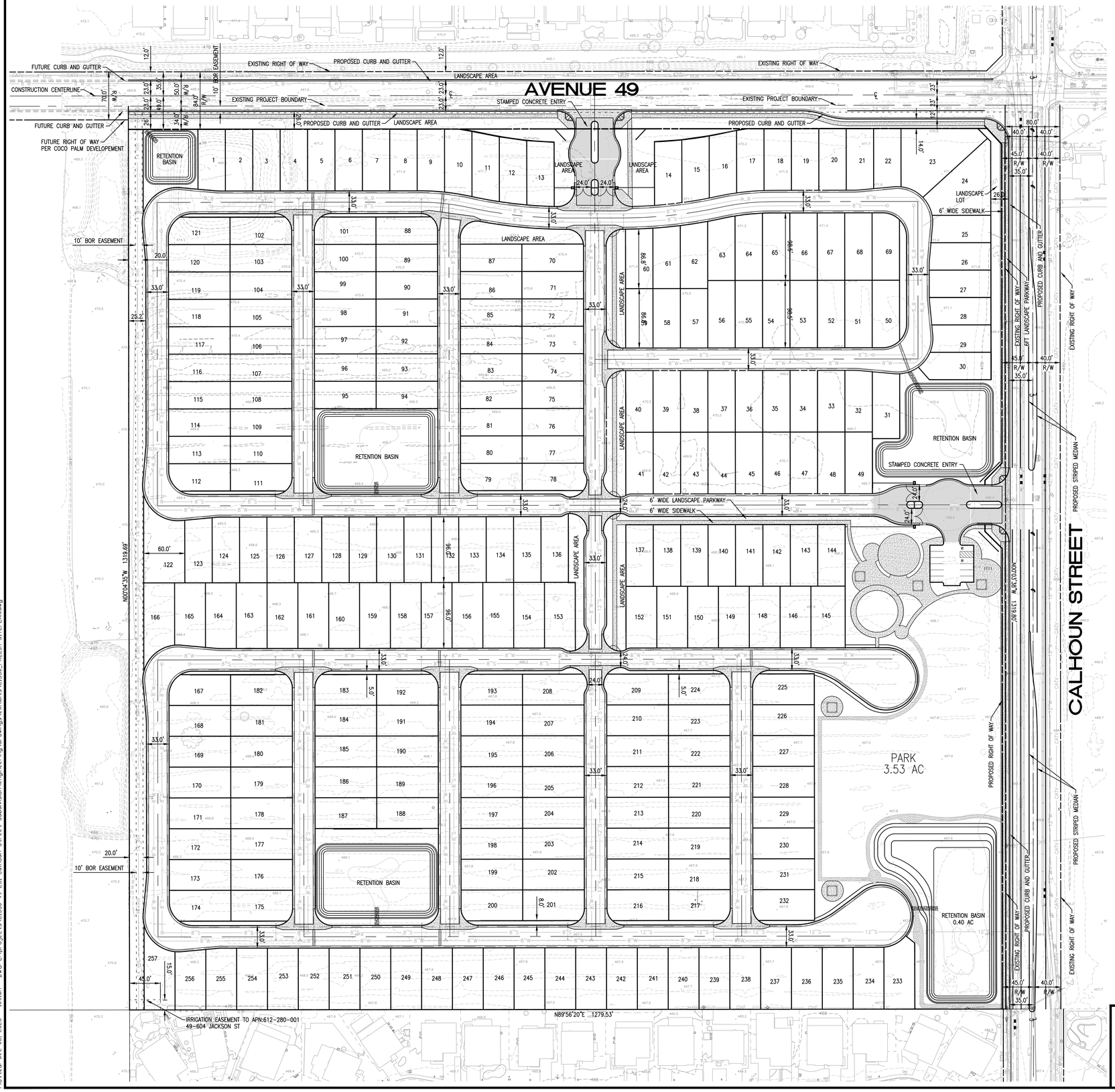
FOR: CALHOUN STREET SUBDIVISION

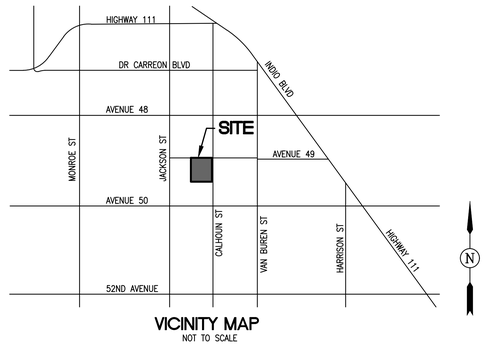
SHEET NO. GP1

Plotted: Dec 05, 2025 - 1:43pm DWG L:\projects\C1930 49-251 Calhoun Street Subdivision\engineering\drawings\exhibits\C1930_PRELIM-GRADING.dwg

PRELIMINARY SITE PLAN

IN THE CITY OF COACHELLA, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA





VICINITY MAP
NOT TO SCALE

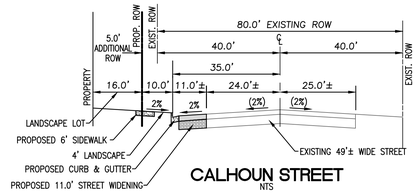
ASSESSOR'S PARCEL NO.
612-260-010

SITE ADDRESS
VACANT LAND

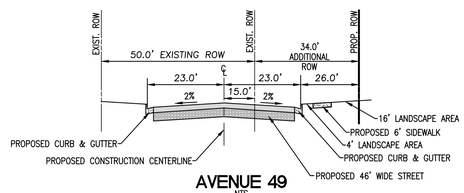
GENERAL PLAN
GENERAL NEIGHBORHOOD

SITE AREA TABULATION

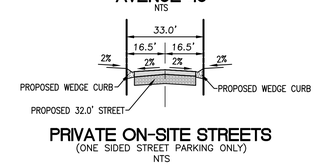
PARCEL AREA (GROSS)	39.98 AC.
ROW DEDICATION	1.21 AC.
PARCEL AREA (NET)	38.77 AC.
PUBLIC PARK	3.53 AC.
40FT WIDE LOTS	144
45FT WIDE LOTS	113
TOTAL	**257 LOTS**



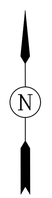
CALHOUN STREET
NTS



AVENUE 49
NTS



PRIVATE ON-SITE STREETS
(ONE SIDED STREET PARKING ONLY)
NTS



GRAPHIC SCALE
SCALE 1"=60'
0 30 60 120 180 240

Dec 05, 2025

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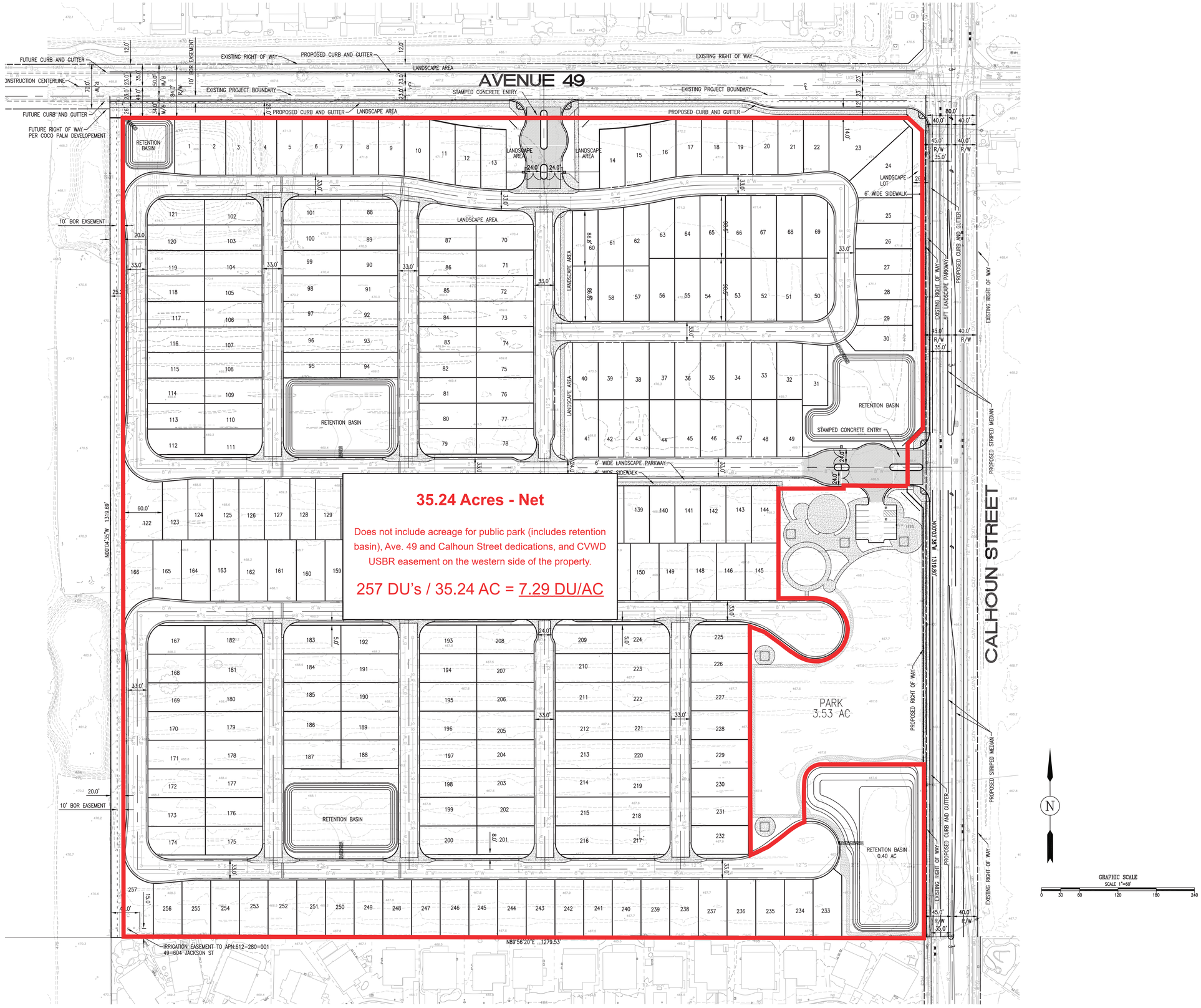
CITY OF COACHELLA, CALIFORNIA

PRELIMINARY SITE PLAN

FOR: CALHOUN STREET SUBDIVISION

SHEET NO. SP1

Plotted: Dec 05, 2025 - 10:11am DWG L:\projects\C1530 49-251 Calhoun Street Subdivision\engineering\drawings\exhibits\C1530_PRELIM-SITEPLAN.dwg



35.24 Acres - Net

Does not include acreage for public park (includes retention basin), Ave. 49 and Calhoun Street dedications, and CVWD USBR easement on the western side of the property.

257 DU's / 35.24 AC = 7.29 DU/AC

12/05/2025

Calhoun Street Housing Development
Coachella, California
APN: 612-260-010

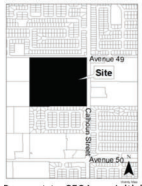
The Altum Group

SHEET TITLE:
DENSITY CALCULATION EXHIBIT

Ad Preview

NOTICE OF A PUBLIC HEARING AND ORDINANCE

NOTICE IS HEREBY GIVEN that the City Council of the City of Coachella will hold a public hearing on Wednesday, January 28, 2026 at 5:00 p.m. at 1515 Sixth Street, Coachella CA 92236 to consider oral and written testimony regarding TTM No. 39051, CUP No. 390, EA No. 25-02 Calhoun Street Subdivision project for the proposed single-family residential project. The Project is located on the southwest corner of Calhoun Street and Avenue 49 in the City of Coachella, California. The site encompasses 39.98 acres and is identified as Assessor's Parcel Number (APN) 612-260-010. The applicant proposes to subdivide the Project site for a future build out of a private, gated residential community containing 257 single-family homes and a public park with a total area of 3.53 acres – 3.13 acres for recreational open space and a 0.40-acre landscaped retention basin. Applicant: Pacific Modern Builders LLC



Pursuant to CEQA, an Initial Study was prepared for the Calhoun Street Subdivision project. The Initial Study concluded that the proposed project will not have a significant effect on the environment and is recommending that the Planning Commission adopt a negative declaration for the proposed project. A 20-day public review period ran from November 18, 2025, to December 8, 2025. A Mitigation Monitoring and Reporting Program has been prepared as part of the Initial Study.

Copies of the Application and materials submitted are available for public inspection at the Coachella Development Services Department at 53990 Enterprise Way, Coachella, CA 92236 between the hours of 7:00 am and 6:00 pm, Monday through Thursday. City Hall is closed on Fridays. (Se Habla Español).

In addition to submitting written comments at the address noted above, you may email amoreno@coachella.org or call (760) 398-3102 before 4:30 p.m. on the day of the meeting to leave a voice message. You may request to speak via zoom by contacting the Planning Commission Secretary through the above means before 4:30 p.m. on the day of the meeting and requesting a Zoom link to the meeting. Public comments either received via email, telephonically or via Zoom must be limited to a maximum of 250 words written or three minutes spoken.

The live stream of the meeting may be viewed online by accessing the City's website at www.coachella.org, and clicking on the "Agendas/Minutes" tab located on the home page, and finding the Zoom Meetings link to the meeting on the posted agenda.

If any individual or group challenges this action in court, issues raised may be limited to those issues raised at the public hearing described in this notice or in written testimony. Any questions or comments may be directed to:

Adrian Moreno, Associate Planner
53-990 Enterprise Way,
Coachella, CA 92236
(760) 398-3102

BY ORDER OF THE CITY CLERK
1/18/2026

STAFF REPORT
1/28/2026

TO: Honorable Mayor and City Council Members

FROM: Lizzandro Diaz, Building Official

SUBJECT: Adoption of Ordinance No. 1228, amending Title 15 of the Coachella Municipal Code and adopting the 2025 California State Building Standards Code by Reference

---

STAFF RECOMMENDATION:

1. Staff recommends that the City Council adopt Ordinance No. 1228, AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF COACHELLA, CALIFORNIA, AMENDING TITLE 15 OF THE COACHELLA MUNICIPAL CODE AND ADOPTING BY REFERENCE THE 2025 EDITION OF THE CALIFORNIA BUILDING STANDARDS CODE (CALIFORNIA CODE OF REGULATIONS, TITLE 24), INCLUDING THE 2025 CALIFORNIA ADMINISTRATIVE CODE, THE 2025 CALIFORNIA BUILDING CODE; THE 2025 CALIFORNIA RESIDENTIAL CODE; THE 2025 CALIFORNIA ELECTRICAL CODE; THE 2025 CALIFORNIA MECHANICAL CODE; THE 2025 CALIFORNIA PLUMBING CODE; THE 2025 CALIFORNIA ENERGY CODE, THE 2025 CALIFORNIA WILDLAND-URBAN INTERFACE CODE; THE 2025 CALIFORNIA HISTORICAL BUILDING CODE, THE 2025 CALIFORNIA FIRE CODE; THE 2025 CALIFORNIA EXISTING BUILDING CODE, THE 2025 CALIFORNIA GREEN BUILDING STANDARDS CODE, THE 2025 CALIFORNIA REFERENCED STANDARDS CODE; AND MAKING CERTAIN LOCAL AMENDMENTS THERETO

BACKGROUND:

It is customary to conduct regular updates to the building code every three years. These updates are carried out to bring the state building code in line with current standards and reflect any changes made to Title 15 of the Coachella Municipal Code.

DISCUSSION/ANALYSIS:

The proposed adoption of the 2025 California Building Standards Code will improve the safety of structures within the City, and amend portions of the California Building Standards Code to address the specific needs of Coachella and the challenges posed by the City's unique climatic,

geological and topographic conditions. With specific guidelines for construction materials and practices, the building and fire codes will better serve the needs of Coachella, which experiences extreme weather and seismic activity. This will lead to more resilient structures that can withstand the environmental challenges the City faces. The construction process will be safer, more efficient and help protect the investment of property owners.

ENVIRONMENTAL REVIEW:

It is recommended Council make the following determination that this action is exempt from environmental review in accordance with the California Environmental Quality Act (CEQA) under the general rule contained in Section 15061(b)(3). This action involves updates and revisions to existing regulations consistent with State law and will not result in any direct or indirect physical changes to the environment.

FISCAL IMPACTS:

This Ordinance will not have a fiscal impact to the City's General Fund. The cost to administer the codes is recovered through permit fees.

ALTERNATIVES:

1. Continue this matter and provide staff direction.
2. Take no action.

Attachments:

1. Ordinance No. 1228
2. Notice of Public Hearing

ORDINANCE NO. 1228

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF COACHELLA, CALIFORNIA, AMENDING TITLE 15 OF THE COACHELLA MUNICIPAL CODE AND ADOPTING BY REFERENCE THE 2025 EDITION OF THE CALIFORNIA BUILDING STANDARDS CODE (CALIFORNIA CODE OF REGULATIONS, TITLE 24), INCLUDING THE 2025 CALIFORNIA ADMINISTRATIVE CODE, THE 2025 CALIFORNIA BUILDING CODE; THE 2025 CALIFORNIA RESIDENTIAL CODE; THE 2025 CALIFORNIA ELECTRICAL CODE; THE 2025 CALIFORNIA MECHANICAL CODE; THE 2025 CALIFORNIA PLUMBING CODE; THE 2025 CALIFORNIA ENERGY CODE, THE 2025 CALIFORNIA WILDLAND-URBAN INTERFACE CODE; THE 2025 CALIFORNIA HISTORICAL BUILDING CODE, THE 2025 CALIFORNIA FIRE CODE; THE 2025 CALIFORNIA EXISTING BUILDING CODE, THE 2025 CALIFORNIA GREEN BUILDING STANDARDS CODE, THE 2025 CALIFORNIA REFERENCED STANDARDS CODE; AND MAKING CERTAIN LOCAL AMENDMENTS THERETO

WHEREAS, the City of Coachella, California ("City") is a general law city and municipal corporation, duly organized under the California Constitution and laws of the State of California; and

WHEREAS, in July 2025, the California Building Standards Commission ("CBSC") adopted the 2025 Edition of the California Building Standards Code, which takes effect January 1, 2026 and the California Building Standards Code is organized under Title 24 of the California Code of Regulations ("CCR"); and

WHEREAS, the California Building Standards Code consists of building standards that regulate the erection, construction, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, equipment, use, height, area, electrical systems, plumbing, mechanical systems, and maintenance of all buildings in the state and includes the following codes under Title 24 of the CCR: California Administrative Code (Part1) California Building Code (Part 2); the California Residential Code (Part 2.5); the California Electrical Code (Part 3); the California Mechanical Code (Part 4); the California Plumbing Code (Part 5); the California Energy Code (Part 6); the Wildland-Urban Interface Code (Part 7); the California Historical Building Code (Part 8); the California Fire Code (Part 9); the California Existing Building Code (Part 10); and the California Green Building Standards Code (Part 11); and the California Referenced Standards Code (Part 12); and

WHEREAS, pursuant to California Government Code Section 50022.2, the City may adopt the California Building Standards Code by reference; and

WHEREAS, pursuant to sections 17958.7 and 18941.5 of the California Health & Safety Code, the City may adopt local amendments to the California Building Standards Code determined by the City Council to be reasonably necessary because of local climatic, geological, or topographical conditions; and

WHEREAS, the City desires to adopt the 2025 edition of the California Building Standards Code with local amendments to provide for the issuance of permits and the collection of fees, to provide adequate remedies for code violations, to establish administrative procedures consistent with City protocols, and to ensure that the state standards are reasonably tailored to local conditions.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF COACHELLA, CALIFORNIA, DOES ORDAIN AS FOLLOWS:

SECTION 1. Recitals. The above recitals are true and correct and are incorporated herein by this reference.

SECTION 2. Findings. Based on the foregoing, the City Council of the City of Coachella does hereby find that the local amendments to the 2025 Edition of the California Building Standards Code are reasonably necessary due to local climatic, geologic, and topographic conditions as set forth in Exhibit "A" of this Ordinance.

SECTION 3. Amendment.

Chapter 15.04 of Title 15 of the Coachella Municipal Code is hereby amended in its entirety to read as follows:

"**Chapter 15.04 – ADMINISTRATION**

15.04.010 - Adoption of Chapter 1 of the California Building Code.

Except as provided in this chapter, title 24, parts 1-12 of the California Code of Regulations (CCR) known and designated as the 2025 California Building Standards Code (Code) shall apply in the City of Coachella for regulating the construction, erection, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, equipment, use and occupancy and maintenance of all buildings and/or structures in the city. The Code will be on file for public examination in the offices of the building official as required by state law.

The City of Coachella adopts by reference the following parts of title 24 of the CCR as listed below:

2025 California Administrative Code (Part 1)

2025 California Building Code (Part 2, Volumes 1 & 2)

2025 California Residential Code (Part 2.5)

2025 California Electrical Code (Part 3)

2025 California Mechanical Code (Part 4)

2025 California Plumbing Code (Part 5)

2025 California Energy Code (Part 6)

2025 California Wildland-Urban Interface Code (Part 7)

2025 California Historical Building Code (Part 8)

2025 California Fire Code (Part 9)

2025 California Existing Building Code (Part 10)

2025 California Green Building Standards Code (Part 11)

2025 California Referenced Standards Code (Part 12)

SECTION 3. Amendment.

Chapter 15.08 of Title 15 of the Coachella Municipal Code is hereby amended in its entirety to read as follows:

"**Chapter 15.08 Building Code**

15.08.010 Adoption of specific sections of the California Building Code.

15.08.020 Enforcement.

15.08.025 Express Findings.

15.08.030 Amendments to the California Building Code.

15.08.010 Adoption of specific sections of the California Building Code.

Except as amended in this chapter, those certain building codes known and designated as the 2025 California Building Code (CBC), including Chapters 1 through 35, and Appendices A, B, C, F, G, H, I, J, N, O, P, Q as adopted by the State of California, based on the 2024 International Building Code as published by the International Code Council, except as amended herein, shall become the building code of the City of Coachella for regulating the erection, construction, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, equipment, use, height, area and maintenance of all buildings and/or structures in the City. The 2025 California Building Code and its adopted appendices and amendments are on file for public examination in the offices of the Building Official.

15.08.020 Enforcement.

Pursuant to California Building Code, Chapter 1, Section 1.11.2.1, the delegated enforcement official responsible for the enforcement of the building standards relating to fire and panic safety and other regulations of the State Fire Marshal as they relate to Group R, Division 3 Dwellings shall be the Building Official.

15.08.025 Reserved.

15.08.030 Amendments to the California Building Code.

A. Section 105.1 is amended to read as follows:

"Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit. The City of Coachella requires a building permit for the following projects:

1. Hardscape work including concrete flatwork, patio slabs, and pavers, except walkways exempted under Section 105.2.
2. New driveways made of concrete, pavers, grasscrete or comparable permeable or impermeable surfaces.
3. Removal and repair of existing masonry walls for the purpose of installation of gates and driveways.
4. Tent structures and canvas shade structures and coverings over 200 square feet, unless exempt as part of a Special Event Permit.
5. Re-surfacing and re-striping of existing parking lots.
6. Notwithstanding the provisions of the California Building Code, the City shall prohibit post-tension masonry walls."

B. Section 105.2, Items 2, 4, and 6 under "Building" are hereby deleted and replaced in their entirety as follows:

2. Fences conforming to design requirements of Title 17 of the Coachella Municipal Code, not exceeding a height of 2 feet (610 mm).

4. Retaining walls that are not over 2 feet (610 mm) in height measured from the top of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids.

6. Sidewalks in the side or rear yard not more than 30 inches (762 mm) above adjacent grade, and not over any basement or story below and are not part of an accessible route.

C. Section 105.2 is amended by adding the following to the end of the section:

"Grading:

See Appendix J, Section J103.2 Exemptions, for work exempt from grading permits."

D. Section 110.3.8 is amended to read as follows:

"110.3.8 Fire- and smoke-resistant penetrations. Protection of joints and penetrations in fire resistance rated assemblies shall not be concealed from view until inspected for all designed fire protection. Required fire seals/fire barriers in fire assemblies at fire-resistant penetrations shall be installed and certified by a third party, state of California licensed fireproofing company and certification of compliance shall be provided for building official's final approval."

E. The following language is added to the end of Section 111.1:

Section 111.1 is hereby amended by adding the following language to the end of the section:

"To ensure appropriate continued use of any occupied space the building official will issue a new Certificate of Occupancy upon any change of tenant at the fee rates established by resolution of the City Council."

F. Section 114.4 is hereby amended to read as follows**:**

"**114.4 Violation penalties.** Any person, firm or corporation violating any of the provisions, regulations, requirements, additions, amendments and/or deletions of this code is guilty of a misdemeanor and the penalty for such a misdemeanor shall be as set forth in Chapter 3.48.090 of the City of Coachella Municipal Code."

G. Section 114.4.1 is hereby added to read as follows:

"114.4.1 Violation Penalties. Any person, firm or corporation who shall proceed with or commence work for which a permit is required by these building and construction regulations without first having obtained such permit shall, if subsequently permitted to obtain a permit therefor, pay double the fee fixed for such work. The original permit fee shall be for issuance of the permit and the

balance shall be a civil penalty. This provision shall not apply to emergency work when it shall be proved to the satisfaction of the building official that such work was urgently necessary and that it was not practical to obtain a permit before commencement of the work. In all such cases a permit must be secured as soon as it is practicable to do so, and if there is an unreasonable delay in securing the required permit, the civil penalty as provided in this section shall be charged. In no event shall such civil penalty exceed the permit fee plus five hundred dollars. The civil penalty provided in this section shall be in addition to any other fines and remedies prescribed elsewhere in this code. The payment of such fees and fine shall not relieve any person from fully complying with the requirements of these building and construction regulations in the execution of the work."

H. Section G101.6 is hereby added to Appendix G, FLOOD-RESISTANT CONSTRUCTION, to read as follows:

"G101.6 Administration and Enforcement. For the purpose of the administration and enforcement of this Appendix G, Flood-Resistant Construction, the Building Official shall mean the City Director of Public Works or his or her designated representative."

I. Section J101.3 of Appendix J, Grading, is hereby added to read as follows:

"J101.3 Administration and Enforcement. For the purpose of the administration and enforcement of this Appendix J, Grading, the building official shall mean the City Director of Public Works or their designated representative."

J. Section J107.4 of Appendix J, Grading, is hereby amended by adding Section J107.4.1 to read as follows:

"J107.4.1 Using alkaline fill soil. Soils or materials which may have an alkali or sulfate content shall not be relocated, placed or used as fill at any location within the city unless a test sample of the soil is first obtained under the direction of the department of building and tests conducted by an approved testing agency indicates that the alkali or sulfate content of the soil sample does not exceed the amount in the natural soil at the location where the fill is to be placed. The Public Work Director may waive the test sample requirements for good cause."

SECTION 4. Code Amendment.

Chapter 15.12 of Title 15 of the Coachella Municipal Code is hereby amended in its entirety to read as follows:

"**Chapter 15.12 Electrical Code**

15.12.010 Adoption of the Electrical Code.

15.12.020 Amendments to the California Electrical Code.

15.12.010 Adoption of the Electrical Code.

Except as provided in this chapter, the 2025 California Electrical Code, based on the 2023 National Electrical Code as published by the National Fire Protection Association (NFPA), shall become the electrical code of the City of Coachella, regulating all installation, arrangement, alteration, repair, use and other operation of electrical wiring, connections, fixtures and other electrical appliances on premises within the City. The California Electrical Code is on file for public examination in the office of the Building Official.

15.12.020 Amendments to the California Electrical Code.

The 2025 Edition of the California Electrical Code is hereby adopted with no amendments.

SECTION 5. Code Amendment.

Chapter 15.16 of Title 15 of the Coachella Municipal Code is hereby amended in its entirety to read as follows:

"**Chapter 15.16 Mechanical Code**

15.16.010 Adoption of the Mechanical Code.

15.16.020 Amendments to the California Mechanical Code.

15.16.010 Adoption of the Mechanical Code.

Except as provided in this chapter, the 2025 California Mechanical Code, including Appendices , E, F, G, , I, and J, based on the 2024 Uniform Mechanical Code, shall become the mechanical code of the City of Coachella, regulating all installation, arrangement, alteration, repair, use and other operation of mechanical systems, connections, fixtures and other mechanical appliances on premises within the city. The California Mechanical Code is on file for public examination in the office of the Building Official.

15.16.020 Amendments to the California Mechanical Code.

The 2025 Edition of the California Mechanical Code is hereby adopted with no amendments.

SECTION 6. Code Amendment.

Chapter 15.20 of Title 15 of the Coachella Municipal Code is hereby amended in its entirety to read as follows:

"**Chapter 15.20 Plumbing Code**

15.20.010 Adoption of the Plumbing Code.

15.20.015 Express Findings.

15.20.020 Amendments to Chapter 1, Division II of the California Plumbing Code.

15.20.010 Adoption of the Plumbing Code.

Except as provided in this chapter, the 2025 California Plumbing Code, including Appendix Chapters A, B, D, H, I and J, based on the 2024 Uniform Plumbing Code as published by the International Association of Plumbing and Mechanical Officials (IAPMO), shall be and become the plumbing code of the City of Coachella, regulating erection, installation, alteration, repair, relocation, replacement, maintenance or use of plumbing systems within the City. The California Plumbing Code will be on file for public examination in the office of the Building Official.

15.20.020

The 2025 Edition of the California Plumbing Code is hereby adopted with no amendments.

SECTION 7. Code Amendment.

Chapter 15.24 of Title 15 of the Coachella Municipal Code is hereby amended in its entirety to read as follows:

"**Chapter 15.24 Fire Code**

15.24.010 Adoption of the Fire Code.

15.24.020 Amendments to the Fire Code.

15.24.010 Adoption of the Fire Code.

Except as stated in this section or as amended below, all of the provisions and appendices of the 2025 California Fire Code, inclusive of all of the inclusions and exclusions set for in each chapter's matrix, are hereby adopted and shall apply to the City of Coachella. In addition, the following provisions that are excluded in the 2025 California Fire Code are hereby adopted - Chapter 1, Division II of the California Fire Code is hereby adopted, except that Sections 103.2 and 112.3 are not adopted, and Chapters 3, 25, Sections 403.11, 503, 510.2, 1103.2, and 5707, and Appendix N are adopted. The California Fire Code and its adopted appendices and amendments are on file for public examination in the office of the Building Official.

15.24.020 Amendments to the Fire Code.

A. **SCOPE AND GENERAL REQUIREMENTS.**

1. Section 101.4 of the California Fire Code is deleted in its entirety and replaced with the following:

101.4 Severability. If any provision, clause, sentence or paragraph of

this code or the application thereof to any person or circumstances shall be held invalid, such invalidity shall not affect the other provisions of this code which can be given effect without the invalid provision or application, and to this end, the provisions of this code are hereby declared to be severable.

B. **APPLICABILITY.**

1. Section 102.5 of the California Fire Code is amended as follows:

   102.5 Application of residential code. Where structures are designed and constructed in accordance with the California Residential Code, the provisions of this code shall apply as follows:

   1. Construction and design provisions of this code pertaining to the exterior of the structure shall apply including, but not limited to, premises identification, fire apparatus access and water supplies. Where interior or exterior systems or devices are installed, construction permits required by Section 105.6 of this code shall apply.
   2. Administrative, operational and maintenance provisions of this code shall apply.
   3. Automatic fire sprinkler system requirements of this code shall apply to detached accessory buildings 3,600 square feet or greater in accordance with Section 903.2. The provisions contained in Section 903.2.18 of the California Fire Code or Section R317.5.1 of the California Residential Code may be used for the design of the automatic fire sprinkler system for detached private garages.

2. A new Section 102.13.1 is added to Section 102.13 of the California Fire Code to read as follows:

   102.13.1 Application of the California Wildland-Urban Interface Code. Where a conflict exists between the provisions of this code and the California Wildland-Urban Interface Code, the more restrictive provisions shall apply.

C. **DEPARTMENT OF FIRE PREVENTION**

1. Sections 104.8 and 104.8.1 of the California Fire Code are deleted in their entirety and replaced with the following:

   104.8 Liability. Any liability against the County of Riverside or the City of Coachella or any officer or employee for damages resulting from the discharge of their duties shall be as provided by law.

D. **GENERAL AUTHORITY AND RESPONSIBILITIES.**

1. A new Section 104.1.1 is added to Section 104.1 of the California Fire Code to read as follows:

104.1.1 Authority of the Fire Chief, Chief Deputy, and Fire Department.

1. The Fire Chief, Chief Deputy, or their designee, is authorized and directed to enforce all applicable State fire laws and provisions of this code and to perform such duties as directed by the City Council.
2. The Fire Chief, Chief Deputy, or their designee, is authorized to administer, interpret and enforce this code. Under the Fire Chief, Chief Deputy, or their designee's direction, the Riverside County Fire Department is authorized to enforce ordinances of the City of Coachella pertaining to the following:
   - 2.1. The prevention of fires.
   - 2.2. The suppression or extinguishment of dangerous or hazardous fires.
   - 2.3. The storage, use and handling of hazardous materials.
   - 2.4. The installation and maintenance of automatic, manual and other private fire alarm systems and fire extinguishing equipment.
   - 2.5. The maintenance and regulation of fire escapes.
   - 2.6. The maintenance of fire protection and the elimination of fire hazards on land, in buildings, structures and other property, including those under construction.
   - 2.7. The maintenance of means of egress.
   - 2.8. The investigation of the cause, origin and circumstances of fire and unauthorized releases of hazardous materials.
3. The following persons are hereby authorized to interpret and enforce the provisions of this code and to make arrests and issue citations as authorized by law:
   - 3.1. The Unit Chief, Peace Officers and Public Officers of the California Department of Forestry and Fire Protection.
   - 3.2. The Fire Chief, Chief Deputy, Peace Officers and Public Officers of the Riverside County Fire Department.
   - 3.3. The Riverside County Sheriff and any deputy sheriff.

3.4. The Police Chief and any police officer of the City.

3.5. Officers of the California Highway Patrol.

3.6. Code Officers of the City of Coachella Code Enforcement Department.

3.7. Peace Officers of the California Department of Parks and Recreation.

3.8. The law enforcement officer of the Federal Bureau of Land Management.

2. Section 104.2 of the California Fire Code is deleted and replaced with the following:

104.2 Determination of compliance. The fire code official shall have the authority to determine compliance with this code, to render interpretations of this code and to develop policies, procedures, guidelines, standards, and information bulletins in order to clarify the application of its provisions. Such interpretations, policies, procedures:

1. Shall be in compliance with the intent and purpose of this code.

2. Shall not have the effect of waiving requirements specifically provided for in this code.

3. Shall be enforceable as part of this code.

3. Section 104.12 is added to Section 104 of the California Fire Code to read as follows:

104.12 Authority of the Fire Chief to close hazardous fire areas. Except upon National Forest Land, the Fire Chief is authorized to determine and announce the closure of any hazardous fire area or portion thereof. Any closure by the Fire Chief for a period of more than fifteen (15) calendar days must be approved by the Riverside County Board of Supervisors of the County of Riverside and/or the City Council of the City of Coachella within fifteen (15) calendar days of the Fire Chief's original order of closure. Upon such closure, no person shall go in or be upon any hazardous fire area, except upon the public roadways and inhabited areas. During such closure, the Fire Chief shall erect and maintain at all entrances to the closed area sufficient signs giving notice of closure. This section shall not prohibit residents or owners of private property within any closed area, or their invitees, from going in or being upon their lands. This section shall not apply to any entry, in the course of duty, by a peace officer, duly authorized public officer or fire department personnel. For the purpose of this section, "hazardous fire area" shall mean public or private land that is

covered with grass, grain, brush or forest and situated in a location that makes suppression difficult resulting in great damage. Such areas are designated on Hazardous Fire Area maps filed with the office of the Fire Chief.

E. **FEES.**

1. Section 108.2 of the California Fire Code is deleted in its entirety and replaced with the following:

108.2 Schedule of permit fees. Fees for services and permits shall be as set forth in the City of Coachella fee schedule adopted by the City Council.

2. A new Section 108.7 is added to Section 108 of the California Fire Code to read as follows:

108.7 Cost recovery. Fire suppression, investigation, rescue or emergency medical costs are recoverable in accordance with Health and Safety Code Sections 13009 and 13009.1, as may be amended from time to time. Additionally, any person who negligently, intentionally or in violation of law causes an emergency response, including, but not limited to, a traffic accident, spill of toxic or flammable fluids or chemicals is liable for the costs of securing such emergency, including those costs pursuant to Government Code Section 53150 et seq., as may be amended from time to time. Any expense incurred by the Riverside County Fire Department for securing such emergency shall constitute a debt of such person and shall be collectable by Riverside County in the same manner as in the case of an obligation under contract, express or implied.

F. **BOARD OF APPEALS.**

1. Section 112.1 of the California Fire Code is deleted in its entirety and replaced with the following:

112.1 Board of appeals established. The Board of Appeals shall be the City Manager. If he or she determines an outside board is needed, he or she shall designate an outside hearing officer to hear the appeal. The Fire Chief and Chief Deputy shall be notified of any appeal and the Fire Chief or designee shall be in attendance at the appeal hearing. Depending on the subject of the appeal, specialized expertise may be solicited, at the expense of the applicant, for the purpose of providing input to the Appeals Board.

G. **VIOLATIONS.**

1. Section 113.4 of the California Fire Code is deleted in its entirety and replaced with the following:

113.4 Violation and penalties. It shall be unlawful for any person, firm, corporation or association of persons to violate any provision of this code, or to violate the provisions of any permit granted pursuant to this code or the Coachella Municipal Code. Punishments and penalties for violations shall be in accordance with the City of Coachella ordinances, fee schedule and Health and Safety Code Sections 17995 through 17995.5.

H. **DEFINITIONS**

1. Section 202, definition of "Fire Chief in the California Fire Code is deleted in its entirety and replaced with the following:

FIRE CHIEF. The Fire Chief of Riverside County or the Fire Chief's designee.

I. **OPEN FLAMES.**

1. Section 308.1.7 of the California Fire Code is deleted in its entirety and replaced with the following:

308.1.7 Sky lanterns or similar devices. A person shall not release or cause to be released a sky lantern or similar device.

J. **FIRE APPARATUS ACCESS ROADS.**

1. A new Section 503.1.2.1 is added to Section 503 of the California Fire Code to read as follows:

503.1.2.1 Remoteness. Unless otherwise approved, where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

2. Section 503.2.1 of the California Fire Code is deleted in its entirety and replaced with the following:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 24 feet (7315 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm). For additional requirements or alternatives see Riverside County Fire Department Standards and Policies, as may be amended from time to time.

3. Section 503.2.2 of the California Fire Code is deleted in its entirety and

replaced with the following:

503.2.2 Authority. The fire code official shall be the only authority authorized to designate fire apparatus access roads and fire lanes and to modify the minimum fire lane access widths for fire or rescue operations.

4. A new Section 503.6.1 is added to Section 503.6 of the California Fire Code to read as follows:

503.6.1 Automatic opener. New motorized gates shall be provided with means to be automatically opened remotely by emergency vehicle in accordance with Riverside County Fire Department standards and policies, as may be amended from time to time.

Exception: Gates serving individual one- and two-family dwelling parcels.

A new Section 503.7 is added to Section 503 of the California Fire Code to read as follows:

503.7 Loading areas and passenger drop-off areas. On private properties, where fire apparatus access roads are utilized for loading or unloading or utilized for passenger drop-off or pick-up, an additional eight (8) feet of width shall be added to the minimum required width for the fire apparatus access road.

K. **FIRE PROTECTION WATER SUPPLIES.**

1. A new Section 507.5.7 is added to Section 507 of the California Fire Code to read as follows:

507.5.7 Fire hydrant size and outlets. As determined by the fire code official, fire hydrant sizes and outlets shall be based on the following:

1. Residential Standard - one (1) four (4) inch outlet and one (1) two and half (2 ½) inch outlet.

2. Super Hydrant Standard - one (1) four (4) inch outlet and two (2) two and one half (2 ½) inch outlet.

3. Super Hydrant Enhanced - two (2) four (4) inch outlet and one (1) two and one half (2 ½) inch outlet.

2. A new Section 507.5.8 is added to Section 507 of the California Fire Code to read as follows:

507.5.8 Fire hydrant street marker. Fire hydrant locations shall be visually indicated in accordance with Riverside County Fire Department Guidelines, as may be amended from time to time. Any hydrant marker damaged or removed during the course of street construction or repair shall be immediately replaced by the contractor, developer or person responsible for removal or damage.

L. **FIRE COMMAND CENTER.**

1. Section 508.1 of the California Fire Code is deleted in its entirety and replaced with the following:

508.1 General. Where required by other sections of this code and in all

buildings classified as high-rise buildings by the California Building Code, in buildings greater than 300,000 square feet (27,870 m^2), in area and in Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access, a fire command center for fire department operations shall be provided and comply with Sections 508.1.1 through 508.1.7.

2. Section 508.1.1 of the California Fire Code is deleted in its entirety and replaced with the following:

508.1.1 Location and access. The fire command center shall be located adjacent to the main lobby and shall be accessible from fire department vehicular access or as approved by the fire code official. The room shall have direct access from the building exterior at the lowest level of fire department access.

3. Section 508.1.3 of the California Fire Code is amended as follows:

508.1.3 Size. The fire command center shall be not less than 0.015 percent of the total building area of the facility served or 200 square feet (19 m^2) in area, whichever is greater, with a minimum dimension of 0.7 times the square root of the room area or 10 feet (3,048 mm), whichever is greater. Where a fire command center is solely required because a building is greater than 300,000 square feet (27,870 m^2), the fire command center shall have a minimum size of 96 square feet (9 m^2) with a minimum dimension of 8 feet (2,438 mm) where approved by the fire code official.

M. **FIRE PROTECTION AND UTILITY EQUIPMENT IDENTIFICATION AND LOCATION.**

1. A new Section 509.2.1 is added to Section 509 of the California Fire Code to read as follows:

509.2.1 Minimum clearances. A 3-foot (914 mm) clear space shall be maintained around the circumference of exterior fire protection system control valves, or any other exterior fire protection system component that may require immediate access, except as otherwise required or approved.

N. **MECHANICAL REFRIGERATION.**

1. Section 608.11.1.2 of the California Fire Code is deleted in its entirety and replaced with the following:

608.11.1.2 Manual operation. When required by the fire code official, automatic crossover valves shall be capable of manual operation. The manual valves shall be located in an approved location immediately outside of the machinery room in a secure metal box or equivalent and marked as Emergency Controls.

O. **COMMERCIAL COOKING SYSTEMS.**

1. A new Section 904.14.3.2 is added the California Fire Code to read as follows:

904.14.3.2 Activation of the Fire Alarm System. Where a fire alarm signaling system, or a Dedicated Function Fire Alarm System (with available points of connection) is serving the occupancy where the extinguishing system is located, the actuation of the automatic fire-extinguishing system shall actuate the fire alarm signaling system in accordance with the requirements of NFPA 72.

P. **AUTOMATIC SPRINKLER SYSTEMS.**

1. Section 903.2 of the California Fire Code is deleted in its entirety and replaced with the following:

903.2 Where required. In all new buildings and structures which are 3,600 square feet or greater, an approved automatic sprinkler system shall be provided regardless of occupancy classification. Where Sections 903.2.1 - 903.2.20 of the California Fire Code require more restrictive requirements than those listed below, the more restrictive requirement shall take precedence. In addition, the following is required for existing buildings/structures:

1. All new tenants and new occupancies hereafter constructed, which exceed 3, 600 square feet shall have an approved automatic fire sprinkler system installed throughout therein.

2. All existing occupancies to which additions are made, where either the addition itself or the building and the addition in total exceeds 3,600 square feet, shall have an approved automatic fire sprinkler system installed throughout therein.

3. Change of use or occupancy that exceeds 3,600 square feet shall have an approved automatic fire sprinkler system installed throughout therein.

Exceptions: Unless required elsewhere in this code or the California Building Code, automatic fire sprinkler systems shall not be required for the following:

1. Detached Group U occupancies used for agricultural purposes constructed in accordance with the California Building Code.
2. Detached non-combustible equestrian arena shade canopies that are open on all sides and used for riding only - no commercial, assembly or storage uses.
3. Detached fabric or non-combustible shade structures that are open on all sides and used to shade playground equipment, temporary storage of vehicles and dining areas with no cooking.
4. Where determined by the Fire Chief that no major life

safety hazard exists, and the fuel load does not pose a significant threat to firefighter safety or to other structures or property, automatic fire sprinklers may be exempted.

5. Non-combustible fueling station canopies not exceeding 5,500 square feet.

One- and two-family dwellings shall have an automatic fire sprinkler system regardless of square footage in accordance with the California Residential Code. Fire sprinkler systems shall be installed in mobilehomes, manufactured homes and multifamily manufactured homes with two dwelling units in accordance with Title 25 of the California Code of Regulations.

The following exceptions in the California Fire Code shall not be allowed:

a. Exception in Section 903.2.3
b. Exception in Section 903.2.11.3

2. A new Section 903.3.5.3 is added to Section 903 of the California Fire Code to read as follows:

903.3.5.3 Hydraulically calculated systems. The design of hydraulically calculated fire sprinkler systems shall not exceed 90% of the water supply capacity.

Q. **GENERAL FIRE PROTECTION AND LIFE SAFETY FEATURES**.

1. A new Section 3206.4.2 is added to the California Fire Code to read as follows:

3206.4.2 Minimum requirements for client leased or occupant owned warehouses. Designs of an automatic sprinkler system for client leased or occupant owned buildings containing high pile storage shall be based on the requirements of NFPA 13. Unless otherwise approved a Professional Engineer, licensed in the State of California shall perform a survey of the building to determine commodity classification, storage configuration, building height and other information related to the development of an appropriate sprinkler system design. The engineer shall also make reasonable efforts to meet with the building owner or operator to understand seasonal or customer related fluctuations to the stored commodities, storage height, and configuration. The sprinkler design shall be based on the most demanding requirements determined through the onsite survey and discussions with the building owner or operator. The technical report shall describe the basis for determining the commodity and sprinkler design selection, how the commodities will be isolated or separated, and include references to the design document(s). If a specific fire test is used as the basis of design, a copy of the fire test report shall be provided at the time of plan review.

R. **MOBILE FOOD PREPARATION VEHICLES.**

1. A new Section 4107 is added to Chapter 41 of the California Fire Code to read as follows:

4107 MOBILE FOOD PREPARATION VEHICLES
4107.1 General. Mobile food preparation vehicles that are equipped with appliances that produce smoke or grease-laden vapors shall comply with this section.

4107.2 Maintenance. Maintenance of systems on mobile food preparation vehicles shall be in accordance with Sections 4107.2.1 through 4107.2.3.

4107.2.1 Exhaust system. The exhaust system, including hood, grease-removal devices, fans, ducts and other appurtenances, shall be inspected and cleaned in accordance with Section 606.3.

4107.2.2 Fire protection systems and devices. Fire protection systems and devices shall be maintained in accordance with Section 901.6.

4107.2.3 Fuel gas systems. LP-gas containers installed on the vehicle and fuel-gas piping systems shall be inspected annually by an approved inspection agency or a company that is registered with the U.S. Department of Transportation to requalify LP-gas cylinders, to ensure that system components are free from damage, suitable for the intended service and not subject to leaking. CNG containers shall be inspected every 3 years in a qualified service facility. CNG containers shall not be used past their expiration date as listed on the manufacturer's container label. Upon satisfactory inspection, the approved inspection agency shall affix a tag on the fuel gas system or within the vehicle indicating the name of the inspection agency and the date of satisfactory inspection.

S. **. FIREWORKS DISPLAY.**

1. A new Section 5608.2 is added to Section 5608 of the California Fire Code to read as follows:

5608.2 Fallout Area. For aerial shells, the minimum required radius of the fallout area shall be 100 ft/in. (22 m/25 mm) of the internal mortar diameter of the largest aerial shell to be fired, unless otherwise approved.

T. **APPENDIX B.**

1. A new Section B103.2.1 is added to Section B103.2 of the California Fire Code to read as follows:

B103.2.1 Wildland-Urban Interface Area Subdivisions. The minimum fire flow for any new subdivision or tract constructed within a Wildland-Urban Interface Area shall be 1,500 gallons per minute.

2. Table B105.2 of the California Fire Code is amended as

follows:

TABLE B105.2
REQUIRED FIRE-FLOW FOR BUILDINGS OTHER
THAN ONE- AND TWO-FAMILY
DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE-FLOW (gallons per minute)	FLOW DURATION (hours)
No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2)
Section 903.3.1.1 of the California Fire Code	50% of the value in Table B105.1(2)[a]	Duration in Table B105.1(2) at the reduced flow rate
Section 903.3.1.2 of the California Fire Code	50% of the value in Table B105.1(2)[b]	Duration in Table B105.1(2) at the reduced flow rate

For SI: 1 gallon per minute = 3.785 L/m.

a. The reduced fire-flow shall be not less than 1,000 gallons per minute.

b. The reduced fire-flow shall be not less than 1,500 gallons per minute.

U. **APPENDIX C.**

1. Section C103.1 of the California Fire Code is deleted in its entirety and replaced with the following:

C103.1 Hydrant spacing. Fire apparatus access roads and public streets providing required access to buildings in accordance with Section 503 of the California Fire Code shall be provided with one or more fire hydrants, as determined by Section C102.1. Where more than one fire hydrant is required, the distance between required fire hydrants shall be in accordance with Sections C103.2 and C103.3. Fire hydrants shall be provided at street intersections.

SECTION 8. Amendment.

Chapter 15.26 is hereby added to Title 15 of the Coachella Municipal Code as follows:

"Chapter 15.26 California Wildland-Urban Interface Code

15.26.010 Adoption of the California Wildland-Urban Interface Code.

15.26.020 Amendments to the California Wildland-Urban Interface Code.

15.26.010 Adoption of the California Wildland-Urban Interface Code.

Except as stated in this Section, all of the provisions and appendices of the 2025 California Wildland-Urban Interface Code, inclusive of all of the inclusions and exclusions set for in each chapter's matrix, are hereby adopted and shall apply to the City of Coachella. In

addition, the following provisions that are excluded in the 2025 California Wildland-Urban Interface Code – Chapter 1, Division II of the California Wildland-Urban Interface Code is hereby adopted, except that Sections 103.2 and 112.3 are not adopted, and sections A101 through A102.2, A102.4, A104, A105.1, A105.4 through A105.4.2, A106 through A106.2 and A107 through A107.5 are adopted.

15.26.20 Amendments to the California Wildland-Urban Interface Code.

A. **APPLICABILITY** A new Section 102.4.1.1 is added to Section 102.4.1 of the California Wildland-Urban Interface Code to read as follows:

102.4.1.1 Application of the California Wildland-Urban Interface Code. Where a conflict exists between the provisions of the Coachella Municipal Code and the California Wildland-Urban Interface Code, the more restrictive provisions shall apply.

A. DUTIES AND POWERS OF THE CODE OFFICIAL.

1. A new Section 104.l.l is added to Section 104.1 of the California Wildland-Urban Interface Code to read as follows:

104.1.1 Authority of the Fire Chief, Chief Deputy, and Fire Department.

1. The Fire Chief, Chief Deputy, or their designee is authorized and directed to enforce all applicable State fire laws and provisions of this code and to perform such duties as directed by the Coachella City Council.
2. The Fire Chief, Chief Deputy, or their designee is authorized to administer, interpret and enforce this code. Under the Fire Chief, Chief Deputy, or their designee's direction, the Riverside County Fire Department is authorized to enforce ordinances of the City of Coachella pertaining to the following:

2.1. The prevention of fires.
2.2. The suppression or extinguishment of dangerous or hazardous fires.
2.3. The storage, use and handling of hazardous materials.
2.4. The installation and maintenance of automatic, manual and other private fire alarm systems and fire extinguishing equipment.
2.5. The maintenance and regulation of fire escapes.
2.6. The maintenance of fire protection and the elimination of fire hazards on land, in buildings, structures and other property, including those under construction.
2.7. The maintenance of means of egress.
2.8. The investigation of the cause, origin and circumstances of fire and unauthorized releases of hazardous materials.

3. The following persons are hereby authorized to interpret and enforce the provisions of this code and to make arrests and issue citations as authorized by law:

3.1. The Unit Chief, Peace Officers and Public Officers of the California Department of Forestry and Fire Protection.
3.2. The Fire Chief, Peace Officers and Public Officers of the Riverside

County Fire Department.
3.3. The Riverside County Sheriff and any deputy sheriff.
3.4. The Police Chief and any police officer of any city served by the Riverside County Fire Department.
3.5. Officers of the California Highway Patrol.
3.6. Code Officers of the Riverside County Code Enforcement Department.
3.7. Peace Officers of the California Department of Parks and Recreation.
3.8. The law enforcement officer of the Federal Bureau of Land Management.

B. Section 104.2 of the California Wildland-Urban Interface Code is deleted and replaced with the following:

104.2 Determination of compliance. The fire code official shall have the authority to determine compliance with this code, to render interpretations of this code and to develop policies, procedures, guidelines, standards, and information bulletins in order to clarify the application of its provisions. Such interpretations, policies, procedures:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.
3. Shall be enforceable as part of this code.

C. Sections 104.8 and 104.8.1 of the California Wildland-Urban Interface Code are deleted in their entirety and replaced with the following:

104.8 Liability. Any liability against Riverside County, City of Coachella, or any officer or employee for damages resulting from the discharge of their duties shall be as provided by law.

D. PERMITS. Section 105.2 of the California Wildland-Urban Interface Code is deleted in it's entirety and replaced with the following:

105.2 Permits Required. Unless otherwise exempted, buildings or structures regulated by this code shall not be erected, constructed, altered, repaired, moved, removed, converted, demolished or changed in use or occupancy unless a separate permit for each building or structure has first been obtained from the code official.

For buildings or structures erected for temporary uses, see Section A108.3. Where required by the code official, a permit shall be obtained for the following activities, operations, practices or functions within a wildland-urban interface area:

1. Automobile wrecking yard.
2. Candles and open flames in assembly areas.

3. Explosives or blasting agents.
4. Fireworks.
5. Flammable or combustible liquids.
6. Hazardous materials.
7. Liquefied petroleum gases.
8. Landscape and fuel modification zones.
9. Lumberyards.
10. Motor vehicle fuel-dispensing stations.
11. Open burning.
12. Pallet Yards.
13. Pyrotechnical special effects material.
14. Tents, canopies and temporary membrane structures.
15. Tire storage.
16. Welding and cutting operations.

E. FEES**.** Section 108.2 of the California Wildland-Urban Interface Code is deleted in its entirety and replaced with the following:

108.2 Schedule of permit fees. Fees for services and permits shall be as set forth in City of Coachella fee schedule.

F. A new Section 108.7 is added to Section 108 of the California Wildland-Urban Interface Code to read as follows:

108.7 Cost recovery. Pursuant to California Health and Safety Code sections 11374.5(b)(1), 13009 et seq., 25515(a), 25540(a), 25541 (a), California Government Code sections 53150 et seq, and all other provisions of law, all costs incurred by the Riverside County Fire Department and the City of Coachella for the inspection and enforcement of any provision of these Codes, the investigation of any fire, explosion or other hazardous condition, the suppression of fire, the response to a traffic collision or accident, the containment and/or mitigation of a hazardous materials release, and any rescue or rendering of medical or physical aid or assistance, may be charged to any responsible party, any person who violates these Codes or any person who, due to a negligent or unlawful act or omission, is responsible for or requires or causes the emergency response of Riverside County Fire Department. Any expense incurred by the Riverside County Fire Department for such an emergency response shall constitute a debt of such person and shall be collectible by the County and City of Coachella in the same manner as in the case of an obligation under contract, express or implied. These provisions shall be applied uniformly against all such persons in violation of a Penal Code, Vehicle Code, Health and Safety Code or other state law statutory violation; only a county official shall have authority to reduce or cancel the debt obligation

arising from the incident.

G. INSPECTION AND ENFORCEMENT. Section 109.3.7 of the California Wildland-Urban Interface Code is deleted in its entirety and replaced with the following:

109.3.7 Violation and penalties. It shall be unlawful for any person, firm, corporation or association of persons to violate any provision of this code, or to violate the provisions of any permit granted pursuant to this code or City of Coachella Municipal Code Chapter 15.26. Punishments and penalties for violations shall be in accordance with Health and Safety Code Sections 17995 through 17995.5 and Government Code Section 51185.

H. DEFINITIONS**.** Section 202, definition of "Fire Chief" in the California Wildland-Urban Interface Code is deleted in its entirety and replaced with the following:

FIRE CHIEF. The Fire Chief of Riverside County or the Fire Chief's designee.

I. WILDLAND-URBAN INTERFACE AREA DESIGNATIONS. Section 302.1.1 is added to Section 302.1 of the California Wildland-Urban Interface Code to read as follows:

302.1.1 Designation of Fire Hazard Severity Zones. The City of Coachella has adopted the recommendations of the State Fire Marshal made pursuant to Government Code section 51178 and designated those areas within the County as moderate, high, and very high fire hazard severity zones as shown on the Local Responsibility Area Fire Hazard Severity Zones Maps published by the Office of the State Fire Marshal. The Maps have been adopted under City of Coachella Ordinance No. 1429.

J. SPECIAL BUILDING CONSTRUCTION REGULATIONS. Section 501.1 of the California Wildland-Urban Interface shall be amended as follows:

501.1 Scope. Buildings and structures in a wildland-urban interface area shall be constructed in accordance with the *California Building Code* and this code. For the purpose of this chapter, a wildland-urban interface area shall be defined as a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, and other areas designated by the enforcing agency to be at a significant risk from wildfires, and shall

include those areas designated by City of Coachella Ordinance No. 1429 as moderate, high, and very high fire hazard severity zones based on recommendations from the State Fire Marshal pursuant to Government Code Section 51178.

Exceptions:

2. Group U accessory structures not exceeding 120 square feet (11 m^2) in floor area where located not less than 50 feet (15 240 mm) from applicable buildings.
3. Group U agricultural buildings not less than 50 feet (15 240 mm) from applicable buildings.

K. **FIRE PROTECTION PLANS.** Section 602.1 of the California Wildland-Urban Interface Code is amended as follows:

602.1 General. A fire protection plan shall be submitted to the Fire Code Official for any proposed subdivision of land or building project. The fire protection plan shall be prepared to determine the acceptability of fire protection and life safety measures designed to mitigate wildfire hazards presented for the property under consideration.

The fire protection plan shall be prepared by a registered design professional, qualified landscape architect, qualified fire safety specialist or similar specialist acceptable to the code official and shall analyze the wildfire risk of the building, project, premises or region to recommend necessary changes.

Submittal of a preliminary fire protection plan shall be required prior to the submission of a final fire protection plan.

Exception: A single-family dwelling (Group R-3 Occupancy) when located on an existing legal parcel.

L. Section 602.3.2 of the California Wildland-Urban Interface Code is amended as follows:

602.3.2 Final Fire Protection Plan. Final fire protection plan shall include items listed in Section 602.3.1 and the following:

1. A map identifying all proposed plants in the fuel modification zones with a legend that includes a symbol for each proposed plant species. The plan shall include specific information on each species proposed, including but not limited to:
   1.1. The plant life-form;

1.2. The scientific and common name; and
1.3. The expected height and width for mature growth.

2. Identification of irrigated and non-irrigated zones.
3. Requirements for vegetation reduction around emergency access and evacuation routes.
4. Identification of existing vegetation proposed to remain.
5. Identification of points of access for equipment and personnel to maintain vegetation in common areas.
6. Methods and timetables for controlling, changing, or modifying areas on the property.
7. Legally binding statements regarding community responsibility for maintenance of fuel modification zones.
8. Legally binding statements to be included in covenants, conditions and restrictions regarding property owner responsibilities for vegetation maintenance.

M. VEGETATION PLAN. Section 603.1 of the California Wildland-Urban Interface Code is amended as follows:

603.1 General. Planting of vegetation for new and replacement landscaping shall be selected to reduce vegetation in proximity to a structure and to maintain vegetation as it matures.

N. Section 603.3 of the California Wildland-Urban Interface Code is amended as follows:

603.3 Landscape and Fuel Modification plans. Landscape and Fuel Modification plans shall be submitted for any project located in a WUI area. The landscape and Fuel Modification plan shall include development and maintenance requirements for the vegetation management zone adjacent to structures and roadways, and to provide significant fire hazard reduction benefits for public and firefighting safety.

O. Section 603.3.1 of the California Wildland-Urban Interface Code is amended as follows:

603.3.1 Contents. Landscape plans shall contain the following:

1. Delineation of the 5-foot (1524 mm) (Zone 0), 30-foot (9144 mm) (Zone 1) and 100-foot (30 480 mm) (Zone 2) fuel management zones from all structures.
2. Identification of existing vegetation to remain and proposed new vegetation.
3. Identification of irrigated areas.

4. A plant legend with both botanical and common names, and identification of all plant material symbols.
5. Identification of ground coverings within the 30-foot (9144 mm) zone.

P. **MAINTENANCE OF DEFENSIBLE SPACE.** Section 604.1 of the California Wildland-Urban Interface Code is amended as follows:

604.1 General. Vegetation and fuels shall be managed to reduce the severity of potential exterior wildfire exposure to buildings and to reduce the risk of fire spreading to buildings as required by applicable laws and regulations.

Q. Section 604.3 of the California Wildland-Urban Interface Code is amended as follows:

604.3 Requirements. Vegetation and fuels around all buildings and structures shall be maintained in accordance with the following laws and regulations:

1. Public Resources Code, Section 4291.
2. California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 3, Article 3, Section 1299.03.
3. California Government Code, Section 51182.
4. California Code of Regulations, Title 19, Division 1, Chapter 7, Subchapter 1, Section 3.07.
5. The requirements of Appendix A of this code and Riverside County Fire Department Guidelines.

R. Section 604.3.1 is added to Section 604.3 of the California Wildland-Urban Interface Code to read as follows:

604.3.1 Retroactivity. When required by the Fire Code Official, or State Law, existing Defensible Space/Fuel Modification Zones (FMZ) shall require retrofitting, including thinning and/or removal of plants, trees, and vegetation, to meet this Code or State Law. Upon notification by the Fire Code Official, and when approved, work to bring an existing Defensible Space and FMZ into compliance with this Code, may be done over a two to four (2-4) year period as determined by the Fire Code Official. A compliance plan prepared by the property owner may be requested for review and approval by the Fire Code Official.

S. Section 604.6 is added to the California Wildland-Urban Interface Code to read as

follows:

604.6 Clearance of brush, vegetative growth, and combustible material from improved parcels. All improved parcels declared a Public Nuisance shall be cleared entirely of combustible material. If the Fire Code Official determines this impractical, the provisions of Section 604.7 may be used.

T. Section 604.7 is added to the California Wildland-Urban Interface Code to read as follows:

604.7 Clearance of fuels or vegetative growth from structures. Clearance of fuels and vegetative growth from structures shall be per sections 604.7.1 through 604.7.4 of this code.

U. Section 604.7.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.7.1 Structures. Any person owning, leasing, controlling, operating, or maintaining any Building or structure in, upon, or adjoining any Fire Hazard Severity Zone, governed by this section, and any person owning, leasing, or controlling any land adjacent to such Buildings, shall at all times maintain around and adjacent to such Building, an effective firebreak made by removing and clearing away, all combustible material on their property for a distance not less than 100 feet from all portions of the Building.

Distances may be increased by the Fire Code Official due to a site-specific analysis based on local conditions and when required, based on a Fire Protection Plan. This section shall not apply to single specimens or stands of protected species of trees, Ornamental Landscape or similar plants used in landscaping and ground covers, that are well-pruned, maintained, and spaced, and do not form a means of rapidly transmitting fire from other nearby vegetation to a structure or from a structure to other nearby vegetation or to interrupt the advance of embers toward a structure.

V. Section 604.7.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.7.2 Timing for New Buildings and additions to Existing Buildings. The provisions of Section 604.7 shall be completed prior to vertical construction of any New Building or addition to an Existing Building.

W. Section 604.7.3 is added to the California Wildland-Urban Interface Code to read as follows:

604.7.3 Photovoltaic Systems. The clearance requirements around freestanding photovoltaic systems and equipment shall comply with the following:

1. A minimum 10-foot clearance for clusters of panels not exceeding 1,500 square feet of combined panel area.
2. A minimum of 30-foot clearance for clusters of panels greater than 1,500 square feet of combined panel area.
3. Clusters shall be separated by a minimum of 20 feet.
4. Panels and clusters shall be not located within 30 feet of any Building subject to clearance requirements of Section 604 unless the clearance requirements of Section 604 are provided as measured from the perimeter of the panel or cluster.

X. Section 604.8 is added to the California Wildland-Urban Interface Code to read as follows:

604.8 Defensible Space clearance zones and requirements. The required 100-foot Defensible Space clearance is identified in three (3) distinct zones: Zone 0, 1, and 2.

Y. Section 604.8.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.1 Requirements. Defensible Space shall be in accordance with the requirements of Appendix A of this code, Riverside County Fire Department Guidelines and the specific requirements for each zone listed in Sections 604.8.2 through 604.8.5.

Z. Section 604.8.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.2 Zone 0 purpose and location. Zone 0 reduces the likelihood of structure ignition by reducing the potential for direct ignition of the structure from flame contact, by embers that accumulate at the base of a wall, and/or indirect ignitions when embers ignite vegetation, vegetative debris, or other combustible materials located close to the structure that result in either a radiant heat and/or a direct flame contact exposure to the structure.

Zone 0 is the horizontal area within the first five (5) feet around the structure, including stairs, balconies, attached or adjacent decks, and outbuildings. Zone 0 is measured from the edge of a structure, attached or adjacent decks, patio covers, balconies, and floor projections above-grade. Zone 0 also includes the area on the roof of a building, and underneath and on top of attached decks, patio covers, balconies, and stair landings.

Advisory Notice: Riverside County Fire Department has local Zone 0 requirements currently in effect for new Buildings and additions to existing Buildings. New State regulations for Zone 0 are currently under development by the State Board of Forestry and Fire Protection. Any State regulation more restrictive than this code shall apply. This may require thinning and/or removal of plants, trees, and vegetation to meet State Law and regulations.

AA. Section 604.8.2.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.2.1 Non-Combustible Zone 0 for New Buildings, additions to Existing Buildings, and new or replacement landscape. Fuels, including Combustible Materials and vegetation, are prohibited in Zone 0 for all New Buildings, additions to Existing Buildings, installation of new landscape, and refurbishment of existing landscape areas.

The application date of Section 604.8.2.1 shall be the later application date when any of the following occur:

1. Fire Department Clearance for a New Building or addition to an Existing Building.
2. Building permit for a New Building or addition to an Existing Building.
3. Landscape plans submitted for Riverside County Fire Department review.
4. Replacement of landscape when landscape plans are not required.

BB. Section 604.8.2.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.2.2 Additional requirements in Zone 0.

1. New and existing tree canopies are prohibited within 10 feet of New Buildings, including the addition portion to Existing Buildings.

Exception: Existing protected oak trees shall be trimmed to provide a minimum 5-foot clearance above the roof and 5 feet to the side of any New Building, or the addition portion to an Existing Building.

2. Landscaped roofs are prohibited.
3. Vegetation underneath decks is prohibited.
4. Other Combustible Materials underneath any deck, not part of the deck structure itself, shall be removed.
5. Artificial or synthetic grass is prohibited within Zone 0.
6. Vines and climbing plants are not allowed on structures, including decks, patio/shade structures, and any fences within 5 feet of a Building.
7. Combustible mulch and wood chips are prohibited.
8. Firewood is prohibited.
9. All fencing and gates shall be non-combustible. See Section 604.11.

CC. Section 604.8.2.3 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.2.3 Zone 0 requirements for Existing Buildings.

DD. Section 604.8.2.3.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.2.3.1 Zone 0 restrictions. The following requirements apply within Zone 0 for all Existing Buildings with landscape installed prior to January 1, 2026:

1. No combustible landscape mulch or wood chips.
2. No firewood.
3. No vegetation underneath decks.
4. Other Combustible Materials underneath any deck, not part of the deck structure itself, shall be removed.
5. Roofs and gutters on Buildings shall be maintained free of any leaves, needles, or other vegetative Combustible Materials.
6. The vertical clearance distance for trees and vegetation above any roof shall be not less than 3 feet.
7. A minimum 3-foot clearance of trees and vegetation shall be provided to the side and above any eave or roof projection from the exterior wall of a Building. A minimum 3-foot clearance of trees and vegetation shall be provided below any eave or roof projection. This requirement also applies to any patio cover or other Building projections.
8. New trees are not allowed.
9. New or replacement landscaping shall comply with Sections 604.8.1, 604.8.2.1, and 604.8.2.2.

EE. Section 604.8.3 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.3 Zone 1 purpose and location. Zone 1 reduces the likelihood of fire

burning directly to the structure. This is accomplished by modifying Fuels and creating a discontinuity between planting groups that limits the pathways for fire to burn to the structure and reduces the potential for near-to-building ember generation and radiant heat exposures. An additional purpose of this zone is to provide a defendable area for fire personnel to stage and take direct action.
Zone 1 is the area within 5-30 feet of structures and decks, with slopes not greater than 20 percent; 5-50 feet from Buildings and decks, when slopes are greater than 20 percent.

FF. Section 604.8.3.1 is added to the California Wildland-Urban Interface Code to read as follows:
604.8.3.1 Requirements and allowable items. This is a minimal planting zone which includes very limited trees of a fire-smart type with additional spacing provided. Plants and other vegetation shall be in accordance with Appendix A of this code and Riverside County Fire Department Guidelines.

GG. Section 604.8.4 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.4 Zone 2 purpose and location. Zone 2 is designed to reduce the potential behavior of an oncoming fire in such a way as to drop an approaching fire from the crown of trees to the ground, reducing the flame heights, and the potential for ember generation and radiant heat exposure to structures. Additional benefits of the Zone 2 include facilitating direct defense actions and improving the function of Zones 0 and 1.
Zone 2 is the area from the outer edge of Zone 1 to 100 feet from structures and decks.

HH. Section 604.8.4.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.4.1 Requirements and allowable items. Plants and other vegetation shall be in accordance with Appendix A of this code and Riverside County Fire Department Guidelines.

II. Section 604.8.4.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.4.2 Spacing. Spacing of vegetation and trees at the outer edge of Zone 2 shall be based upon the height of the vegetation within Zone 2 or the adjacent area beyond the 100-foot zone, whichever provides for the greater spacing. This may require clearance outside the 100-foot zone or setting back vegetation and trees within Zone 2 away from the 100-foot line.

JJ. Section 604.8.5 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5 General requirements for Zone 0, 1, and 2.

KK. Section 604.8.5.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.1 Dead and dying vegetation. All dead or dying grass, plants, shrubs, trees, branches, leaves, weeds, and tree needles shall be removed.

LL. Section 604.8.5.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.2 Mulch and wood chips within Zones 1 and 2. Use of combustible Mulch and wood chips shall be in accordance with the requirements Riverside County Fire Department Guidelines.

MM. Section 604.8.5.3 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.3 Firewood. See Section 607.

NN. Section 604.8.5.4 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.4 Clearance from chimney, stovepipe. Any portion of a tree or shrub that extends within 10 feet horizontally or vertically of a chimney outlet or stovepipe outlet shall be removed.

OO. Section 604.8.5.5 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.5 Trees. New trees shall be planted and maintained so that the tree's drip line at maturity is a minimum of 10 feet from any combustible structure.

PP. Section 604.8.5.5.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.5.1 Tree spacing. The horizontal distance between crowns of new trees and crowns of adjacent trees shall not be less than 20 feet in Zone 1 and not less than 10 feet in Zone 2. Separation distance may be increased for slopes exceeding 20 percent. Required spacing is measured between trees at maturity.

QQ. Section 604.8.5.5.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.5.2 Ground clearance of trees. Trees exceeding 6 feet in height shall be limbed up from the ground 6 feet or 1/3 the height of the tree, whichever is less.

Exception: Fruit trees when approved by the Fire Code Official.

RR. Section 604.8.5.5.3 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.5.3 Ground cover under tree canopy. When approved ground cover and shrubs are located underneath trees, the vertical clearance to the lowest branch of the tree canopy shall not be less than three times the height of the ground cover or shrub under or adjacent to the tree. The horizontal clearance shall be 3 feet from the trunk of the tree.

SS. Section 604.8.5.6 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.6 Continuous tree canopies.

TT. Section 604.8.5.6.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.6.1 New Structures. Continuous tree canopies are not allowed. Tree spacing shall be in accordance with Riverside County Fire Department Guidelines.

UU. Section 604.8.5.6.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.6.2 Existing Structures. Continuous tree canopies may be allowed as determined by the Fire Code Official but will require the complete removal of any understory and smaller trees to meet requirements for a shaded fuel zone. Any remaining trees shall be limbed up a minimum of 12 feet from the ground or 1/3 the tree height, whichever is less. The intent is to not allow a crown (canopy) fire to spread unchecked to a structure and to bring any crown fire down to the ground level prior to Zone 1.

VV. Section 604.8.5.7 is added to the California Wildland-Urban Interface Code to read as follows:

604.8.5.7 Grasses. Natural or annual grasses shall be mowed to a maximum height of 4-inch stubble with clippings removed.

WW. Section 604.9 is added to the California Wildland-Urban Interface Code to read as follows:

604.9 Fire protection equipment and utilities. The clearance requirements of Sections 604.7 and 604.8 shall apply to communication site towers and their support Buildings; required fire protection water supplies, including water tanks, water supply pumps, and pump houses; and any other utility Structure as required by the Fire Code Official. The Fire Code Official may consider a reduced distance, not less than 30 feet, for communication site towers, water tanks, and Structures with no interior space, based upon a site risk assessment. Also see Appendix A.

XX. Section 604.10 is added to the California Wildland-Urban Interface Code to read as follows:

604.10 Planting vegetation under or adjacent to energized electrical lines. No vegetation shall be planted under or adjacent to energized power lines that, at maturity, will grow within 10 feet of the energized conductors.

YY. Section 604.11 is added to the California Wildland-Urban Interface Code to read as follows:

604.11 Fencing.

ZZ. Section 604.11.1 is added to the California Wildland-Urban Interface Code to read as follows:

604.11.1 Scope. This section only applies to fences, including gates within the fencing, within 5 feet of Building(s), including Decks, (Zone 0) that are in an applicable Fire Hazard Severity Zone req by Chapter 6 of this code.

AAA. Section 604.11.2 is added to the California Wildland-Urban Interface Code to read as follows:

604.11.2 New fencing. New fencing and gates shall be constructed of a non-combustible material.

BBB. Section 604.11.3 is added to the California Wildland-Urban Interface Code to read as follows:

604.11.3 Existing fencing. Fencing installed prior to January 1, 2026, may remain.
Exception: The entire fencing not parallel and within 5 feet of the Building, including gates within the fencing, shall be constructed of a non-combustible material when any portion of the existing fencing within 5 feet is being replaced. Fencing beyond 5 feet from the Building is not required to be replaced with non-combustible material.

CCC. STORAGE OF FIREWOOD AND COMBUSTIBLE MATERIALS. Section 607.1 of the California Wildland-Urban Interface Code is amended to read as follows:

607.1 General. Firewood and combustible materials shall not be stored in unenclosed spaces beneath Buildings or Structures, or on Decks or under eaves, canopies, or other projections or overhangs. Firewood piles shall be located 30 feet (9144 mm) or more from structures unless completely covered by a fire-resistant material. Exposed wood piles located within the defensible space shall have a minimum clearance of 10 feet (3048 mm) down to bare mineral soil in all directions. Firewood shall not be stored within Zone 0.

DDD. Section 607.1.1 of the California Wildland-Urban Interface Code is amended to read as follows:

607.1.1 Combustible Materials. Combustible Materials, other than vegetation, stored within Zones 1 and 2 shall not be stored so as to pose a hazard to any Building. Piles shall not exceed 100 square feet of area and a maximum height

of 10 feet. Piles shall be separated by a minimum of 20-foot clear area.

EEE. Section 607.2 of the California Wildland-Urban Interface Code is amended to read as follows:

607.2 Storage for off-site use. Firewood and Combustible Materials not for consumption on the premises shall not be stored within Zones 0, 1, and 2. See Appendix A for storage requirements.

FFF. BUILDING SITING AND SETBACKS. Section 608.1.1 is added to the California Wildland-Urban Interface Code to read as follows:

608.1.1 Restricted development setbacks. New Structures and additions to existing Structures shall not be constructed less than 100 feet from any protected habitat, whether on the same or adjacent Parcels, where the 100-foot Defensible Space required under Section 604.7 cannot be provided, unless an alternate method of construction and protection is provided that can ensure the safety of the Structure and emergency responders as approved by the Fire Code Official. Protected habitat includes lands restricted from brush clearance or modification due to Federal or State listed endangered species. Protected habitat does not include sensitive habitat areas.

GGG. Section 608.2 of the California Wildland-Urban Interface Code is amended to read as follows:

608.2 General. All parcels shall provide a minimum 30-foot (9144 mm) setback for all buildings from property lines and the center of a road, except as provided for in Section 608.2.1. [14 CCR §1276.00(a)] This section applies to new Tract and Parcel maps, new Buildings, and additions to Existing Buildings.

HHH. Section 608.2.1 of the California Wildland-Urban Interface Code is amended to read as follows:

608.2.1 Setback reduction. A reduction in the minimum setback shall be based upon practical reasons, which may include but are not limited to, parcel dimensions or size; topographic limitations; Development density requirements or other Development patterns that promote low-carbon emission outcomes; sensitive habitat or other site constraints, and shall provide for an alternative method to reduce structure-to-structure ignition by incorporating a combination

of features such as, but not limited to:

1. Non-combustible block walls or fences; or
2. Non-combustible material extending 5 feet (1524 mm) horizontally from the furthest extent of the building; or
3. Hardscape landscaping; or
4. A reduction of exposed windows on the side of the structure with setback less than 30 feet (9144 mm). [14 CCR § 1276.01]

III. **RIDGELINES, FUEL BREAKS, AND GREENBELTS.** Section 609.2.7.1 is added to the California Wildland-Urban Interface Code to read as follows:

609.2.7.1 Greenbelts. Subdivisions and other developments, which propose Greenbelts as a part of the development plan, shall locate the Greenbelts strategically, as a separation between wildland fuels and Structures. The locations shall be approved by the inspection authority.

JJJ. Section 609.2.7.2 is added to the California Wildland-Urban Interface Code to read as follows:

609.2.7.2 Access to Greenbelts. A minimum of one (1) access point shall be provided to new Greenbelts at an approved location to allow for on-going maintenance and firefighter access. Additional access points shall be provided when required by the Fire Code Official.

KKK. APPENDIX A. Section A102.1 of the California Wildland-Urban Interface Code is amended to read as follows:

A102.1 General. Vegetation control shall comply with Sections A102.2 through A102.4 and with Chapter 6.

LLL. Section A105.1 of the California Wildland-Urban Interface Code is amended to read as follows:

A105.1 General. In addition to the requirements of the California Fire Code, Ordinance 787 and Chapter 6, storage and use of the materials shall be in accordance with Sections A105.2 through A105.4.2.

MMM. Section A105.4 of the California Wildland-Urban Interface Code is

amended to read as follows:

A105.4 Combustible Materials. Outside storage of Combustible Materials such as, but not limited to, wood, rubber tires, building materials, or paper products shall comply with the other applicable sections of this code and this section. Storage of pallets shall be in accordance with California Fire Code Section 2810. Storage and processing of wood chips, hogged materials, fines, Compost, Compostable Material, Mulch, solid biomass, raw product, and combustible yard waste and recycle material shall be in accordance with California Fire Code Section 2808.

SECTION 7. Amendment.

Chapter 15.32 of Title 15 of the Coachella Municipal Code is hereby amended in its entirety to read as follows:

"**Chapter 15.32 Existing Building Code**

15.32.010 Adoption of the Existing Building Code.

15.32.020 Amendments to the Existing Building Code.

15.32.010 Adoption of the Existing Building Code.

Except as provided in this chapter, the 2025 California Existing Building Code, including Appendices A-1, based on the 2024 International Existing Building Code, as published by the International Code Council (ICC), shall become the Existing Building Code of the City of Coachella for the purpose of regulating the repair, alteration, change of occupancy, addition to and relocation, structural strength, access, safety, lighting, ventilation and energy conservation of existing buildings in the City. The California Existing Building Code is on file for public examination in the office of the Building Official.

15.32.020 Amendments to the Existing Building Code.

A. Section 202, Definitions, is hereby amended by adding the following definitions:

Substantial Structural Damage. A condition where:

1. In any story, the vertical elements of the lateral force-resisting system, have suffered damage such that the lateral load-carrying capacity of the structure in any direction has been reduced by more than 20 percent from its pre-damaged condition, or

2. The capacity of any vertical gravity load-carrying component, or any group of such components, that supports more than 30 percent of the total area of the structure's floor(s) and roof(s) has been reduced more than 20 percent from its pre-damaged

condition, and the remaining capacity of such affected elements with respect to all dead and live loads is less than 75 percent of that required by the building code for new buildings of similar structure, purpose, and location."

SECTION 10. CEQA Analysis. The City Council finds that the adoption of the California Buildings Standards Code and local amendments thereof is exempt from the California Environmental Quality Act ("CEQA") under CEQA Guideline section 15061(b)(3) (the common sense exemption). The action is largely administrative in nature and designed to improve and not degrade environmental quality such that there is no possibility that adopting this Ordinance would adversely affect the environment in any manner that could be significant.

SECTION 12. Severability. If any section, subsection, subdivision, paragraph, sentence, clause, or phrase of this Ordinance, or any part thereof, is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance, or any part thereof. The City Council hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause or phrase thereof, irrespective of the fact that any one or more section, subsection, subdivision, paragraph, sentence, clause or phrase would be subsequently declared invalid or unconstitutional.

SECTION 13. Publication and Effective Date. The City Clerk shall certify to the passage and adoption of this Ordinance and shall cause this Ordinance to published or posted as required by law. This Ordinance shall take effect thirty (30) days after adoption.

PASSED, APPROVED, AND ADOPTED this _____ of _____, 2026 by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
Steven Hernandez, Mayor
City of Coachella

ATTEST:

_____
Angela M. Zepeda, City Clerk
City of Coachella

APPROVED AS TO FORM:

_____

Ryan Guiboa, Best Best & Krieger LLP
City Attorney

Exhibit A
Findings to Support Amendments to the
2022 Edition of the California Building Standards Code

To the extent that changes and modifications to the 2025 California Building Standards Code in this ordinance are deemed more restrictive than the standards contained in the 2025 California Building Standards Code thus requiring that findings be made pertaining to local climatic, geological, or topographical conditions to justify such modifications, the City Council hereby finds and determines as follows:

A. Extreme surface temperatures common in the lower desert areas, one hundred sixty (160) degrees Fahrenheit plus, deteriorates and dries out buildings' materials and our high winds create extreme fire conditions which are detrimental to the general public.

B. Every three years the State of California adopts a new California Fire Code, as part of the California Building Standards Code, which becomes effective 180 days after publication by the California Building Standards Commission.

C. The 2025 California Fire Code, California Code of Regulations, Title 24, Part 9, is based on the 2024 International Fire Code.

D. The City of Coachella may establish more restrictive standards reasonably necessary to provide fire protection for life and property because of the following local climatic, geological, or topographical conditions.

I. Climatic Conditions:

Riverside County and the City of Coachella have an arid climate with annual rainfall varying from three (3) inches in Blythe to over thirty-three (33) inches in Pine Cove. The County also experiences annual hot, dry Santa Ana Winds, which contribute to fires spreading quickly throughout the County.

II. Topographical conditions

A variety of regions exist within Riverside County including deserts, mountains, brush covered wild lands, the Salton Sea and agricultural lands. Additionally, elevations within Riverside County range from three hundred (300) feet below sea level to mountains over ten thousand (10,000) feet. This variety in regions contributes to an increased emergency response time, which necessitates cooperation between local agencies.

Riverside County contains a large number of sensitive habitats for various species and vegetation, consists of large open space areas between major urban centers and includes

landscapes varying from mountains and hills to valleys and deserts. These conditions impact building and structure location, which impedes emergency access and response.

Riverside County extends from Orange County to the State of Arizona and is mixed with congested urban areas, rural lands and wild lands, which increase Riverside County Fire Department response times to emergencies.

The topography within Riverside County extends from flat to twenty-five (25) percent slope for habitable land, which causes buildings and structures to be located in unique areas that impact emergency response and access.

III. Geological Conditions

Two major earthquake faults, the San Andreas Fault and the San Jacinto Fault, bisect Riverside County and numerous minor faults exist throughout it. As a result, a substantial amount of property and persons located in Riverside County and the City of Coachella are likely to be impacted by earthquakes and will require emergency response and rescue.

In addition to earthquakes, a substantial amount of property and persons located in Riverside County and the City of Coachella are likely to be impacted by landslides, wind erosion, blown sand, flooding and wildfires because of the County's unique climatic, geological and topographical conditions.

F. The additional requirements included herein are necessary to properly protect the health, safety and welfare of the residents and workers of Riverside County and the City of Coachella.

G. Revenue shortages make it difficult to locate additional fire stations and provide staffing sufficient to control fires in single and multi-story retail, commercial and industrial buildings, making enhanced built-in protection necessary.

H. The sections of the California Fire Code may be referred to by the same number used in said published compilation preceded by the words "the City of Coachella Fire Code Section" or "Fire Code Section."

I. California Health and Safety Code Sections 17958.7 and 18941.5 require that the modification or change be expressly marked and identified as to which each finding refers. The following table sets forth the 2025 California Fire Code sections that have been modified, and the associated local climatic, geological, and/or topographical conditions described above supporting the modification.

2025 BUILDING CODE SECTION	TITLE/SUBJECT	FINDINGS/ JUSTIFICATIONS
105.1	Required Permits	Administrative
105.2, Items 2, 4, and 6	Work exempt from permits	Administrative
105.2	Work exempt from permits	Administrative
110.3.8	Fire- and smoke-resistant penetrations	
111.1	Change of occupancy	
114.4	Violation penalties	Administrative
114.4.1	Violation penalties	Administrative
G101.6	Administration and Enforcement	Administrative
Appendix J, Section J101.3	Administration and Enforcement	Administrative
Appendix J, Section J101.4.1	Using alkaline fill soil	

2025 FIRE CODE SECTION	TITLE/SUBJECT	FINDINGS/ JUSTIFICATIONS
102.5	Application of Residential Code	I, II & III
104.7 & 104.7.1	Liability; Legal defense	Administrative
104.1.1	Authority of the Fire Chief and Fire Department	Administrative
104.13	Authority of the Fire Chief to Close Hazardous Fire Areas	Administrative

107.2	Schedule of Permit Fees	Administrative
107.7	Cost Recovery	Administrative
111.1	Board of Appeals Established	Administrative
112.4	Violation and Penalties	Administrative
308.1.6.3	Sky Lanterns or Similar Devices	I, II, & III
503.2.1	Dimensions	Administrative
503.2.2	Authority	Administrative
503.6.1	Automatic Opener	Administrative
503.7	Loading Areas and Passenger Drop-Off Areas	Administrative
507.5.7	Fire Hydrant Size and Outlets	I & II
507.5.8	Fire Hydrant Street Marker	I, II, & III
508.1	General	I, II, & III
508.1.1	Location and Access	I, II, & III
508.1.3	Exception	I, II, & III
509.2.1	Minimum Clearances	I & II
608.11.1.2	Manual Operation	II & III
903.2	Where Required	I, II, & III
903.3.5.3	Hydraulically Calculated Systems	I & II
3204.2.1	Minimum Requirements for Client Leased or Occupant Owned Warehouses	Administrative
4904.2.1	High Fire Hazard Severity Zone Maps	Administrative
App Ch B, Table B105.2	Required Fire-Flow For Buildings Other Than One- And Two-Family Dwellings, Group R-3 And R-4 Buildings And Townhouses	I, II, & III
App Ch C, C103.1	Hydrant Spacing	I, II, & III
5608.1	Fireworks Display—General [Replaced with PDMC § 9.53.015]	Administrative

This remainder of the amendments not listed in this Section are necessary for administrative clarification, and do not modify a building standard pursuant to California Health & Safety Code Sections 17958, 17958.7 and/or 18941.5. They establish administrative standards for the effective enforcement of the building standards in the City of Coachella.

2025 CFC Local Amendment Justification/Statement of Reason

Building Standards Law allows local amendments in accordance with the following:

For purposes of this subdivision, a city may make reasonably necessary modifications to the requirements, adopted pursuant to Health and Safety Code Section 17958, 17958.5, 17958.7, and 18941.5, contained in the provisions of the code and regulations on the basis of local conditions.

CFC Chapter 1 – Scope and Administration:

Section 101.4: This section is carried over from the existing previous adoption. This section resolves any conflict with the fire code provisions. Coachella maintains its own severability clause and does not adopt the fire code text.

Section 102.5: This section is carried over from the existing previous adoption. The scope and application of the fire code needs to be expanded to apply to the fire sprinkler systems for accessory structures constructed under the 2025 California Residential Code (CRC) which are permitted to exceed 3,600 square feet in area. This existing modification maintains the applicability of the 2025 California Fire Code (CFC) Section 903.2 amendment to those accessory structures greater than or equal to 3,600 square feet in area. This has no change in intent for previous adoption and maintains the protection offered.

Section 102.13.1: New section added to Section 102.13 to clarify Where a conflict exists between the provisions of the Riverside County Fire Code and the California Wildland-Urban Interface Code, the provisions of the Fire Code shall apply.

Section 103.1: New amendment of the base code text for establishing the Coachella Office of the Fire Marshal (Riverside County Fire Department) and identifying the "fire code official" as the official in charge of implementing, administering and enforcing the provisions of this code.

Section 104.1.1: This section is carried over from the existing previous adoption. It is imperative that enforcement capability be disseminated to other law enforcement entities within the Coachella area because of its vast topography and diversity. This gives the Riverside County Fire Department greater enforcement capabilities due to the presence of these other agencies across the County of Riverside.

Section 104.2: New amendment to Section 104.2 to clarify that "Guidelines" may be created to render interpretations of the Fire Code and shall be enforceable as part of the code.

Section 104.8 and 104.8.1: This section is carried over from the existing previous adoption to resolve any conflict between state law and the fire code provisions.

Section 104.12: This section is carried over from the existing previous adoption and grants authority to the Fire Chief, in cooperation with the Board of Supervisors, to close hazardous fire areas.

Section 108.2: This section is carried over from the previous adoption and relocated to the fees section of the Fire Code Section 108.2. This amendment is necessary to identify that fees are in accordance with Coachella fee schedules.

Section 108.7: This section is carried over from the previous adoption and relocated to the fees section of the fire code. This section is maintained in accordance with Health and Safety Code 13009 and 13009.1, and Government Code 53150, et seq. for cost recovery.

Section 112.1: This section is carried over from the existing previous adoption to identify the board of appeals and additional criteria for clarification and implementation. The existing modifications to this section are consistent with Health and Safety Code 17920.5 where no board of appeals exists. This section provides for the ability to create a Board of Appeals as needed.

Section 113.4: This section is carried over from the existing previous adoption section 112.4 and relocated to this section to resolve any conflict with the fire code provisions. previous adoption requires punishments and penalties for violations to be in accordance with Health and Safety Code Sections 17995 through 17995.5.

CFC Chapter 2 – Definitions:

Fire Chief: This definition is carried over from the previous adoption. This definition was added to designate that this term means the Fire Chief of Riverside County whenever the wording appears in the California Fire Code or this Ordinance. This is to distinguish obligatory authority to the Fire Chief or any of the designated representatives for fire prevention measures and declarations in enforcing this Ordinance.

CFC Chapter 3 - General Requirements

Section 308.1.7: This section is carried over from previous adoption. This section is amended to prohibit sky lanterns and similar devices. The California State Fire Marshal's office issued Information Bulletin 12-005 indicating that there is a serious fire and safety hazard associated with sky lanterns, which include the potential to start an unintended fire on or off the property from which they are released. They are known to travel significant distances from the point of release. The National Association of State Fire Marshals Resolution 2013-3 recommends imposing State level bans on their sale and use. Multiple fires have been reported to be linked to the use of sky lanterns including, but not limited to, a recycling plant fire in Smethwick, England which caused approx. $9M in damage and a wildfire in Shell Beach on the mountain above Pirates Code in San Luis Obispo County, CA. This is similar to the existing amendment by Orange County Fire Authority.

CFC Chapter 5 – Fire Service Features

Section 503.1.2.1: This is a new section added to be consistent with the operational needs where two points of fire access are required as identified in the Riverside County Fire Department – Commercial Access Guidelines and is consistent with Appendix D of the International Fire Code.

Section 503.2.1: This section is carried over from the previous adoption. This correlation of the fire code is necessary for minimum fire apparatus access widths for firefighter operations and consistency throughout Coachella. This modification has no change in regulatory effect.

Section 503.2.2: This section is carried over from the previous adoption. This section is enhanced to specify who has authority to designate Fire Lanes/Fire Apparatus Access Roads and modify minimum widths.

Section 503.6.1: This section is carried over from the previous adoption. This section provides fire department and other emergency responders more rapid access to facilities with motorized gates. Underwriters Laboratory (UL) "determined that fires today are more dangerous and pose more risks than in the past. Fire propagation is faster, and time to flashover, escape times and collapse times are all shorter" (UL Fire Safety Journal Issue 1). Placing our first responders on scene sooner or without disruption will provide for greater occupant and firefighter safety, and assist in property protection and medical emergencies.

Section 503.7: This section is carried over from the previous adoption. This section provides additional width for apparatus access roads where utilized for loading/unloading or passenger drop off/pick up to prevent interference with operational access needs.

Section 507.5.7: This section is carried over from the previous adoption. This section provides for the size and quantities of outlets for residential standard, super hydrant standard, and super hydrant enhanced fire hydrants and that they shall be required as determined by the Fire Code Official.

Section 507.5.8: This section is carried over from the previous adoption. The section provides direct references to Riverside County Fire Department Guidelines for specific requirements for the installation of blue reflective markers for fire hydrants.

Sections 508.1, 508.1.1, and 508.1.3: These sections are carried over from the previous adoption. These sections have been amended to require fire command centers for structures larger than 300,000 square feet in size. To put into context, the Fire Command Center would be triggered when the buildings are approximately 2.5 times the typical Costco Warehouse store and approximately two times the size of a typical Walmart Supercenter. Large structures of this size pose numerous challenges to emergency responders due to the large amounts of fuel loads from the storage, manufacturing and/or processing of flammable/combustible commodities and other processes within the building. Challenges include wide distribution of smoke throughout the structure, difficulty for firefighters to locate and reach the fire and difficulty in search and evacuation of the public, employees and firefighters. These structures typically require numerous fire protection, early suppression and detection systems that may include, but are not limited to, fire pumps, multiple fire sprinkler systems, advanced fire alarm systems, smoke control systems, and refrigeration gas detection system(s). During a fire, the incident commander must have the ability to readily identify the status of the various suppression and detection systems and have access to other building information details that may include, but are not limited to, building floor plans, high-pile/rack storage details, smoke control/ventilation systems, fire sprinkler zoning details, mechanical refrigeration equipment and piping details, and hazardous materials data sheets along with quantities and storage/use locations. A fire command center provides a centralized location for the incident commander to review details about the building and the incident and to effectively coordinate emergency responders and suppression activities with increased efficiency and speed. The Riverside County Fire Department has experienced several incidents in buildings with and without Fire Command Centers. Incident Commanders found that having detailed

information on built in fire protection systems and controls, building schematics and hazardous materials storage plans were vital towards mitigating the event. When this information was not available, firefighting personnel were forced to operate upon assumptions and much less information. In addition, this increased efficiency and speed results in facilities returning to operation more expeditiously after incidents or false alarms thereby reducing loss of revenue for the business.

Section 509.2.1: This section is carried over from previous adoption. This section encompasses other exterior fire protection water supply appliances such as Fire Department connections, and other exterior fire protection system control valves, or any other exterior fire protection system component that may require immediate access.

CFC Chapter 6 – Building Services and Systems

Section 608.11.1.2: This section is carried over from the previous adoption. This section specifies the location of manual crossover valves when manual operation is required by the Fire Code Official. The amendment specifies that the manual valves shall be located in an approved location immediately outside of the machinery room, in a secure metal box or equivalent and marked as Emergency Controls. This is to ensure that the valves are in readily accessible location(s) for access during an emergency.

CFC Chapter 9 – Fire Protection and Life Safety Systems

Section 903.2: This section is carried over from the previous adoption with modification. Modifications have been made to provide certain exemptions including, but not limited to, fueling canopies and agricultural and greenhouse Group U structures constructed in accordance with the California Building Code and specific shade structures. An additional sprinkler requirement has been added to include changes in use to existing structures greater than 3,600 sq. ft., and additions to existing structures where the new square footage is greater than 3,600 sq. ft.

The existing amendment provides a base square footage requirement for all new commercial, industrial, and residential occupancies other than one- and two-family dwellings. Though the amendment includes a reference to the requirement for one- and two-family dwellings, the authority for residential fire sprinkler requirements for these occupancies resides in Title 24, Part 2.5 [2025 California Residential Code].

Automatic sprinkler systems have been successfully used to protect industrial and commercial buildings and their occupants for more than 100 years. Historically the place which has offered the least amount of fire protection to occupants was and still is their own home. This was brought to light in 1973 by the Report of the National Commission on Fire Prevention and Control, America Burning. At the time of the report approximately 8,000 people died in structure fires every year in the United States. Nine out of ten of those victims died in their home.

However, the U.S. Fire Administration report "Fire in the United States 2004–2013 17th edition" reflects that nonresidential fire losses are costly. "National estimates of nonresidential building fires and losses, from 2004 to 2013, annually accounted for only 7 percent of fires, 2 percent of

deaths, and 8 percent of injuries. These properties, however, accounted for a disproportionately large annual dollar loss, 21 percent. Trends in nonresidential buildings showed a 14 percent decrease in fires, a 9 percent increase in deaths, a 7 percent increase in injuries, and a 10 percent decrease in dollar loss from 2004 to 2013."

The same report concluded "…that, overall, the fire problem in the U.S. continues to improve. Ten-year fire loss rates are down. It is likely that several factors continue to contribute to these trends:…" which includes; "fire sprinklers, which quickly combat incipient fires, especially in nonresidential and multifamily buildings, and fire codes, which have been strengthened." Furthermore, the report reflects that the nonresidential building category includes industrial and commercial properties, institutions (such as hospitals, nursing homes and prisons), educational establishments (from preschool through university), mobile properties, and storage properties. On average, about 89 percent of nonresidential structure fires, 88 percent of deaths, 91 percent of injuries, and 92 percent of dollar losses reported to National Fire Incident Reporting System from 2004 to 2013 occurred in nonresidential buildings.

Aside from firefighter and explosion fatalities, there has never been a multiple loss of life in a fully sprinklered building due to fire or smoke. All fire protection features have a reliability factor. Walls and shafts can be breached by means of poke-throughs and building alterations. Exit doors can be blocked or locked.

The California Residential Code requires that all one and two family dwellings be protected by sprinklers. It is still imperative, based on the geographical, topographical, climatic diversity of Coachella, to continue to protect all structures greater than 3,000 sq. ft. by fire sprinklers, to ensure faster fire suppression/control to those occupancies that would not normally be required to be protected which would exhaust a number resources including water which climatically is so precious to our environment as a whole. It will provide for less run off into ground water due to suppression activities and less pollutants into the environment. It will reduce the risk of a structure fire extending outside of the structure and potentially igniting a wildland fire.

Mobile homes are a part of the American landscape. In 2007 alone, more than 95,000 manufactured homes were shipped nationwide. Manufactured housing also accounts for approximately 10 percent of the single-family structures in the United States. The National Fire Protection Association reports in 2007-2011, 11,400 structure fires per year were reported in manufactured homes, with associated losses of; 206 civilian deaths, 434 civilian injuries, and $179 million in direct damage per year nationally. Despite the fact that we drive by them, respond to medical calls in them, and sometimes live in them, we often overlook mobile homes when it comes to training and pre-fire planning. However, as the deaths of two firefighters in Craigsville, West Virginia, showed, mobile homes can pose significant, and sometimes deadly, challenges. The burning mobile home is a less-than-stable platform, making search and possible rescue of occupants even more dangerous. The exterior walls are not as structurally sound when compared with those of most site-built homes. The narrow halls complicate search. The roof burns through more quickly than a typical residential roof and is not safe for firefighters. Mobile home fires can quickly grow out of control, because there's not as much wallboard and drywall, and there are fewer walls to keep the fire from spreading. If the first-due engine pulls up and the mobile home is burning from end to end, the firefighting strategy has already been decided. The fire must be

knocked down in order to move in. If the home is in a mobile home park, again, protecting exposures is vital. Radiant heat can ignite the homes nearby. Fire sprinklers can prevent the flashover from occurring and in many cases put the fire out and save valuable resources in the process, such as water, personnel, and environmental cleanup, limited displacement into City and County shelter(s), and less inconvenience to the family. The mobile home, because of its construction, requires fast water.

The record for automatic fire sprinklers is based on the simple fact that there has never been a multiple death of building occupants from a fire developing in a building protected by an automatic fire sprinkler system properly installed and maintained in accordance with nationally recognized standards (NFPA 13, 13D, 13R, and NFPA 25).

AWWA Research Foundation has published the following report: Impact of Fire Flow on Distribution System Water Quality, Design, and Operation. This report concludes the following:

"Water-efficient fire suppression technologies exist that use less water than conventional standards. In particular, the universal application of automatic sprinkler systems provides the most proven method for reducing loss of life and property due to fire, while at the same time providing faster response to the fire and requiring significantly less water than conventional fire-fighting techniques. It is recommended that the universal application of automatic fire sprinklers be adopted by local jurisdictions."

Consider the benefits: a single firefighter using a normal 1-1/2" fire hose can be applying between 175-400 gallons of water per minute when attempting to extinguish a fire. On the other hand, a single fire sprinkler will be flowing only 18- to 40- gallons of water per minute. This means that over a 5-minute period, the following quantities of water are used:

Fire-fighter with 1-1/2" hose:
175 gpm x 5 minutes = 875 gallons of water
400 gpm x 5 minutes = 2,000 gallons of water
Fire sprinkler system:
18 gpm x 5 minutes = 90 gallons of water
40 gpm x 5 minutes = 200 gallons of water

Section 903.3.5.3.3: This section is carried over from the previous adoption. The section limits all hydraulically calculated fire sprinkler systems to not exceed 90% of the water supply capacity. The 10% buffer in hydraulic calculation is a common engineering business practice that gives some flexibility to account for system water pressures that may decrease as additional demands are placed on the water system from additional construction or as the system ages.

Section 904.2.2.1: This is a new section added to the Fire Code to require that all new hood and duct commercial kitchen extinguishing systems are monitored by a central station or remote supervising station to ensure that the fire department is notified and able to respond to a fire.

CFC Chapter 32 – High-Piled Combustible Storage

Section 3206.4.2: This section is carried over from the previous adoption and relocated to the automatic sprinkler section within Chapter 32 of the Fire Code. By requiring client leased or occupant owned warehouses to have a technical report completed by a registered engineer, it will minimize problems concerning commodity and sprinkler protection. By having an engineer complete a technical report for the proposed or existing building it will provide greater certainty that adequate protection for the commodities that are proposed will be sufficient. By not having adequate sprinkler protection, it could be detrimental to the building and could also cause loss of life in the event of a fire. Geographically this can be a significant problem due to the seismic activity that Coachella experiences. The Engineer can assess the adequate protection for the correct commodity classifications, ensure the correct seismic provisions are in place for the type of system to be installed, and provide a professional assurance to a very volatile type of occupancy. It takes a vast number of resources to extinguish a fire of this type. By adding this requirement, it will ensure an added level of safety. Modifications have been made to provide clarification that certain reference documents are not required.

CFC Chapter 49 - Requirements for Wildland-Urban Interface Fire Areas

Section 4904.2.1: This section has been deleted and is covered by the provisions of the California Wildland-Urban Interface Code as adopted and amended.

CFC Chapter 41 – Temporary Heating and Cooking Operations

Section 4107: A new Section 4107, including Sections 4107.1 through 4107.2.3 is added to the Fire Code to provide the fire department with the authority to inspect Mobile Food Preparation Vehicles during special events. This section was removed from the CFC due to conflict in regulations, however HCD agrees that there would be an expectation for fire marshals to have jurisdiction over safety inspections (especially for fire protection equipment and systems' inspections, testing and maintenance), for participating SPCM MFF during special events requiring CFC 105.6 operational permits (such as Carnivals and Fairs, Exhibits and Trade Shows, or local codified "Special Events" …). See BSC TP-106 (Rev. 10/20) Initial Statement of Reasons June 21, 2021 Rulemaking File SFM 06/21 – Part 9 – 2021 Triennial Code Cycle.

CFC Chapter 56 – Explosives and Fireworks

Section 5608.1: A new amendment to correctly update an existing amendment of this section from another Coachella municipal code. Amendment language has been cleaned up to avoid any confusion on what may or may not be permitted.

Section 5608.2: A new Section 5608.2 is added to the Fire Code to establish a minimum required radius of the fallout area for aerial shells to be 100 ft/in. (22 m/25 mm) of the internal mortar diameter of the largest aerial shell to be fired, unless otherwise approved. This is necessary due to the climatic wind conditions within Coachella.

CFC Appendix B – Fire-Flow Requirements for Buildings

Section B103.2.1: A new Section B103.2.1 is added to the Fire Code to establish the minimum fire flow for any new subdivision or tract constructed within a Wildland-Urban Interface Area to be 1,500 gallons per minute to ensure that adequate fire-flow is provided.

Table B105.2 of Appendix B: This amendment is carried over from the previous adoption. This allows the fire department to still have adequate fire flow mitigation with sprinkler protection and not jeopardize main distribution systems by inadequately under sizing them and have costly upgrades for future projects. With the geographical diversity that Coachella has it is important that this requirement be added to ensure adequate water in the event of a fire.

CFC Appendix C – Fire Hydrant Locations and Distribution

Section C103.1 of Appendix C: This provision is carried over from the previous adoption. This provision is to clarify the additional location of fire hydrants to be at intersections. This requirement has been standard policy within Coachella and Riverside County.

2025 California Wildland-Urban Interface Code (CWUIC) Amendments

California Health and Safety Code Sections 17958.7 and 18941.5 require that the modification or change be expressly marked and identified as to which each finding refers. Therefore, the City Council finds that the following table sets forth the 2025 California Wildland-Urban Interface Code sections that have been modified and the associated local climatic, geological and/or topographical conditions described above supporting the modification.

2025 CWUIC CODE SECTION	TITLE/SUBJECT	FINDINGS I, II, III
102.4.1.1	Application of the California Wildland-Urban Interface Code	Administrative
104.1.1	Authority of the Fire Chief and Fire Department	Administrative
104.2	Determination of Compliance	Administrative
104.8 and 104.8.1	Liability	Administrative
105.2	Permits Required	Administrative
108.2	Schedule of Permit fees	Administrative
108.7	Cost Recovery	Administrative
109.3.7	Violation and Penalties	Administrative
202	Fire Chief	Administrative
302.1.1	Designation of Fire Hazard Severity Zones.	Administrative
501.1	Scope	I, II, & III
602.1	General	I, II, & III
602.3.2	Final Fire Protection Plan	I, II, & III
603.1	General	I, II, & III
603.3	Landscape and Fuel Modification plans	I, II, & III
603.3.1	Contents	I, II, & III
604.1	General	I, II, & III
604.3	Requirements	I, II, & III
604.3.1	Retroactivity	I, II, & III
604.6	Clearance of brush, vegetative growth, and combustible material from improved parcels	I, II, & III
604.7	Clearance of fuels or vegetative growth from structures	I, II, & III
604.7.1	Structures	I, II, & III
604.7.2	Timing for New Buildings and additions to Existing Buildings	I, II, & III
604.7.3	Photovoltaic Systems	I, II, & III
604.8	Defensible Space clearance zones and requirements	I, II, & III
604.8.1	Requirements	I, II, & III
604.8.2	Zone 0 purpose and location	I, II, & III
604.8.2.1	Non-Combustible Zone 0 for New Buildings, additions to Existing Buildings, and new or replacement landscape	I, II, & III
604.8.2.2	Additional requirements in Zone 0	I, II, & III
604.8.2.3	Zone 0 requirements for Existing Buildings	I, II, & III
604.8.2.3.1	Zone 0 restrictions	I, II, & III

2025 CWUIC CODE SECTION	TITLE/SUBJECT	FINDINGS I, II, III
604.8.3	Zone 1 purpose and location	I, II, & III
604.8.3.1	Requirements and allowable items	I, II, & III
604.8.4	Zone 2 purpose and location	I, II, & III
604.8.4.1	Requirements and allowable items	I, II, & III
604.8.4.2	Spacing	I, II, & III
604.8.5	General requirements for Zone 0, 1, and 2	I, II, & III
604.8.5.1	Dead and dying vegetation	I, II, & III
604.8.5.2	Mulch and wood chips within Zones 1 and 2	I, II, & III
604.8.5.3	Firewood	I, II, & III
604.8.5.4	Clearance from chimney, stovepipe	I, II, & III
604.8.5.5	Trees	I, II, & III
604.8.5.5.1	Tree spacing	I, II, & III
604.8.5.5.2	Ground clearance of trees	I, II, & III
604.8.5.5.3	Ground cover under tree canopy	I, II, & III
604.8.5.6	Continuous tree canopies	I, II, & III
604.8.5.6.1	New Structures	I, II, & III
604.8.5.6.2	Existing Structures	I, II, & III
604.8.5.7	Grasses	I, II, & III
604.9	Fire protection equipment and utilities	I, II, & III
604.10	Planting vegetation under or adjacent to energized electrical lines	I, II, & III
604.11	Fencing	I, II, & III
604.11.1	Scope	I, II, & III
604.11.2	New Fencing	I, II, & III
604.11.3	Existing Fencing	I, II, & III
607.1	General	I, II, & III
607.1.1	Combustible Materials	I, II, & III
607.2	Storage for off-site use	I, II, & III
608.1.1	Restricted development setbacks	I, II, & III
608.2	General	I, II, & III
608.2.1	Setback reduction	I, II, & III
609.2.7.1	Greenbelts	I, II, & III
609.2.7.2	Access to Greenbelts	I, II, & III
A102.1	General	I, II, & III
A105.1	General	I, II, & III
A105.4	Combustible Materials	I, II, & III

2025 CWUIC Local Amendment Justification/Statement of Reason

Building Standards Law allows local amendments in accordance with the following:

For purposes of this subdivision, a city may make reasonably necessary modifications to the requirements, adopted pursuant to the Health and Safety Code Section 17958, 17958.5, 17958.7, and 18941.5, contained in the provisions of the code and regulations on the basis of local conditions.

CWUIC Chapter 1 – Administration:

Section 102.4.1.1: A new section added to the CWUIC to clarify that where a conflict exists between the provisions of the Riverside County Fire Code and the California Wildland-Urban Interface Code, the more restrictive provisions shall apply.

Section 104.1.1: Similar to the existing Ordinance 747 amendment to the Fire Code, this section ensures that enforcement capability be disseminated to other law enforcement entities within the Riverside County area because of its vast topography and diversity. This gives the Riverside County Fire Department greater enforcement capabilities due to the presence of these other agencies across the County of Riverside.

Section 104.2: New amendment to Section 104.2 to clarify that "Guidelines" may be created to render interpretations of the Wildland-Urban Interface Code and shall be enforceable as part of the code.

Section 104.8 and 104.8.1: This amended section is the same as in the Fire Code carried over from the existing previous adoption to resolve any conflict between state law and the fire code provisions.

Section 105.2: This new amendment to CWUIC Section 105.2 adds an additional permit item for "Landscape and Fuel Modification Zones."

Section 108.2: This amended section is similar to the previous adoption for the Fire Code. This amendment is necessary to identify that fees are in accordance with Coachella fee schedule.

Section 108.7: This new section is similar to the previous adoption for the fire code. This section is maintained in accordance with the Health and Safety Code 13009 and 13009.1, and Government Code 53150, et seq. for cost recovery.

Section 109.3.7: This amended section is similar to the previous adoption for the fire code provisions. Previous adoption requires punishments and penalties for violations to be in accordance with Health and Safety Code Sections 17995 through 17995.5.

CWUIC Chapter 2 – Definitions:

Section 202: This new amendment is similar to the previous adoption for the Fire Code. This definition was added to designate that this term means the Fire Chief of Riverside County whenever the wording appears in the California Fire Code or this Ordinance. This is to distinguish

obligatory authority to the Fire Chief or any of the designated representatives for fire prevention measures and declarations in enforcing this Ordinance.

CWUIC Chapter 3 – Wildland-Urban Interface Areas:

Section 302.1.1: New amendment designating the Fire Hazard Severity Zones. The Coachella City Council has adopted the recommendations of the State Fire Marshal made pursuant to Government Code section 51178 and designated those areas within Coachella as moderate, high, and very high fire hazard severity zones as shown on the Local Responsibility Area Fire Hazard Severity Zones Maps published by the Office of the State Fire Marshal. The Maps have been adopted by Coachella as required by statute.

CWUIC Chapter 5 – Special Building Construction Requirements:

Section 501.1: A new amendment clarifying that for the purpose of the special building construction requirements in Chapter 5, a wildland-urban interface area shall be defined as a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, and other areas designated by the enforcing agency to be at a significant risk from wildfires, and shall include those areas designated as moderate, high, and very high fire hazard severity zones based on recommendations from the State Fire Marshal pursuant to Government Code Section 51178. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

CWUIC Chapter 6 – Fire Protection Requirements:

Section 602.1: A new amendment to Section 602.1 to clarify when a Fire Protection Plan is required. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 602.3.2: A new amendment to Section 602.3.2 to clarify the items required in a Final Fire Protection Plan. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 603.1: A new amendment to Section 603.1 to include a reference to replacement landscaping. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 603.3: A new amendment to Section 603.1 to require Landscape and Fuel Modification Plans for any project in a Wildland-Urban Interface Area. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 603.3.1: A new amendment to Section 603.3.1 adding the requirement for the delineation of the 5-foot (1524 mm) (Zone 0), 30-foot (9144 mm) (Zone 1) and 100-foot (30 480 mm) (Zone 2) fuel management zones from all structures as part of the landscape plans. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.1: A new amendment to Section 604.1 to delete references to State Responsibility Areas (SRA) to include the defensible space requirements within the local responsibility area. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.3: A new amendment to Section 604.3 to include a reference to Appendix A of the CWUIC and Riverside County Fire Department Guidelines.

Section 604.3.1: A new Section 604.3.1 is added to the CWUIC to add a requirement that when required, by the Fire Code Official, or State Law, existing Defensible Space/Fuel Modification Zones (FMZ) shall require retrofitting, including thinning and/or removal of plants, trees, and vegetation, to meet this Code or State Law. Upon notification by the Fire Code Official, and when approved, work to bring an existing Defensible Space and FMZ into compliance with this Code, may be done over a two to four (2-4) year period as determined by the Fire Code Official. A compliance plan prepared by the property owner may be requested for review and approval by the Fire Code Official. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.6: A new Section 604.6 is added to the CWUIC requiring that all improved parcels declared a Public Nuisance shall be cleared entirely of combustible material. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.7: A new Section 604.7 is added to the CWUIC to require clearance of fuels or vegetative growth from structures. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.7.1: A new Section 604.7.1 is added to the CWUIC to specify the requirements for clearance of vegetation around structures located in a Fire Hazard Severity Zone. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.7.2: A new Section 604.7.2 is added to the CWUIC to provide a timeline for the clearance of fuels or vegetative growth from structures. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.7.3: A new Section 604.7.3 is added to the CWUIC to delineate the vegetation clearance requirements around freestanding photovoltaic systems in the wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8: A new Section 604.8 is added to the CWUIC to indicate the three defensible space zones. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.1: A new Section 604.8.1 is added to the CWUIC to indicate the code sections for the defensible space requirements. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.2: A new Section 604.8.2 is added to the CWUIC to clarify the purpose and location of Zone 0. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.2.1: A new Section 604.8.2.1 is added to the CWUIC to delineate the Zone 0 requirements for all new buildings, additions to existing buildings, installation of new landscape, and refurbishment of existing landscape areas. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.2.2: A new Section 604.8.2.2 is added to the CWUIC to clarify the vegetation and landscape requirements in Zone 0. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.2.3: A new section heading 604.8.2.3 is added to the CWUIC for the Zone 0 requirements for existing buildings. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.2.3.1: A new Section 604.8.2.3.1 is added to the CWUIC to clarify the Zone 0 requirements applicable to existing buildings with landscape installed prior to January 1, 2026. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.3: A new Section 604.8.3 is added to the CWUIC to indicate the purpose and location of Zone 1. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.3.1: A new Section 604.8.3.1 is added to the CWUIC to indicate the requirements and allowable vegetation in Zone 1. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.4: A new Section 604.8.4 is added to the CWUIC to indicate the purpose and location of Zone 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.4.1: A new Section 604.8.4.1 is added to the CWUIC to indicate the requirements and allowable vegetation in Zone 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.4.2: A new Section 604.8.4.2 is added to the CWUIC to indicate the spacing requirements for trees and vegetation in Zone 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5: A new section heading 604.8.5 is added to the CWUIC for the general requirements for Zone 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5.1: A new Section 604.8.5.1 is added to the CWUIC requiring the removal of all dead or dying grass, plants, shrubs, trees, branches, leaves, weeds, and tree needles within Zone 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5.2: A new Section 604.8.5.2 is added to the CWUIC requiring the use of combustible mulch and wood chips shall be in accordance with the requirements of Riverside County Fire Department Guidelines within Zones 1 and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5.3: A new Section 604.8.5.3 is added to the CWUIC indicating the requirements for firewood within Zones 0, 1, and 2 are found in Section 607 of the code. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5.4: A new Section 604.8.5.4 is added to the CWUIC requiring that any portion of a tree or shrub that extends within 10 feet horizontally or vertically of a chimney outlet or stovepipe outlet shall be removed within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5.5: A new Section 604.8.5.5 is added to the CWUIC requiring that new trees shall be planted and maintained so that the tree's drip line at maturity is a minimum of 10 feet from any combustible structure within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5.5.1: A new Section 604.8.5.5.1 is added to the CWUIC requiring the horizontal distance between crowns of new trees and crowns of adjacent trees shall not be less than 20 feet in Zone 1 and not less than 10 feet in Zone 2 and separation distance may be increased for slopes exceeding 20 percent with the required spacing measured between trees at maturity. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5.5.2: A new Section 604.8.5.5.2 is added to the CWUIC addressing the ground clearance requirements for trees within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5.5.3: A new Section 604.8.5.5.3 is added to the CWUIC addressing the ground cover under tree canopies within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5.6: A new section heading 604.8.5.6 is added to the CWUIC to address continuous tree canopies within Zone 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5.6.1: A new Section 604.8.5.6.1 is added to the CWUIC prohibiting continuous tree canopies adjacent to new structures within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5.6.2: A new Section 604.8.5.6.2 is added to the CWUIC to address the requirements for continuous tree canopies adjacent to existing structures within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.8.5.7: A new Section 604.8.5.7 is added to the CWUIC requiring that natural or annual grasses shall be mowed to a maximum height of 4-inch stubble with clippings removed within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.9: A new Section 604.9 is added to the CWUIC addressing defensible space requirements around communication site towers and their support buildings; required fire protection water supplies, including water tanks, water supply pumps, and pump houses; and any other utility structure as required by the Fire Code Official within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.10: A new Section 604.10 is added to the CWUIC prohibiting vegetation planted under or adjacent to energized power lines that, at maturity, will grow within 10 feet of the energized conductors within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.11: A new section heading 604.11 is added to the CWUIC to address fencing requirements within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.11.1: A new Section 604.11.1 is added to the CWUIC to address fencing requirements within Zone 0 in a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.11.2: A new Section 604.11.2 is added to the CWUIC to require new fencing and gates to be constructed of a non-combustible material in a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 604.11.3: A new Section 604.11.3 is added to the CWUIC to allow fencing installed prior to January 1, 2026 in a wildland-urban interface area to remain, except the entire fencing not parallel and within 5 feet of the building, including gates within the fencing, shall be constructed of a non-combustible material when any portion of the existing fencing within 5 feet is replaced.

This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 607.1: A new amendment to Section 607.1 of the CWUIC to prohibit the storage of firewood within Zone 0. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 607.1.1: A new Section 607.1.1 is added to the CWUIC requiring combustible materials, other than vegetation, stored within Zones 1 and 2 shall not be stored so as to pose a hazard to any building and that piles shall not exceed 100 square feet of area and a maximum height of 10 feet and shall be separated by a minimum of 20-foot clear area when located within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 607.2: A new amendment to Section 607.2 of the CWUIC to prohibit the storage of firewood and combustible materials not for consumption on the premises within Zones 0, 1, and 2. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 608.1.1: A new Section 608.1.1 is added to the CWUIC with restricted development setbacks for new structures and additions to existing structures located less than 100 feet from any protected habitat within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 608.2: A new amendment to Section 608.2 of the CWUIC expanding the applicability of the required 30-foot setback to new tract and parcel maps, new buildings, and additions to existing buildings within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 608.2.1: A new amendment to Section 608.2.1 of the CWUIC deleting the exception of complying with the special building construction requirements as a setback reduction within a wildland-urban interface area, since the structures would already be subject to those requirements. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 609.2.7.1: A new amendment to Section 608.2.7.1 of the CWUIC addressing the approval of greenbelt locations within a wildland-urban interface area. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section 609.2.7.2: A new amendment to Section 608.2.7.2 of the CWUIC addressing the access points to proposed greenbelt locations for subdivisions and other developments within a wildland-urban interface area to allow for on-going maintenance and firefighter access. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

CWUIC Appendix A – General Requirements:

Section A102.1: A new amendment to Section A102.1 of the CWUIC adding a reference for vegetation control to Chapter 6 of the Wildland-Urban Interface Code. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section A105.1: A new amendment to Section A105.1 of the CWUIC adding a reference for the storage and use of materials to Chapter 6 of the Wildland-Urban Interface Code. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

Section A105.4: A new amendment to Section A105.4 of the CWUIC adding a reference for the outside storage and use of combustible materials to the applicable fire code sections. This amendment is necessary due to climatic, topographical, and geological conditions in Coachella.

2025 EXISTING BUILDING CODE SECTION	**TITLE/SUBJECT**	**FINDINGS/ JUSTIFICATIONS**
105.1	Definition of Structural Damage	Administrative

NOTICE OF A PUBLIC HEARING AND ORDINANCE

NOTICE IS HEREBY GIVEN that the City Council of the City of Coachella will hold a public hearing at a regular meeting on January 28, 2026, beginning at 6:00 p.m. or as soon thereafter as the matter can be heard, in the City Hall Council Chamber, 1515 6th Street St., Coachella, CA 92236. The purpose of the public hearing is to hear public testimony of all interested parties for Ordinance 1228 amending Title 15 of the Coachella Municipal Code and adopting the 2025 Edition of the California Building Standards Code (California Code of Regulations, Title 24) by reference and making local amendments thereto.

State law permits local jurisdictions to amend the California Building Standards Codes and make more restrictive standards when an express finding and determination is made that such local amendments are reasonably necessary because of local climatic, geological, or topographic conditions that affect the jurisdiction; and are reasonably necessary. This proposed ordinance includes local amendments.

The above is simply a summary of the Ordinance. The full Ordinance and each of the codes to be adopted by reference are available for public review at City Hall, Office of the City Clerk, during regular business hours. The full Ordinance will also be included in the agenda materials posted 72 hours before the meeting on the City's website at https://www.coachella.org/city-government/city-council/agendas-and-minutes.

For further information regarding this matter, please contact Lizzandro Diaz, Building Official at Ldiaz@coachella.org or (442) 637-2735.

/s/Angela M. Zepeda
City Clerk
1/11,1/18/2026