

PLANNING AND ZONING

CITY OF LAKE CITY

May 02, 2023 at 5:30 PM

Venue: City Hall

AGENDA

The meeting will be held in the City Council Chambers on the second floor of City Hall located at 205 North Marion Avenue, Lake City, FL 32055. Members of the public may also view the meeting on our YouTube channel. YouTube channel information is located at the end of this agenda.

INVOCATION

ROLL CALL

MINUTES

- [i.](#) Meeting Minutes: 04-04-2023

*****After approval of minutes. Introduction and presentation by Todd Kennon, City Attorney, on his office role for the Planning and Zoning, Board of Adjustments, and Historic Preservation Agency meetings**

OLD BUSINESS

- [ii.](#) **CPA23-02 and Z23-02-** Petitions submitted by Carol Chadwick (agent) for Tennis Forever, LLC (owner), to amend the Future Land Use and the Official Zoning Atlas of the Land Development Regulations by changing the future land use from Residential Moderate to Residential Medium Density and changing the zoning district from Residential Single-Family 2 (RSF-2) to Residential Multi-Family 1 (RMF-1) on property described, as follows; Parcel 08045-000.

NEW BUSINESS

- [iii.](#) **SPR23-04,** Petition submitted by Dalton Kurtz (agent) for 4 Brothers 2020 LLC (owner), for a Site Plan Review for Florida Gateway Drive RV Park, in the Commercial Highway Interchange (CHI) Zoning District, and located on Parcel 02714-014, which is regulated by the Land Development Regulations section 4.15.

- iv. SPR23-10**, Petition submitted by Carol Chadwick (agent) for Affiliated Property Management (owner), for a Site Plan Review for Aspire Dental Addition, in the Commercial Intensive Zoning District, and located on Parcel 07604-102, which is regulated by the Land Development Regulations section 4.13.

WORKSHOP- None

ADJOURNMENT

YouTube Channel Information

Members of the public may also view the meeting on our YouTube channel at:
<https://www.youtube.com/c/CityofLakeCity>

Pursuant to 286.0105, Florida Statutes, the City hereby advises the public if a person decides to appeal any decision made by the City Council with respect to any matter considered at its meeting or hearings, he or she will need a record of the proceedings, and that, for such purpose, he or she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

Pursuant to 286.26, Florida Statutes, persons needing special accommodations to participate in this meeting should contact the City Manager's Office at (386) 719-5768.

File Attachments for Item:

i. Meeting Minutes: 04-04-2023

*****After approval of minutes. Introduction and presentation by Todd Kennon, City Attorney, on his office role for the Planning and Zoning, Board of Adjustments, and Historic Preservation Agency meetings**

PLANNING AND ZONING

MEETING MINUTES

Date: 04/04/2023

Roll Call:

Mrs. McKellum- Present
Mr. Nelson- Present
Mr. Cooper-Not Present
Mr. McMahon- Present

Mr. Carter- Present
Mr. Lydick- Present

Approval of Past Minutes-Approve the minutes of the 03/07/2023 Meeting.

Motion By: Mr. Carter

Seconded By: Mr. McKellum

Comments or Revisions: None

Old Business:

Petition # CPA23-02 and Z23-02 Presented By: Carol Chadwick P.E. as Agent

As owner or agent and gives address of: 1208 SW Fairfax Glen, Lake City, FL 32025

Petitioner is Sworn in by: Mr. Lydick

Discussion:

Mr. Lydick asked the Board for a motion to un-table petition CPA23-02 and Z23-02. Mr. Carter motioned to un-table petition. Mr. Nelson seconded. Mr. Lydick asked if the petitioner was present. Due to no one present to speak on the project Mr. Lydick asked to continue the petition. Robert asked if they were continuing the petition to the May 2nd meeting. Mr. Lydick confirmed that meeting unless the proponent was not ready. Mr. Carter motioned to continue. Mr. Nelson seconded the motion.

Motion to Table: Mr. Carter

Motion Seconded By: Mrs. McKellum

Mrs. McKellum: Aye **Mr. Cooper:** Absent **Mr. McMahon:** Aye

Mr. Carter: Aye **Mr. Lydick:** Nye **Mr. Nelson:** Aye

New Business:

Petition # CPA23-03 and Z23-03 Presented By: Victor Marrero as Agent

As owner or agent and gives address of: 128 NW Green Lane, Lake City, FL 32055

Petitioner is Sworn in by: Mr. Lydick

Discussion:

Robert Angelo introduced CPA23-03 and Z23-03. Robert stated that they are petitioning to change the future land use from residential medium to residential high and change the zoning for residential office, which allows for duplexes but not the density they are looking for, to residential multi-family 2.

PLANNING AND ZONING

MEETING MINUTES

Victor stated that they are looking to put 12 units in. Three, two story building. Victor stated that they have done some traffic calculation and have determined that there are no concerns. Mrs. McKellum asked if there were any other apartments in the area. Victor confirmed that there is. Mr. McMahon asked if they would be using the light at Lake City Ave and Hwy 90. Victor confirmed.

Steve stated that the apartments across the street are one story not two story. Steve stated that there may be a concern with utilities depending on the number of units. Mr. Lydick asked Robert if there were any requirements for a landscape buffer. Robert stated that they would need to abide by the requirements in the land development regulations for multi-family.

Public Comment:

Joe Adkins, Freeda Myers, Dale Stadler, Darlene Hart, and Wendy Vitner

Citizens came forward and expressed their concerns and comments for the rezoning. They expressed concern about noise, traffic, people walking thru neighborhood, property value, not having enough time to prepare for meeting, started clearing already, and require the developer to install a fence.

Mr. Carter motioned to close public comment. Mrs. McKellum seconded.

Motion to Approve/Deny By: Mr. Carter

Motion Seconded By: Mrs. McKellum

Mrs. McKellum: Aye	Mr. Cooper: Absent	Mr. McMahon: Aye
Mr. Carter: Aye	Mr. Lydick: Nye	Mr. Nelson: Aye

Petition # SPR23-08 Presented By: Anthony George as Agent

As owner or agent and gives address of: 308 SW Calloway Drive, Lake City, FL 32056

Petitioner is Sworn in by: Mr. Lydick

Discussion:

Robert Angelo introduced SPR23-08. This is for a site plan review to build a new Church site. Robert stated that they are looking to build a new Church. Robert stated that they did receive an approval on a special exception in 2021. Mr. George stated that they were looking to build a new Church. Mr. Carter motioned to close public comment. Mrs. McKellum seconded.

Motion to Approve/Deny By: Mr. Nelson

Motion Seconded By: Mr. Carter

Mrs. McKellum: Aye	Mr. Cooper: Absent	Mr. McMahon: Aye
Mr. Carter: Aye	Mr. Lydick: Aye	Mr. Nelson: Aye

Petition # SPR23-09 Presented By: Benjamin Johnson as Agent

PLANNING AND ZONING

MEETING MINUTES

As owner or agent and gives address of: 5425 E 1st Square, Vero Beach, FL 32025

Petitioner is Sworn in by: Mr. Lydick

Discussion:

Robert introduced SPR23-09. This is for a site plan review for a Home Depot Tool Rental. Robert Stated that it is conducive for review per section 4.13.2.2 of the land development regulations.

Ben stated that they are looking to add a tool rental space to the existing Home Depot. Ben stated that the equipment will be on trailers in parking stall for ease on use. They will require electric for the trailers. Ben stated that this will benefit the community especially in natural disasters. Mrs. McKellum motioned to close public comment. Mr. Carter seconded.

Motion to Table: Mr. Carter

Motion Seconded By: Mrs. McKellum

Mrs. McKellum: Aye

Mr. Cooper: Absent

Mr. McMahon: Aye

Mr. Carter: Aye

Mr. Lydick: Aye

Mr. Nelson: Aye

Workshop: None

Mr. Lydick closed the meeting.

Motion to Adjourn by: Mr. Nelson

Time: 6:34 pm

Motion Seconded By: Mr. Carter

Mr. Lydick, Board Chairperson

Date Approved

Robert Angelo, Secretary

Date Approved

File Attachments for Item:

ii. CPA23-02 and Z23-02- Petitions submitted by Carol Chadwick (agent) for Tennis Forever, LLC (owner), to amend the Future Land Use and the Official Zoning Atlas of the Land Development Regulations by changing the future land use from Residential Moderate to Residential Medium Density and changing the zoning district from Residential Single-Family 2 (RSF-2) to Residential Multi-Family 1 (RMF-1) on property described, as follows; Parcel 08045-000.



GROWTH MANAGEMENT

205 North Marion Ave
Lake City, Florida 32055
Telephone (386) 719-5750
growthmanagement@lcfla.com

FOR PLANNING USE ONLY

Application # Z _____

Application Fee \$ _____

Receipt No. _____

Filing Date _____

Completeness Date _____

Less Than or Equal to 10 Acres: \$750.00

Greater Than 10 Acres: \$1,000.00 or actual cost

Site Specific Amendment to the Official Zoning Atlas (Rezoning) Application

A. PROJECT INFORMATION

1. Project Name: Tennis Forever
2. Address of Subject Property: 2189 SW Bascom Norris Drive, Lake City, FL
3. Parcel ID Number(s): 06-4S-17-08045-000
4. Future Land Use Map Designation: Residential-moderate
5. Existing Zoning Designation: RSF-2
6. Proposed Zoning Designation: RMF-1
7. Acreage: 22.05
8. Existing Use of Property: Vacant
9. Proposed use of Property: Multi-family housing

B. APPLICANT INFORMATION

1. Applicant Status ☐ Owner (title holder) ☒ Agent
2. Name of Applicant(s): Carol Chadwick, PE Title: Civil Engineer
Company name (if applicable): _____
Mailing Address: 1208 SW Fairfax Glen
City: Lake City State: FL Zip: 32025
Telephone: () 307.680.1772 Fax: () Email: ccpewyo@gmail.com

PLEASE NOTE: Florida has a very broad public records law. Most written communications to or from government officials regarding government business is subject to public records requests. Your e-mail address and communications may be subject to public disclosure.

3. If the applicant is agent for the property owner*.
Property Owner Name (title holder): Tennis forever LLC
Mailing Address: PO Box 219
City: Lake City State: FL Zip: 32056
Telephone: (321) 315.5319 Fax: () Email: anjanviplav@icloud.com

PLEASE NOTE: Florida has a very broad public records law. Most written communications to or from government officials regarding government business is subject to public records requests. Your e-mail address and communications may be subject to public disclosure.

***Must provide an executed Property Owner Affidavit Form authorizing the agent to act on behalf of the property owner.**

C. ADDITIONAL INFORMATION

1. Is there any additional contract for the sale of, or options to purchase, the subject property?
If yes, list the names of all parties involved: na
If yes, is the contract/option contingent or absolute: ☐ Contingent ☐ Absolute
2. Has a previous application been made on all or part of the subject property: ☐ Yes ☒ No
Future Land Use Map Amendment: ☐ Yes _____ ☒ No _____
Future Land Use Map Amendment Application No. CPA _____
Site Specific Amendment to the Official Zoning Atlas (Rezoning): ☐ Yes _____ ☒ No _____
Site Specific Amendment to the Official Zoning Atlas (Rezoning) Application No. _____
Variance: ☐ Yes _____ ☒ No _____
Variance Application No. _____
Special Exception: ☐ Yes _____ ☒ No _____
Special Exception Application No. _____

D. ATTACHMENT/SUBMITTAL REQUIREMENTS

1. Boundary Sketch or Survey with bearings and dimensions.
2. Aerial Photo (can be obtained via the Columbia County Property Appraiser's Office).
3. Concurrency Impact Analysis: Concurrency Impact Analysis of impacts to public facilities, including but not limited to Transportation, Potable Water, Sanitary Sewer, and Solid Waste impacts. For residential Zoning Designations, an analysis of the impacts to Public Schools is required.
4. An Analysis of the Requirements of Article 12 of the Land Development Regulations:
 - a. Whether the proposed change would be in conformance with the county's comprehensive plan and would have an adverse effect on the county's comprehensive plan.
 - b. The existing land use pattern.
 - c. Possible creation of an isolated district unrelated to adjacent and nearby districts.
 - d. The population density pattern and possible increase or overtaxing of the load on public facilities such as schools, utilities, streets, etc.
 - e. Whether existing district boundaries are illogically drawn in relation to existing conditions on the property proposed for change.
 - f. Whether changed or changing conditions make the passage of the proposed amendment necessary.
 - g. Whether the proposed change will adversely influence living conditions in the neighborhood.
 - h. Whether the proposed change will create or excessively increase traffic congestion or otherwise affect public safety.
 - i. Whether the proposed change will create a drainage problem.
 - j. Whether the proposed change will seriously reduce light and air to adjacent areas.

- k. Whether the proposed change will adversely affect property values in the adjacent area.
 - l. Whether the proposed change will be a deterrent to the improvement or development of adjacent property in accord with existing regulations.
 - m. Whether the proposed change will constitute a grant of special privilege to an individual owner as contrasted with the public welfare.
 - n. Whether there are substantial reasons why the property cannot be used in accord with existing zoning.
 - o. Whether the change suggested is out of scale with the needs of the neighborhood or the City.
 - p. Whether it is impossible to find other adequate sites in the city for the proposed use in districts already permitting such use. When pertaining to other proposed amendments of these land development regulations. The planning and zoning board shall consider and study:
 - i. The need and justification for the change.
 - ii. The relationship of the proposed amendment to the purposes and objectives of the comprehensive planning program and to the City's comprehensive plan, with appropriate consideration as to whether the proposed change will further the purposes of these land development regulations and other ordinances, regulations, and actions designed to implement the City's comprehensive plan.
5. Legal Description with Tax Parcel Number (In Microsoft Word Format).
 6. Proof of Ownership (i.e. deed).
 7. Agent Authorization Form (signed and notarized).
 8. Proof of Payment of Taxes (can be obtained online via the Columbia County Tax Collector's Office).
 9. Fee. The application fee for a Site Specific Amendment to the Official Zoning Atlas is As listed in fee schedule. No application shall be accepted or processed until the required application fee has been paid.

NOTICE TO APPLICANT

All nine (9) attachments are required for a complete application. Once an application is submitted and paid for, a completeness review will be done to ensure all the requirements for a complete application have been met. If there are any deficiencies, the applicant will be notified in writing. If an application is deemed to be incomplete, it may cause a delay in the scheduling of the application before the Planning & Zoning Board.

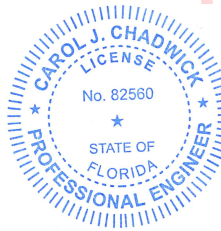
A total of eighteen (18) copies of proposed Site Specific Amendment to the Official Zoning Atlas Application and support material, and a PDF copy on a CD, are required at the time of submittal.

THE APPLICANT ACKNOWLEDGES THAT THE APPLICANT OR AGENT MUST BE PRESENT AT THE PUBLIC HEARING BEFORE THE PLANNING AND ZONING BOARD, AS ADOPTED IN THE BOARD RULES AND PROCEDURES, OTHERWISE THE REQUEST MAY BE CONTINUED TO A FUTURE HEARING DATE.

I hereby certify that all of the above statements and statements contained in any documents or plans submitted herewith are true and accurate to the best of my knowledge and belief.

Applicant/Agent Name (Type or Print)

Applicant/Agent Signature



Digitally signed by

Carol Chadwick

DN: c=US,

o=Florida,

dnQualifier=A014

10D0000017EB6D

924CE0005954C,

cn=Carol

Chadwick

Date: 2023.02.08

Date

09:49:43 -05'00'

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this ____ day of ____, 20__, by (name of person acknowledging).

(NOTARY SEAL or STAMP)

Signature of Notary

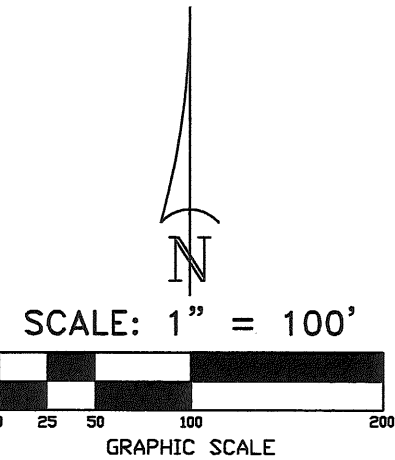
Printed Name of Notary

Personally Known _____ OR Produced Identification _____
Type of Identification Produced

A BOUNDARY SURVEY IN:
SECTION 6, TOWNSHIP 6 SOUTH, RANGE 17 EAST,
COLUMBIA COUNTY, FLORIDA

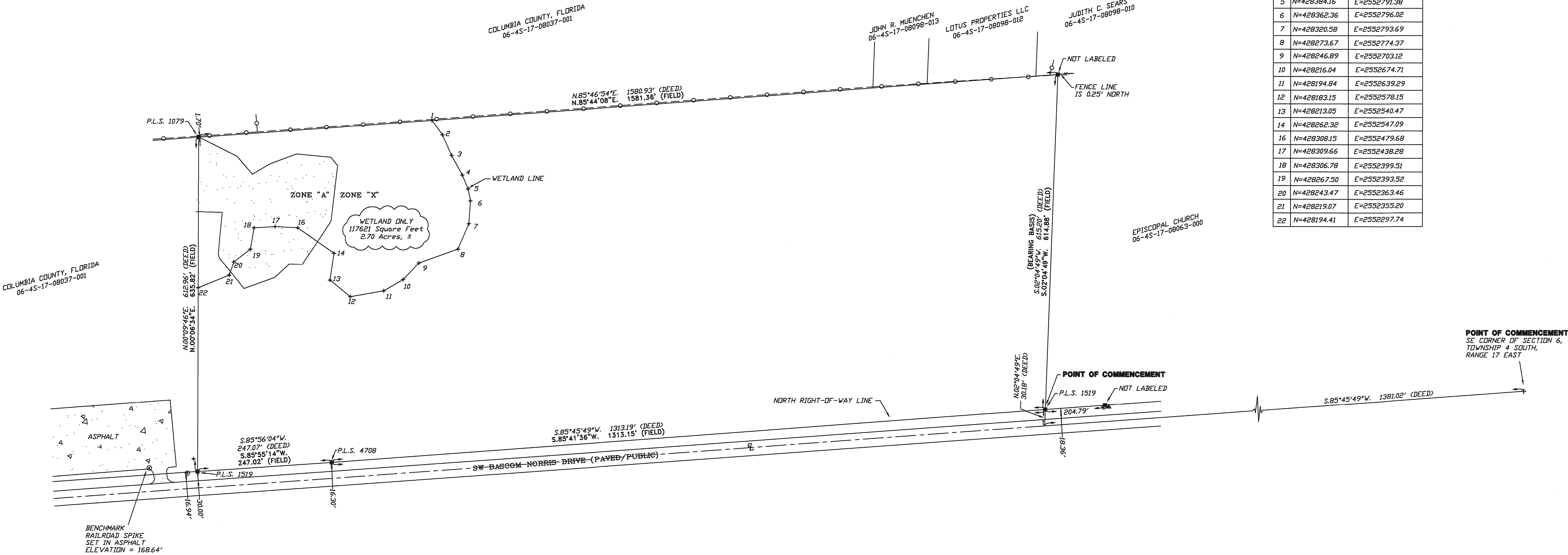
SURVEYOR'S NOTES:
1. BOUNDARY BASED ON MONUMENTATION FOUND.
2. BEARINGS ARE BASED ON A DEED BEARING OF S.02°04'49"W., FOR THE EAST LINE THEREOF.
3. IT IS APPARENT THAT SOME PORTIONS OF THIS PARCEL ARE IN ZONE "A" AND MAY BE SUBJECT TO FLOODING. HOWEVER, NO BASE FLOOD ELEVATION HAS BEEN DETERMINED FOR ZONE "A" AS PER FLOOD INSURANCE RATE MAP, DATED 2 NOVEMBER, 2018 FIRM PANEL NO. 1202300920. HOWEVER, THE FLOOD INSURANCE RATE MAPS ARE SUBJECT TO CHANGE.
4. THE IMPROVEMENTS, IF ANY, INDICATED ON THIS SURVEY DRAWING ARE AS LOCATED ON DATE OF FIELD SURVEY AS SHOWN HEREON.
5. IF THEY EXIST, NO UNDERGROUND ENCROACHMENTS AND/OR UTILITIES WERE LOCATED FOR THIS SURVEY EXCEPT AS SHOWN HEREON.
6. THIS SURVEY WAS COMPLETED WITHOUT THE BENEFIT OF A TITLE COMMITMENT OR A TITLE POLICY.
7. DIMENSIONS SHOWN HEREON ARE IN FEET AND DECIMAL PARTS THEREOF.
8. THIS SURVEY DOES NOT REFLECT OR DETERMINE OWNERSHIP.
9. THE ADJACENT OWNERSHIP INFORMATION AS SHOWN HEREON IS BASED ON THE COUNTY PROPERTY APPRAISERS GIS SYSTEM, UNLESS OTHERWISE DENOTED.

DESCRIPTION:
COMMENCE AT THE SOUTHEAST CORNER OF SECTION 6, TOWNSHIP 4 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA, AND RUN THENCE S.85°45'49"W., ALONG THE SOUTH LINE OF SAID SECTION 6, 1381.02' FEET, THENCE N.02°04'49"E., 30.18' FEET TO THE NORTH RIGHT-OF-WAY LINE OF BROWN LANE AND TO THE POINT OF BEGINNING, THENCE S.85°45'49"W., ALONG SAID NORTH RIGHT-OF-WAY LINE, 1313.19' FEET, THENCE S.85°56'04"W., STILL ALONG SAID NORTH RIGHT-OF-WAY LINE, 247.07' FEET, THENCE N.00°09'46"E., 612.96' FEET, THENCE N.85°46'54"E., 1580.93' FEET, THENCE S.02°04'49"W., 615.20' FEET TO THE POINT OF BEGINNING, SAID LANDS BEING A PART OF THE SW 1/4 OF SE 1/4 AND PART OF THE SE 1/4 OF SW 1/4.



SYMBOL LEGEND:	
4"x4" CONCRETE MONUMENT FOUND	4"x4" CONCRETE MONUMENT SET
IRON PIPE FOUND	IRON PIN AND CAP SET
7"x" CUT IN PAVEMENT	CALCULATED PROPERTY CORNER
NAIL & DISK	POWER POLE
FIRE HYDRANT	WATER METER
UTILITY BOX	WELL
SANITARY MANHOLE	CENTERLINE
SECTION LINE	ELECTRIC LINES
WIRE FENCE	CHAIN LINK FENCE
WIDEN FENCE	AS PER A PLAT OF RECORD
DEED	AS PER A DEED OF RECORD
CALC.	AS PER CALCULATIONS
FIELD	AS PER FIELD MEASUREMENTS
P.R.M.	PERMANENT REFERENCE MARKER
P.C.P.	PERMANENT CONTROL POINT

WETLAND TABLE		
NO.	NORTH	EAST
1	N=428509.94	E=2552722.66
2	N=428482.47	E=2552742.90
3	N=428445.05	E=2552760.27
4	N=428409.27	E=2552780.37
5	N=428384.16	E=2552791.38
6	N=428362.36	E=2552796.02
7	N=428320.58	E=2552793.69
8	N=428273.67	E=2552774.37
9	N=428246.89	E=2552703.12
10	N=428216.04	E=2552674.71
11	N=428194.84	E=2552639.29
12	N=428183.15	E=2552578.15
13	N=428213.05	E=2552540.47
14	N=428262.32	E=2552574.09
15	N=428308.15	E=2552479.68
16	N=428309.66	E=2552438.28
17	N=428306.78	E=2552399.51
18	N=428267.50	E=2552393.52
19	N=428243.47	E=2552363.46
20	N=428219.07	E=2552355.20
21	N=428194.41	E=2552297.74
22	N=428194.41	E=2552297.74



CERTIFIED TO:

FIELD BOOK, SEE PAGE(S), FILE
JOB NUMBER L-26567

SHEET
1 of 1

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT THIS SURVEY WAS MADE UNDER MY RESPONSIBLE CHARGE AND METS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.067, FLORIDA STATUTES.

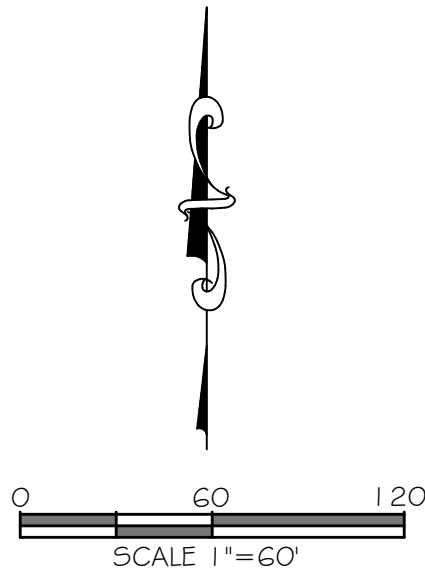
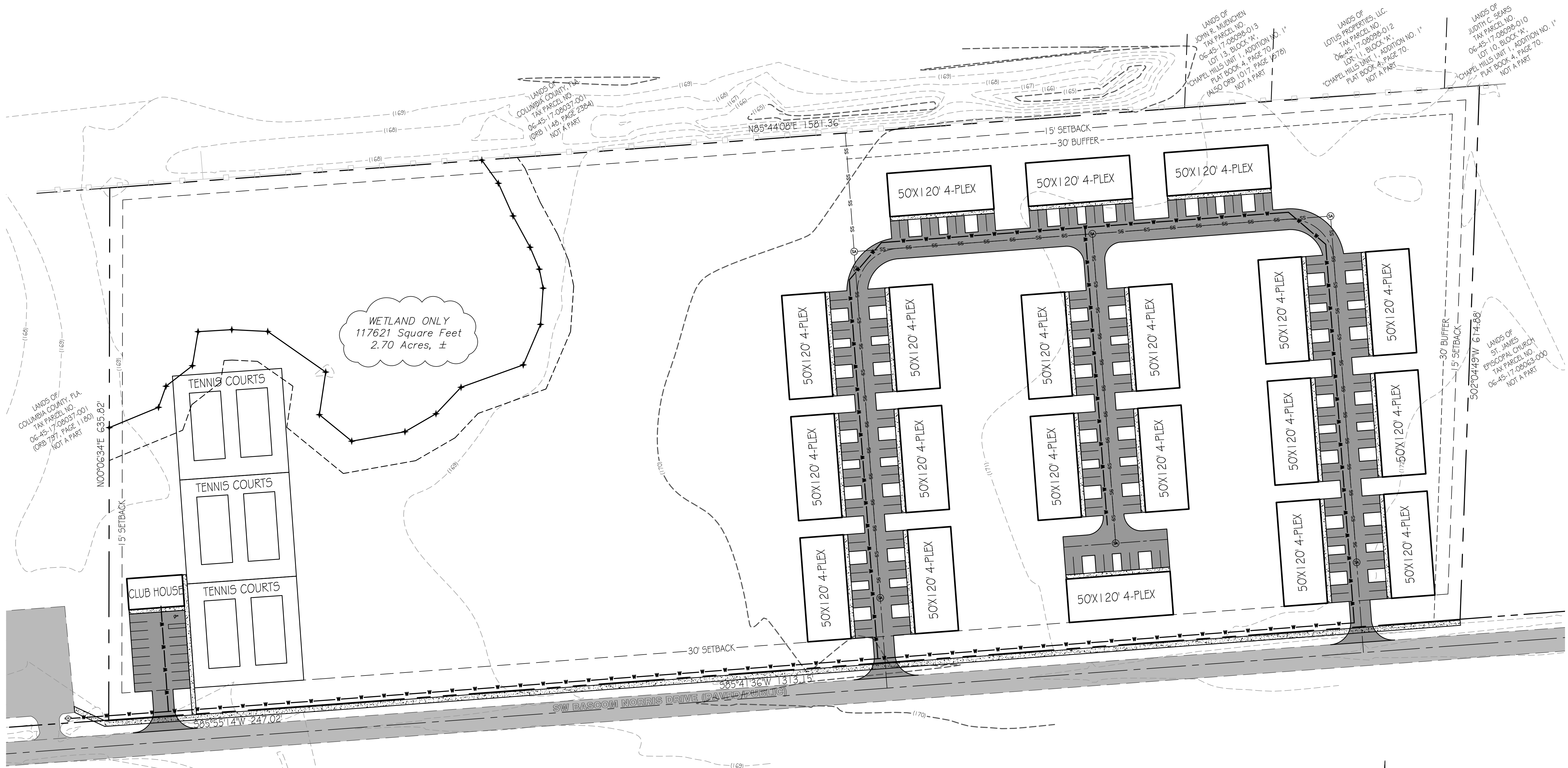
DATE OF SURVEY 06/14/2020
FIELD SURVEY DATE 06/14/2020
DRAWING DATE 06/14/2020
L. SCOTT BRITT, P.S.M.
CERTIFICATION # 5797
I, L. SCOTT BRITT, P.S.M., A FLORIDA LICENSED SURVEYOR, NOTE: UNLESS IT BEARS THE ORIGINAL SIGNATURE AND THE ORIGINAL LICENSE NUMBER AND MAPS THIS DRAWING, SKETCH, PLAT OR MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID.

BRITT SURVEYING & MAPPING, LLC



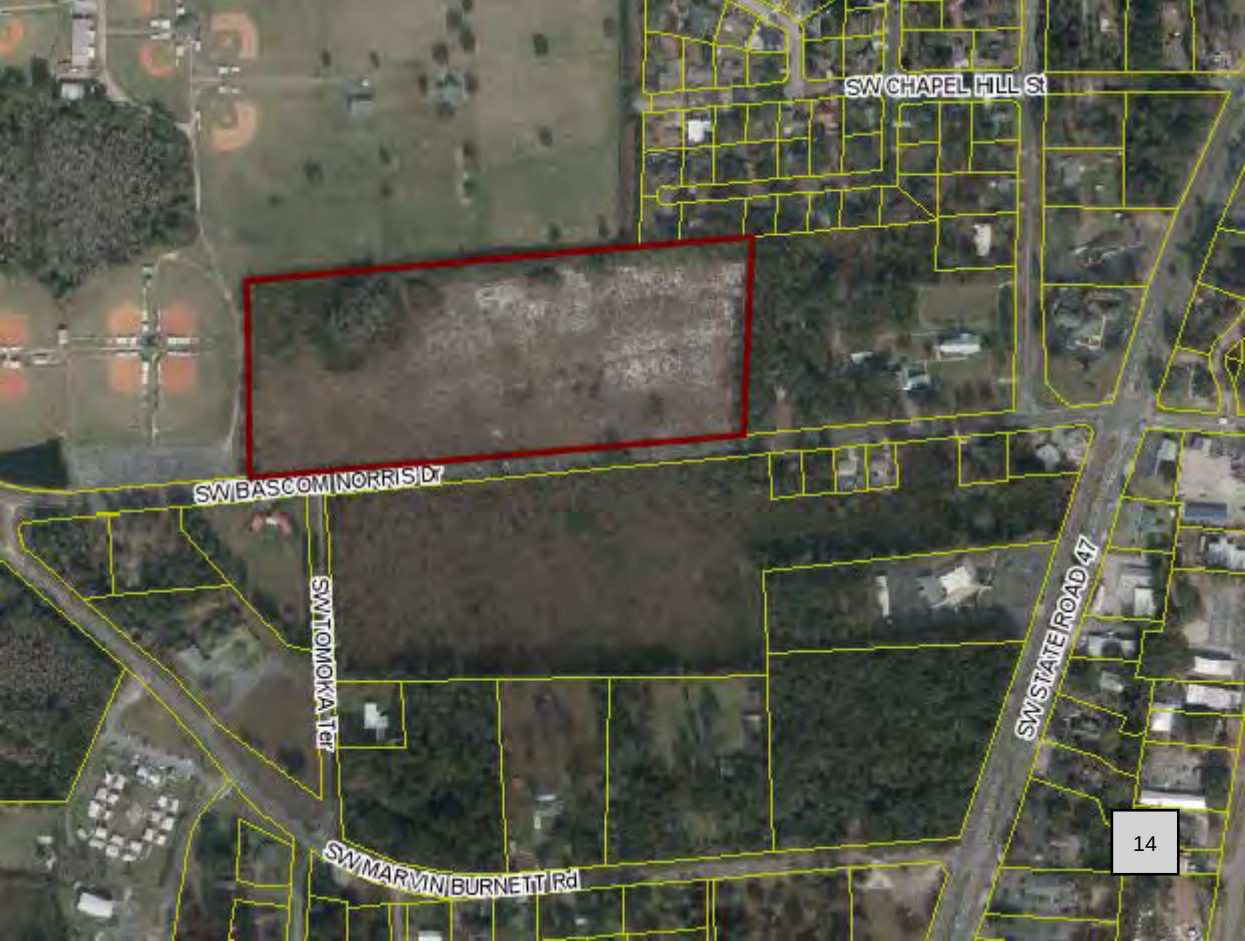
LAND SURVEYORS AND MAPPERS, L.B. # 8016
2086 SW MAIN BLVD, SUITE 112
LAKE CITY, FLORIDA 32025
TELEPHONE: (386) 752-7163 FAX: (386) 752-5573
WWW.BRITTSURVEY.COM

C:\COURT\116103\116103.DWG (11/20/2022 2:07:16 PM)



Digitally signed by
Carol Chadwick
DN: cn=Carol Chadwick,
o=Tennis Forever,
ou=Florida,
email=carol@tennisforever.com,
c=US
Date: 2023.02.08
09:49:26 -0500

TENNIS FOREVER SITE SKETCH	
DATE: 11/20/2022	DESIGNED BY: ANJALI VITAYAP
REVISION DATE:	REVISION DESCRIPTION:
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SW CHAPEL HILL ST

SW BASCOM/NORRIS Dr

SW TOMOKA TER

SW MARVIN/BURNETT Rd

SW STATE ROAD 47

CAROL CHADWICK, P.E.

Civil Engineer

1208 S.W. Fairfax Glen

Lake City, FL 32025

307.680.1772

ccpewyo@gmail.com

www.carolchadwickpe.com

December 7, 2022

re: Tennis Forever Concurrency Impact Analysis

The site is currently vacant. The maximum allowed dwelling units is 88. Two bedroom dwelling units were used for these calculations.

Criteria for analyses:

- Trip generation was calculated per the ITE Trip Generation Manual, 9th edition, ITE code 220
- Potable Water Analysis per Chapter 64E-6.008 Florida Administrative Code, Table 1
- Sanitary Sewer Analysis Chapter 64E-6.008 Florida Administrative Code, Table 1
- Environmental Engineering: Tampa Typical Solid Waste Generation Rates

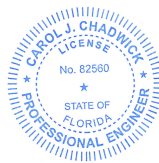
Summary of analyses:

- Trip generation: 585 ADT & 55 Peak PM trips
- Potable Water: 17600 gallons per day
- Potable Water: 17600 gallons per day
- Solid Waste: 128 tons per year

See attached Concurrency Worksheet.

Please contact me at 307.680.1772 if you have any questions.

Respectfully,



Digitally signed by Carol Chadwick

DN: c=US, o=Florida,

dnQualifier=A01410D0000017EB6-

D924CE0005954C, cn=Carol

Chadwick

Date: 2023.02.08 09:49:08 -05'00'

Carol Chadwick, P.E.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

CC Job #FL22399



**REVISED CONCURRENCY
WORKSHEET**

Trip Generation Analysis

ITE Code	ITE Use	ADT Multiplier	PM Peak Multiplier	DU	Total ADT	Total PM Peak
220	Apartment	6.65	0.62	88.00	585.20	54.56

Potable Water Analysis

Ch. 64E-6.008, F.A.C. Use	Ch. 64E-6.008, F.A.C. Gallons Per Day (GPD)	Ch. 64E-6.008, F.A.C. Multiplier*	Total (Gallons Per Day)
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Apartment	200.00	88.00	17600.00
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* Multiplier is based upon Ch. 64E.6008, Florida Administrative Code and can vary from square footage, number of employees, number of seats, or etc. See Ch. 64E-6.008, F.A.C. to determine multiplier.

Sanitary Sewer Analysis

Ch. 64E-6.008, F.A.C. Use	Ch. 64E-6.008, F.A.C. Gallons Per Day (GPD)	Ch. 64E-6.008, F.A.C. Multiplier*	Total (Gallons Per Day)
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Apartment	200.00	88.00	17600.00
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* Multiplier is based upon Ch. 64E.6008, F.A.C. and can vary from square footage, number of employees, number of seats, or etc. See Ch. 64E-6.008, F.A.C. to determine multiplier.

Solid Waste Analysis

Use	Tons Per Dwelling Unit**	bedrooms	Total (Tons Per Year)
Apartment	4.00	176.00	128.00

**4# per bedroom per day

CAROL CHADWICK, P.E.

Civil Engineer

1208 S.W. Fairfax Glen

Lake City, FL 32025

307.680.1772

ccpewyo@gmail.com

www.carolchadwickpe.com

December 7, 2022

re: Tennis Forever meets of the Requirements of Article 12 of the Land Development Regulations

The Tennis Forever proposed zoning change is consistent with Lake City's requirements of Article 12 of the Land Development Regulations.

- a) Whether the proposed change would be in conformance with the City's comprehensive plan or would have an adverse effect on the City's comprehensive plan.

Analysis: The proposed zoning change is in conformance with the comprehensive plan and will not cause any adverse effects to the plan.

- b) The existing land use pattern.

Analysis: The proposed zoning change would create a multi-family parcel with direct access to SW Bascom Norris Drive. It is immediately adjacent to the sports complex with only a small portion adjacent to single family residential. Other parcels with zoning are located in the area but are also isolated from sites with the same zoning.

- c) Possible creation of an isolated district unrelated to adjacent and nearby districts.

Analysis: Other parcels with zoning are located in the area but are also isolated from sites with the same zoning. No single family residential zoned property would be impacted.

- d) The population density pattern and possible increase or overtax the load on public facilities such as schools, utilities, streets, etc.

Analysis: The site is located on SW Bascom Norris Drive which is an arterial road. The City of Lake City was consulted prior to submitting this application and are aware of the water and sewer demand. Additional students may be present in the district as a result of the development.

- e) Whether existing district boundaries are illogically drawn in relation to existing conditions on the property proposed for change.

Analysis: The proposed zoning change would create a multi-family parcel with direct access to SW Bascom Norris Drive. It is immediately adjacent to the sports complex with only a small portion adjacent to single family residential. Other parcels with zoning are located in the area but are also isolated from sites with the same zoning.

- f) Whether changed or changing conditions make the passage of the proposed amendment

necessary.

Analysis: Housing is needed in the area due to the increase in people moving to the area.

- g) Whether the proposed change will adversely influence living conditions in the neighborhood.

Analysis: The proposed change will not adversely affect living condition in the neighborhood as the only access will be directly from SW Bascom Norris Drive.

- h) Whether the proposed change will create or excessively increase traffic congestion or otherwise affect public safety.

Analysis: Increase in traffic will be on an arterial road.

- i) Whether the proposed change create a drainage problem.

Analysis: No drainage problems will be created with the zoning change.

- j) Whether the proposed change will seriously reduce light and air to the adjacent areas.

Analysis: The site development will not reduction of light or air to adjacent areas.

- k) Whether the proposed change will adversely affect the property values in the adjacent area.

Analysis: The zoning change will not adversely affect property values in the area.

- l) Whether the proposed change will be a deterrent to the improvements or development of adjacent property in accordance with existing regulations.

Analysis: The proposed change will not be a deterrent to improvements or development of adjacent properties as the area.

- m) Whether the proposed change will constitute a grant of special privilege to an individual owner as contrasted with public welfare.

Analysis: The proposed change will not grant special privileges to the owner.

- n) Whether there are substantial reasons why the property cannot be used in accord with existing zoning.

Analysis: The owners wants to construct multi-family housing which is not compatible with the current zoning.

- o) Whether the proposed change suggested is out of scale with the needs of the neighborhood or the County.

Analysis: Overall, there is a need for multi-family properties to service the growth in the area.

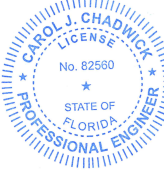
- p) Whether it is impossible to find other adequate sites in the City for the proposed use in districts already permitting such use. When pertaining to other proposed amendments of these land development regulations the Planning and Zoning Board shall consider and study:

- i. The need and justification for the change.
- ii. The relationship of the proposed amendment to the purposes and objectives of the comprehensive planning program and to the City's comprehensive plan, with appropriate consideration as to whether the proposed change will further the purposes of these land development regulations and other ordinances, regulations, and actions designed to implement the City's comprehensive plan.

Analysis: The owner purchased this property some years ago and would like to develop it.

Please contact me at 307.680.1772 if you have any questions.

Respectfully,



Digitally signed by
Carol Chadwick
DN: c=US,
o=Florida,
dnQualifier=A014
10D0000017EB6D
924CE0005954C,
cn=Carol
Chadwick
Date: 2023.02.08
09:48:35 -05'00'

Carol Chadwick, P.E.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.
CC Job #FL22399

Columbia County Property Appraiser

Jeff Hampton

2022 Working Values

updated: 10/6/2022

Parcel: 06-4S-17-08045-000 (45451)

Owner & Property Info

Owner	TENNIS FOREVER LIMITED LIABILITY COMPANY PO BOX 219 LAKE CITY, FL 32056		
Site	2183 SW Dr, LAKE CITY 2069 SW BASCOM NORRIS Dr		
Description*	COMM SE COR OF SEC, W 1381.02 FT, N 30.18 FT TO N R/W OF BROWN LN (NKA BASCOM NORRIS DR) & POB, W ALONG N R/W 1313.19 FT, W STILL ALONG N R/W 247.07 FT, N 612.96 FT, E 1580.93 FT, S 615.20 FT TO POB. 682-439, 712-700, 948-436, WD 1412-710, WD 1412-728, WD ...more>>>		
Area	22.05 AC	S/T/R	06-4S-17
Use Code**	NON AG ACREAGE (9900)	Tax District	1

*The Description above is not to be used as the Legal Description for this parcel in any legal transaction.

**The Use Code is a FL Dept. of Revenue (DOR) code and is not maintained by the Property Appraiser's office. Please contact your city or county Planning & Zoning office for specific zoning information.

Property & Assessment Values

2021 Certified Values		2022 Working Values	
Mkt Land	\$149,400	Mkt Land	\$496,125
Ag Land	\$0	Ag Land	\$0
Building	\$0	Building	\$0
XFOB	\$0	XFOB	\$0
Just	\$149,400	Just	\$496,125
Class	\$0	Class	\$0
Appraised	\$149,400	Appraised	\$496,125
SOH Cap [?]	\$0	SOH Cap [?]	\$0
Assessed	\$149,400	Assessed	\$496,125
Exempt	\$0	Exempt	\$0
Total	county:\$149,400 city:\$149,400 other:\$0	Total	county:\$496,125 city:\$496,125 other:\$0
Taxable	school:\$149,400	Taxable	school:\$496,125

Aerial Viewer Pictometry Google Maps



Sales History

Sale Date	Sale Price	Book/Page	Deed	V/I	Qualification (Codes)	RCode
7/14/2022	\$100	1471/1278	WD	V	U	11
5/27/2020	\$432,500	1412/0723	WD	V	Q	01
5/27/2020	\$185,400	1412/0718	WD	V	Q	01
5/14/2020	\$100	1412/0710	WD	V	U	30
2/6/2002	\$100	0948/0436	WD	V	U	01

Building Characteristics

Bldg Sketch	Description*	Year Blt	Base SF	Actual SF	Bldg Value
NONE					

Extra Features & Out Buildings (Codes)

Code	Desc	Year Blt	Value	Units	Dims
NONE					

Land Breakdown

Code	Desc	Units	Adjustments	Eff Rate	Land Value
0000	VAC RES (MKT)	6.640 AC	1.0000/1.0000 1.0000/ /	\$22,500 /AC	\$149,400
9900	AC NON-AG (MKT)	15.410 AC	1.0000/1.0000 1.0000/ /	\$22,500 /AC	\$346,725

Prepared by:

Branden L. Strickland, Esq.
Strickland Law Firm, P.L.
283 NW Cole Terrace
Lake City, FL 32055
File #: 22-0572

The preparer of this instrument has performed no title examination nor has the preparer issued any title insurance or furnished any opinion regarding the title, names, addresses, tax identification number and legal description furnished by parties.

Inst: 202212014112 Date: 07/19/2022 Time: 3:46PM
Page 1 of 3 B: 1471 P: 1278, James M Swisher Jr, Clerk of Court
Columbia County, By: VC *W*
Deputy Clerk Doc Stamp-Deed: 0.70

Warranty Deed

THIS WARRANTY DEED, made this 14 day of July, 2022, between North Florida International School LLC, a Florida Limited Liability Company, and Tennis Forever Limited Liability Company, a Florida Limited Liability Company (herein Grantor), to Tennis Forever Limited Liability Company, a Florida Limited Liability Company, whose address is 1361 SW Sisters Welcome Road, Lake City, FL 32025 (hereinafter Grantee).

The terms Grantor and Grantee, shall include their respective heirs, devisees, personal representatives, successors, and assigns; any gender shall include all genders, the plural number shall include the singular and the singular number shall include the plural.

WITNESSETH:

That said Grantor, for and in consideration of the sum of \$10.00, and other good and valuable consideration, the receipt of which is hereby acknowledged, does hereby grant and convey to Grantees forever the following described property in **Columbia County, Florida**:

See Exhibit "A" Attached Hereto and by this Reference Made a Part Thereof.

SUBJECT TO all reservations, restrictions and easements of record, if any.

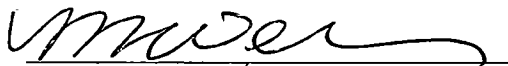
SUBJECT to easements and restrictions of record and taxes accruing subsequent to the prior year.

TOGETHER WITH ALL the tenements, hereditaments, privileges, appurtenances, thereto belonging or in any way appertaining to the said property.

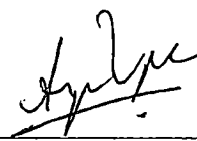
Grantor hereby covenants with said Grantee that Grantor is lawfully seized of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land; that the Grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever.

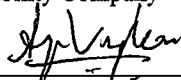
IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed on this date the year first above written.

Signed, Sealed, and Delivered in the Presence of:


WITNESS Madison Williams


WITNESS Michael H. Harrell


Anjan Viplav, as Authorized Member of North Florida International School LLC, a Florida Limited Liability Company


Anjan Viplav, as Authorized Member of Tennis Forever Limited Liability Company, a Florida Limited Liability Company

STATE OF FLORIDA

COUNTY OF COLUMBIA

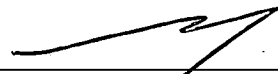
I HEREBY CERTIFY that on this day, before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgements, by means of physical presence, personally appeared Anjan Viplav, as Authorized Member of North Florida International School LLC, a Florida Limited Liability Company and Anjan Viplav, as Authorized Member of Tennis Forever Limited Liability Company, a Florida Limited Liability Company, to me known to be the person described in and who executed the foregoing instrument that he/she acknowledged before me that he executed the same, and who provided DL as identification.

WITNESS my hand and official seal in the County and State last aforesaid this 18th day of July, 2022.

(SEAL)



MICHAEL H. HARRELL
Notary Public
State of Florida
Comm# HH203548
Expires 11/30/2025


NOTARY PUBLIC

My Commission Expires:

22-0572

Exhibit "A"

COMMENCE AT THE SOUTHEAST CORNER OF SECTION 6, TOWNSHIP 4 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA AND RUN THENCE S 85°45'49" W ALONG THE SOUTH LINE OF SAID SECTION 6, 1381.02 FEET, THENCE N 2°04'49" E, 30.18 FEET TO THE NORTH RIGHT-OF-WAY LINE OF BROWN LANE AND TO THE POINT OF BEGINNING, THENCE S 85°45'49" W ALONG SAID NORTH RIGHT-OF-WAY LINE, 1313.19 FEET, THENCE S 85°56'04" W STILL ALONG SAID NORTH RIGHT-OF-WAY LINE, 247.07 FEET, THENCE N 0°09'46" E, 612.96 FEET, THENCE N 85°46'54" E, 1580.93 FEET, THENCE S 2°04'49" W, 615.20 FEET TO THE POINT OF BEGINNING. SAID LANDS BEING A PART OF THE SW $\frac{1}{4}$ OF SE $\frac{1}{4}$ AND A PART OF THE SW $\frac{1}{4}$ OF THE SE $\frac{1}{4}$ AND A PART OF THE SE $\frac{1}{4}$ OF SW $\frac{1}{4}$.



[Department of State](#) / [Division of Corporations](#) / [Search Records](#) / [Search by Entity Name](#) /

Detail by Entity Name

Florida Limited Liability Company

TENNIS FOREVER LIMITED LIABILITY COMPANY

Filing Information

Document Number L15000082757
FEI/EIN Number 47-4110918
Date Filed 05/11/2015
Effective Date 05/11/2015
State FL
Status ACTIVE
Last Event REINSTATEMENT
Event Date Filed 09/29/2016

Principal Address

250 NW MAIN BLVD
 UNIT 219
 Lake City, FL 32056

Changed: 07/18/2022

Mailing Address

P.O. BOX 219
 Lake City, FL 32055

Changed: 07/18/2022

Registered Agent Name & Address

VIPLAV, ANJAN
 1361 SW SISTERS WELCOME RD
 LAKE CITY, FL 32025

Name Changed: 09/29/2016

Address Changed: 07/31/2015

Authorized Person(s) Detail

Name & Address

Title Authorized Member

VIPLAV, ANJAN
1363 SW Sisters Welcome Road
Lake City, FL 32025

Annual Reports

Report Year	Filed Date
2021	03/29/2021
2021	04/29/2021
2022	03/23/2022

Document Images

03/23/2022 -- ANNUAL REPORT	View image in PDF format
04/29/2021 -- AMENDED ANNUAL REPORT	View image in PDF format
03/29/2021 -- ANNUAL REPORT	View image in PDF format
01/16/2020 -- ANNUAL REPORT	View image in PDF format
04/25/2019 -- ANNUAL REPORT	View image in PDF format
04/16/2018 -- ANNUAL REPORT	View image in PDF format
04/05/2017 -- ANNUAL REPORT	View image in PDF format
09/29/2016 -- REINSTATEMENT	View image in PDF format
08/14/2015 -- CORLCRACHG	View image in PDF format
05/11/2015 -- Florida Limited Liability	View image in PDF format

Authority to Act as Agent

On my/our behalf, I appoint Carol Chadwick, PE
(Name of Person to Act as my Agent)

for n.a.
(Company Name for the Agent, if applicable)

to act as my/our agent in the preparation and submittal of this application
for Site Plan
(Type of Application)

I acknowledge that all responsibility for complying with the terms and conditions for approval of this application, still resides with me as the Applicant/Owner.

Applicant/Owner's Name: ANJAN VIPLAV

Applicant/Owner's Title: MEMBER.

On Behalf of: TENNIS FOREVER LLC
(Company Name, if applicable)

Telephone: 321 315 5319 Date: 11/01/2022

Applicant/Owner's Signature: [Signature]

Print Name: ANJAN VIPLAV

STATE OF FLORIDA
COUNTY OF COLUMBIA

The Foregoing instrument was acknowledged before me this 1ST day of NOVEMBER, 20 22, by _____, whom is personally known by me ☒ OR produced identification ☒.
Type of Identification Produced DRIVING LICENSE.

[Signature]
(Notary Signature)

(SEAL)



Columbia County Tax Collector

generated on 12/7/2022 4:15:22 PM EST

Tax Record

Last Update: 12/7/2022 4:14:51 PM EST

[Register for eBill](#)

Ad Valorem Taxes and Non-Ad Valorem Assessments

The information contained herein does not constitute a title search and should not be relied on as such.

Account Number	Tax Type	Tax Year			
R08045-000	REAL ESTATE	2022			
Mailing Address TENNIS FOREVER LIMITED LIABILITY COMPANY PO BOX 219 LAKE CITY FL 32056 Property Address 2183 LAKE CITY GEO Number 064S17-08045-000					
Exempt Amount	Taxable Value				
See Below	See Below				
Exemption Detail	Millage Code	Escrow Code			
NO EXEMPTIONS	001				
<u>Legal Description (click for full description).</u> 06-4S-17 9900/000022.05 Acres COMM SE COR OF SEC, W 1381.02 FT, N 30.18 FT TO N R/W OF BROWN LN (NKA BASCOM NORRIS DR) & POB, W ALONG N R/W 1313.19 FT, W STILL ALONG N R/W 247.07 FT, N 612.96 FT, E 1580.93 FT, S 615.20 FT TO POB. 682-439, 712-700, 948-436, WD 1412-710, WD 1412-728, WD 1471-1278,					
Ad Valorem Taxes					
Taxing Authority	Rate	Assessed Value	Exemption Amount	Taxable Value	Taxes Levied
CITY OF LAKE CITY	4.9000	496,125	0	\$496,125	\$2,431.01
BOARD OF COUNTY COMMISSIONERS	7.8150	496,125	0	\$496,125	\$3,877.22
COLUMBIA COUNTY SCHOOL BOARD					
DISCRETIONARY	0.7480	496,125	0	\$496,125	\$371.10
LOCAL	3.2990	496,125	0	\$496,125	\$1,636.72
CAPITAL OUTLAY	1.5000	496,125	0	\$496,125	\$744.19
SUWANNEE RIVER WATER MGT DIST	0.3368	496,125	0	\$496,125	\$167.09
LAKE SHORE HOSPITAL AUTHORITY	0.0001	496,125	0	\$496,125	\$0.05
Total Millage		18.5989	Total Taxes		\$9,227.38
Non-Ad Valorem Assessments					
Code	Levying Authority				Amount
XLCF	CITY FIRE ASSESSMENT				\$50.40
Total Assessments					\$50.40
Taxes & Assessments					\$9,277.78
If Paid By				Amount Due	
11/30/2022				\$8,906.67	
12/31/2022				\$8,999.45	
1/31/2023				\$9,092.22	
2/28/2023				\$9,185.00	
3/31/2023				\$9,277.78	

Prior Years Payment History

Prior Year Taxes Due
NO DELINQUENT TAXES

[Click Here To Pay Now](#)



GROWTH MANAGEMENT

205 North Marion Ave.
Lake City, FL 32055
Telephone: (386) 719-5750
E-mail: growthmanagement@locfla.com

FOR PLANNING USE ONLY

Application # _____
Application Fee \$ _____
Receipt No. _____
Filing Date _____
Completeness Date _____

COMPREHENSIVE PLAN AMENDMENT

Small Scale: \$750.00 Large Scale: \$1,500.00

A. PROJECT INFORMATION

1. Project Name: Tennis Forever
2. Address of Subject Property: 2189 SW Bascom Norris Drive, Lake City, FL
3. Parcel ID Number(s): 06-4S-17-08045-000
4. Existing Future Land Use Map Designation: Residential-moderate
5. Proposed Future Land Use Map Designation: Residential-medium
6. Zoning Designation: RSF-2
7. Acreage: 22.05
8. Existing Use of Property: vacant
9. Proposed use of Property: Multi-family housing

B. APPLICANT INFORMATION

1. Applicant Status ☐ Owner (title holder) ☒ Agent
2. Name of Applicant(s): Carol Chadwick, PE Title: Civil Engineer
Company name (if applicable): _____
Mailing Address: 1208 SW Fairfax Glen
City: Lake City State: FL Zip: 32025
Telephone: (307) 680.1772 Fax: () Email: ccpewyo@gmail.com

PLEASE NOTE: Florida has a very broad public records law. Most written communications to or from government officials regarding government business is subject to public records requests. Your e-mail address and communications may be subject to public disclosure.

3. If the applicant is agent for the property owner*.
Property Owner Name (title holder): Tennis forever LLC
Mailing Address: PO Box 219
City: Lake City State: FL Zip: 32056
Telephone: (321) 315.5319 Fax: () Email: anjanviplav@icloud.com

PLEASE NOTE: Florida has a very broad public records law. Most written communications to or from government officials regarding government business is subject to public records requests. Your e-mail address and communications may be subject to public disclosure.

***Must provide an executed Property Owner Affidavit Form authorizing the agent to act on behalf of the property owner.**

C. ADDITIONAL INFORMATION

1. Is there any additional contract for the sale of, or options to purchase, the subject property?
If yes, list the names of all parties involved: na
If yes, is the contract/option contingent or absolute: ☐ Contingent ☐ Absolute
2. Has a previous application been made on all or part of the subject property? ☐ Yes ☐ No
Future Land Use Map Amendment: ☐ Yes _____ ☒ No _____
Future Land Use Map Amendment Application No. _____
Site Specific Amendment to the Official Zoning Atlas (Rezoning): ☐ Yes _____ ☒ No _____
Site Specific Amendment to the Official Zoning Atlas (Rezoning) Application No. _____
Variance: ☐ Yes _____ ☒ No _____
Variance Application No. _____
Special Exception: ☐ Yes _____ ☒ No _____
Special Exception Application No. _____

D. ATTACHMENT/SUBMITTAL REQUIREMENTS

1. Boundary Sketch or Survey with bearings and dimensions.
2. Aerial Photo (can be obtained via the Columbia County Property Appraiser's Office).
3. Concurrency Impact Analysis: Concurrency Impact Analysis of impacts to public facilities, including but not limited to Transportation, Potable Water, Sanitary Sewer, and Solid Waste impacts. For residential land use amendments, an analysis of the impacts to Public Schools is required.
4. Comprehensive Plan Consistency Analysis: An analysis of the application's consistency with the Comprehensive Plan (analysis must identify specific Goals, Objectives, and Policies of the Comprehensive Plan and detail how the application complies with said Goals, Objectives, and Policies). For text amendments to the Comprehensive Plan, the proposed text amendment in strike-thru and underline format.
5. Legal Description with Tax Parcel Number (In Microsoft Word Format).
6. Proof of Ownership (i.e. deed).
7. Agent Authorization Form (signed and notarized).
8. Proof of Payment of Taxes (can be obtained online via the Columbia County Tax Collector's Office).
9. Fee. The application fee for a Comprehensive Plan Amendment is as follows:
 - a. Small Scale Comprehensive Plan Amendment (10 Acres or less) = \$750.00
 - b. Large Scale Comprehensive Plan Amendment (More Than 10 Acres) = \$1,500.00 or actual city cost
 - c. Text Amendment to the Comprehensive Plan = \$750.00

No application shall be accepted or processed until the required application fee has been paid.

NOTICE TO APPLICANT

All nine (9) attachments are required for a complete application. Once an application is submitted and paid for, a completeness review will be done to ensure all the requirements for a complete application have been met. If there are any deficiencies, the applicant will be notified in writing. If an application is deemed to be incomplete, it may cause a delay in the scheduling of the application before the Planning & Zoning Board.

A total of fourteen (14) copies of proposed Comprehensive Plan Amendment Application and support material and a PDF copy on a CD are required at the time of submittal.

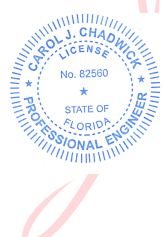
THE APPLICANT ACKNOWLEDGES THAT THE APPLICANT OR AGENT MUST BE PRESENT AT THE PUBLIC HEARING BEFORE THE PLANNING AND ZONING BOARD, AS ADOPTED IN THE BOARD RULES AND PROCEDURES. OTHERWISE THE REQUEST MAY BE CONTINUED TO A FUTURE HEARING DATE.

I hereby certify that all of the above statements and statements contained in any documents or plans submitted herewith are true and accurate to the best of my knowledge and belief.

Applicant/Agent Name (Type or Print)

Applicant/Agent Signature

Date

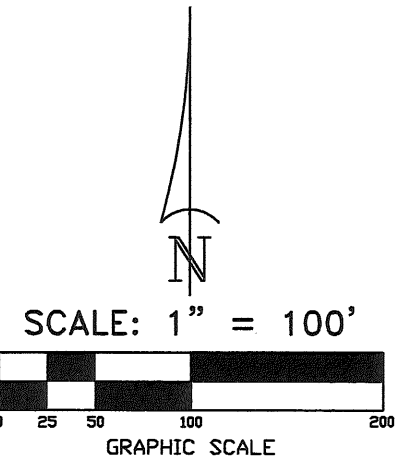


Digitally signed by
Carol Chadwick
DN: c=US,
o=Florida,
dnQualifier=A014
10D0000017EB6D
924CE0005954C,
cn=Carol
Chadwick
Date: 2023.02.08
09:47:20 -05'00'

A BOUNDARY SURVEY IN:
SECTION 6, TOWNSHIP 6 SOUTH, RANGE 17 EAST,
COLUMBIA COUNTY, FLORIDA

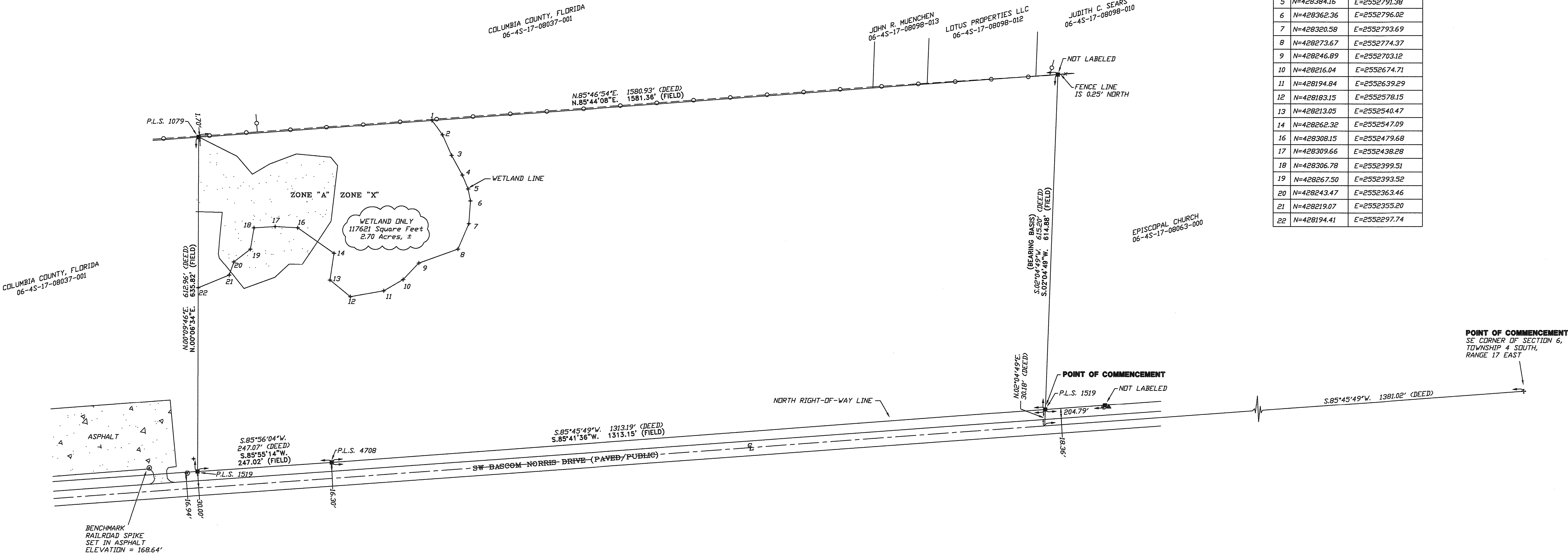
SURVEYOR'S NOTES:
1. BOUNDARY BASED ON MONUMENTATION FOUND.
2. BEARINGS ARE BASED ON A DEED BEARING OF S.02°04'49"W., FOR THE EAST LINE THEREOF.
3. IT IS APPARENT THAT SOME PORTIONS OF THIS PARCEL ARE IN ZONE "A" AND MAY BE SUBJECT TO FLOODING. HOWEVER, NO BASE FLOOD ELEVATION HAS BEEN DETERMINED FOR ZONE "A" AS PER FLOOD INSURANCE RATE MAP, DATED 2 NOVEMBER, 2018 FIRM PANEL NO. 1202300920. HOWEVER, THE FLOOD INSURANCE RATE MAPS ARE SUBJECT TO CHANGE.
4. THE IMPROVEMENTS, IF ANY, INDICATED ON THIS SURVEY DRAWING ARE AS LOCATED ON DATE OF FIELD SURVEY AS SHOWN HEREON.
5. IF THEY EXIST, NO UNDERGROUND ENCROACHMENTS AND/OR UTILITIES WERE LOCATED FOR THIS SURVEY EXCEPT AS SHOWN HEREON.
6. THIS SURVEY WAS COMPLETED WITHOUT THE BENEFIT OF A TITLE COMMITMENT OR A TITLE POLICY.
7. DIMENSIONS SHOWN HEREON ARE IN FEET AND DECIMAL PARTS THEREOF.
8. THIS SURVEY DOES NOT REFLECT OR DETERMINE OWNERSHIP.
9. THE ADJACENT OWNERSHIP INFORMATION AS SHOWN HEREON IS BASED ON THE COUNTY PROPERTY APPRAISERS GIS SYSTEM, UNLESS OTHERWISE DENOTED.

DESCRIPTION:
COMMENCE AT THE SOUTHEAST CORNER OF SECTION 6, TOWNSHIP 4 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA, AND RUN THENCE S.85°45'49"W., ALONG THE SOUTH LINE OF SAID SECTION 6, 1381.02' FEET, THENCE N.02°04'49"E., 30.18' FEET TO THE NORTH RIGHT-OF-WAY LINE OF BROWN LANE AND TO THE POINT OF BEGINNING, THENCE S.85°45'49"W., ALONG SAID NORTH RIGHT-OF-WAY LINE, 1313.19' FEET, THENCE S.85°56'04"W., STILL ALONG SAID NORTH RIGHT-OF-WAY LINE, 247.07' FEET, THENCE N.00°09'46"E., 612.96' FEET, THENCE N.85°46'54"E., 1580.93' FEET, THENCE S.02°04'49"W., 615.20' FEET TO THE POINT OF BEGINNING, SAID LANDS BEING A PART OF THE SW 1/4 OF SE 1/4 AND PART OF THE SE 1/4 OF SW 1/4.



SYMBOL LEGEND:	
4"x4" CONCRETE MONUMENT FOUND	4"x4" CONCRETE MONUMENT SET
IRON PIPE FOUND	IRON PIN AND CAP SET
"X" CUT IN PAVEMENT	CALCULATED PROPERTY CORNER
NAIL & DISK	POWER POLE
FIRE HYDRANT	WATER METER
UTILITY BOX	WELL
SANITARY MANHOLE	CENTERLINE
SECTION LINE	ELECTRIC LINES
WIRE FENCE	CHAIN LINK FENCE
WIDEN FENCE	AS PER A PLAT OF RECORD
DEED	AS PER A DEED OF RECORD
CALC.	AS PER CALCULATIONS
FIELD	AS PER FIELD MEASUREMENTS
P.R.M.	PERMANENT REFERENCE MARKER
P.C.P.	PERMANENT CONTROL POINT

WETLAND TABLE		
NO.	NORTH	EAST
1	N=428509.94	E=2552722.66
2	N=428482.47	E=2552742.90
3	N=428445.05	E=2552760.27
4	N=428409.27	E=2552780.37
5	N=428384.16	E=2552791.38
6	N=428362.36	E=2552796.02
7	N=428320.58	E=2552793.69
8	N=428273.67	E=2552774.37
9	N=428246.89	E=2552703.12
10	N=428216.04	E=2552674.71
11	N=428194.84	E=2552639.29
12	N=428183.15	E=2552578.15
13	N=428213.05	E=2552540.47
14	N=428262.32	E=2552574.09
16	N=428308.15	E=2552479.68
17	N=428309.66	E=2552438.28
18	N=428306.78	E=2552399.51
19	N=428267.50	E=2552393.52
20	N=428243.47	E=2552363.46
21	N=428219.07	E=2552355.20
22	N=428194.41	E=2552297.74



CERTIFIED TO:

FIELD BOOK, SEE PAGE(S), FILE
JOB NUMBER L-26567

SHEET
1 of 1

SURVEYOR'S CERTIFICATION

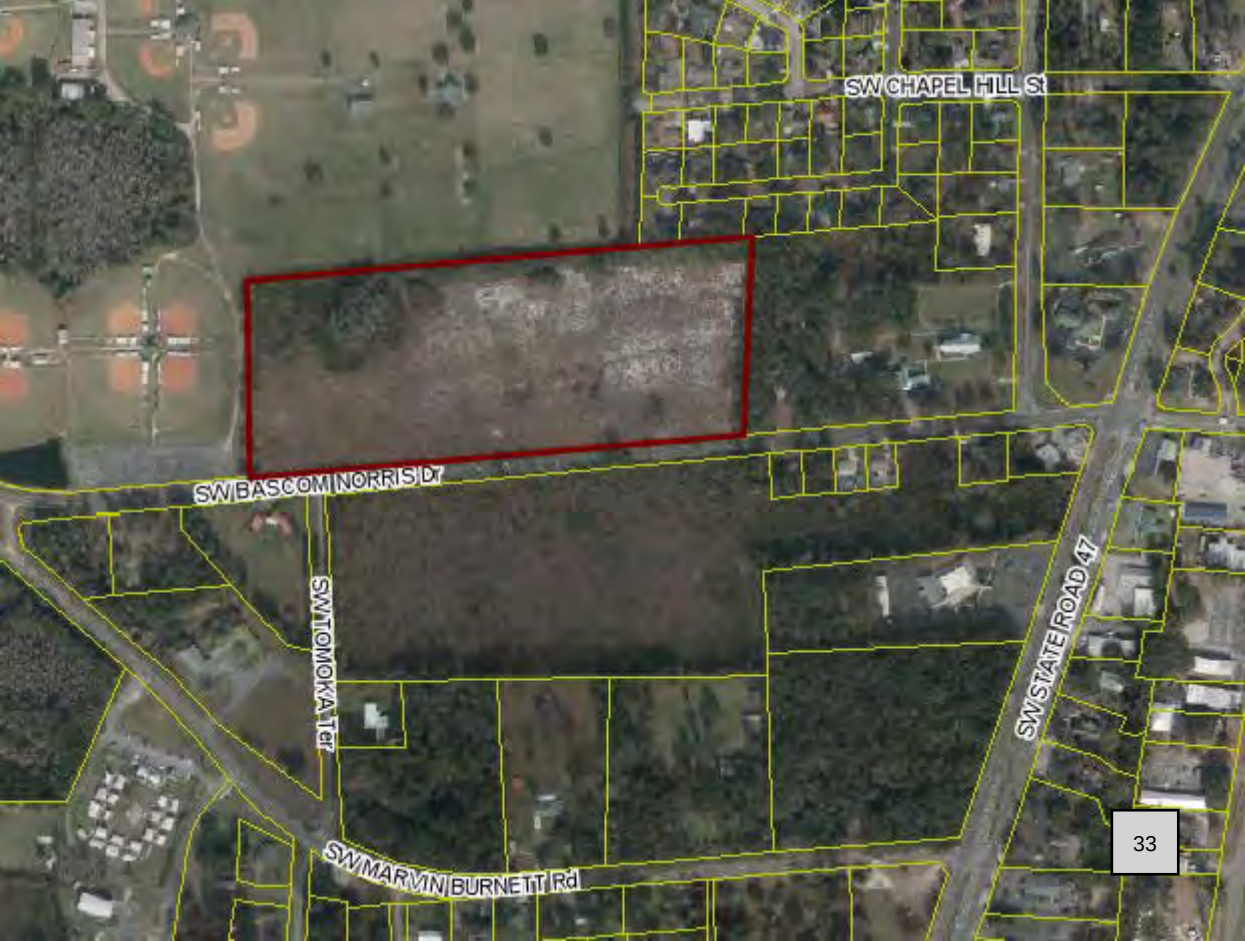
I HEREBY CERTIFY THAT THIS SURVEY WAS MADE UNDER MY RESPONSIBLE CHARGE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.067, FLORIDA STATUTES.

DATE OF SURVEY 06/14/2020
FIELD SURVEY DATE 06/14/2020
DRAWING DATE 06/14/2020
L. SCOTT BRITT, P.S.M.
CERTIFICATION # 5797
I, L. SCOTT BRITT, P.S.M., A FLORIDA LICENSED SURVEYOR, HAVE REVIEWED THIS SURVEY AND THE ORIGINAL SIGNATURE AND THE ORIGINAL SURVEY DATA AND MAPS. THIS DRAWING, SKETCH, PLAT OR MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID.

BRITT SURVEYING
& MAPPING, LLC



LAND SURVEYORS AND MAPPERS, L.B. # 8016
2086 SW MAIN BLVD, SUITE 112
LAKE CITY, FLORIDA 32025
TELEPHONE: (386) 752-7163 FAX: (386) 752-5573
WWW.BRITTSURVEYING.COM



SW CHAPEL HILL ST

SW BASCOM/NORRIS DR

SW TOMOKA TER

SW MARVIN/BURNETT RD

SW STATE ROAD 47

CAROL CHADWICK, P.E.

Civil Engineer

1208 S.W. Fairfax Glen

Lake City, FL 32025

307.680.1772

ccpewyo@gmail.com

www.carolchadwickpe.com

December 7, 2022

re: Tennis Forever Concurrency Impact Analysis

The site is currently vacant. The maximum allowed dwelling units is 88. Two bedroom dwelling units were used for these calculations.

Criteria for analyses:

- Trip generation was calculated per the ITE Trip Generation Manual, 9th edition, ITE code 220
- Potable Water Analysis per Chapter 64E-6.008 Florida Administrative Code, Table I
- Sanitary Sewer Analysis Chapter 64E-6.008 Florida Administrative Code, Table I
- Environmental Engineering: Tampa Typical Solid Waste Generation Rates

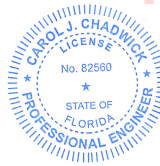
Summary of analyses:

- Trip generation: 585 ADT & 55 Peak PM trips
- Potable Water: 17600 gallons per day
- Potable Water: 17600 gallons per day
- Solid Waste: 128 tons per year

See attached Concurrency Worksheet.

Please contact me at 307.680.1772 if you have any questions.

Respectfully,



Digitally signed by
Carol Chadwick
DN: c=US,
o=Florida,
dnQualifier=A01410
D0000017EB6D924
CE0005954C,
cn=Carol Chadwick
Date: 2023.02.08 09:40:44 -05'00'

Carol Chadwick, P.E.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

CC Job #FL22399



**REVISED CONCURRENCY
WORKSHEET**

Trip Generation Analysis

ITE Code	ITE Use	ADT Multiplier	PM Peak Multiplier	DU	Total ADT	Total PM Peak
220	Apartment	6.65	0.62	88.00	585.20	54.56

Potable Water Analysis

Ch. 64E-6.008, F.A.C. Use	Ch. 64E-6.008, F.A.C. Gallons Per Day (GPD)	Ch. 64E-6.008, F.A.C. Multiplier*	Total (Gallons Per Day)
---------------------------	---	-----------------------------------	-------------------------

Apartment	200.00	88.00	17600.00
-----------	--------	-------	----------

* Multiplier is based upon Ch. 64E.6008, Florida Administrative Code and can vary from square footage, number of employees, number of seats, or etc. See Ch. 64E-6.008, F.A.C. to determine multiplier.

Sanitary Sewer Analysis

Ch. 64E-6.008, F.A.C. Use	Ch. 64E-6.008, F.A.C. Gallons Per Day (GPD)	Ch. 64E-6.008, F.A.C. Multiplier*	Total (Gallons Per Day)
---------------------------	---	-----------------------------------	-------------------------

Apartment	200.00	88.00	17600.00
-----------	--------	-------	----------

* Multiplier is based upon Ch. 64E.6008, F.A.C. and can vary from square footage, number of employees, number of seats, or etc. See Ch. 64E-6.008, F.A.C. to determine multiplier.

Solid Waste Analysis

Use	Tons Per Dwelling Unit**	bedrooms	Total (Tons Per Year)
Apartment	4.00	176.00	128.00

**4# per bedroom per day

CAROL CHADWICK, P.E.

Civil Engineer

1208 S.W. Fairfax Glen

Lake City, FL 32025

307.680.1772

ccpewyo@gmail.com

www.carolchadwickpe.com

December 19, 2022

re: Tennis Forever Comprehensive Plan Consistency Analysis

The Tennis Forever proposed comprehensive plan amendment change is consistent with Lake City's Comprehensive Plan.

Future Land Use Element

GOAL 1 - IN RECOGNITION OF THE IMPORTANCE OF CONSERVING THE NATURAL RESOURCES AND ENHANCING THE QUALITY OF LIFE, THE CITY SHALL DIRECT DEVELOPMENT TO THOSE AREAS WHICH HAVE IN PLACE, OR HAVE AGREEMENTS TO PROVIDE, THE LAND AND WATER RESOURCES, FISCAL ABILITIES AND SERVICE CAPACITY TO ACCOMMODATE GROWTH IN AN ENVIRONMENTALLY ACCEPTABLE MANNER.

- Objective 1.1 The City shall continue to direct future population growth and associated urban development to urban development areas as established within this comprehensive plan.

Consistency: The subject property fronts has direct access to SW Bascom Norris Drive. No traffic will impact any residential neighborhoods.

- Policy 1.1.1 The City shall limit the location of higher density residential and high intensity commercial and industrial uses to areas adjacent to arterial or collector roads where public facilities are available to support such higher density or intensity. In addition, the City shall enable private subregional centralized potable water and sanitary sewer systems to connect to public regional facilities, in accordance with the objective and policies for the urban and rural areas within this future land use element of the comprehensive plan.

Consistency: The subject property fronts has direct access to SW Bascom Norris Drive which is an arterial road.

- Policy 1.1.2 The City's future land use plan map shall allocate amounts and mixes of land uses for residential, commercial, industrial, public and recreation to meet the needs of the existing and projected future populations and to locate urban land uses in a manner where public facilities may be provided to serve such urban land uses. Urban land uses shall be herein defined as residential, commercial and industrial land use categories.

Consistency: Multi-family housing is needed in this area due to the amount of people relocating here.

- Policy 1.1.3 The City's future land use plan map shall base the designation of residential, commercial and industrial lands depicted on the future land use plan map upon acreage which can be reasonable expected to develop by the year 2023.

Consistency: The owner would like to begin development as soon as reasonably possible.

- Policy I.1.4 The City shall continue to maintain standards for the coordination and siting of proposed urban development near agricultural or forested areas, or environmentally sensitive areas (including but not limited to wetlands and floodplain areas) to avoid adverse impact upon existing land uses.

Consistency: The proximity of the site to existing amenities will not cause any adverse effects to existing land uses.

- Policy I.1.5 The City shall continue to regulate and govern future urban development within designated urban development areas in conformance with the land topography and soil conditions, and within an area which is or will be served by public facilities and services.

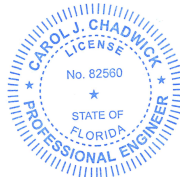
Consistency: the site will be served by existing sewer and water systems.

- Policy I.1.6 The City's land development regulations shall be based on and be consistent with the following land use classifications and corresponding standards for densities and intensities within the designated urban development areas of the City. For the purpose of this policy and comprehensive plan, the phrase "other similar uses compatible with" shall mean land uses that can co-exist in relative proximity to other uses in a stable fashion over time such that no other uses within the same land use classification are negatively impacted directly or indirectly by the use.

Consistency: The proposed commercial development is compatible with the adjacent property and can co-exist without negative impacts to other uses in relative proximity to the development over time.

Please contact me at 307.680.1772 if you have any questions.

Respectfully,



Digitally signed by Carol Chadwick
DN: c=US, o=Florida,
dnQualifier=A01410D0000017EB6
D924CE0005954C, cn=Carol
Chadwick
Date: 2023.02.08 09:40:13 -05'00'

Carol Chadwick, P.E.

Columbia County Property Appraiser

Jeff Hampton

2022 Working Values

updated: 10/6/2022

Parcel: << **06-4S-17-08045-000 (45451)** >>

Owner & Property Info

Owner	TENNIS FOREVER LIMITED LIABILITY COMPANY PO BOX 219 LAKE CITY, FL 32056		
Site	2183 SW Dr, LAKE CITY 2069 SW BASCOM NORRIS Dr		
Description*	COMM SE COR OF SEC, W 1381.02 FT, N 30.18 FT TO N R/W OF BROWN LN (NKA BASCOM NORRIS DR) & POB, W ALONG N R/W 1313.19 FT, W STILL ALONG N R/W 247.07 FT, N 612.96 FT, E 1580.93 FT, S 615.20 FT TO POB. 682-439, 712-700, 948-436, WD 1412-710, WD 1412-728, WD ...more>>>		
Area	22.05 AC	S/T/R	06-4S-17
Use Code**	NON AG ACREAGE (9900)	Tax District	1

*The Description above is not to be used as the Legal Description for this parcel in any legal transaction.

**The Use Code is a FL Dept. of Revenue (DOR) code and is not maintained by the Property Appraiser's office. Please contact your city or county Planning & Zoning office for specific zoning information.

Property & Assessment Values

2021 Certified Values		2022 Working Values	
Mkt Land	\$149,400	Mkt Land	\$496,125
Ag Land	\$0	Ag Land	\$0
Building	\$0	Building	\$0
XFOB	\$0	XFOB	\$0
Just	\$149,400	Just	\$496,125
Class	\$0	Class	\$0
Appraised	\$149,400	Appraised	\$496,125
SOH Cap [?]	\$0	SOH Cap [?]	\$0
Assessed	\$149,400	Assessed	\$496,125
Exempt	\$0	Exempt	\$0
Total	county:\$149,400	Total	county:\$496,125
Taxable	city:\$149,400	Taxable	city:\$496,125
	other:\$0		other:\$0
	school:\$149,400		school:\$496,125

Aerial Viewer Pictometry Google Maps



Sales History

Sale Date	Sale Price	Book/Page	Deed	V/I	Qualification (Codes)	RCode
7/14/2022	\$100	1471/1278	WD	V	U	11
5/27/2020	\$432,500	1412/0723	WD	V	Q	01
5/27/2020	\$185,400	1412/0718	WD	V	Q	01
5/14/2020	\$100	1412/0710	WD	V	U	30
2/6/2002	\$100	0948/0436	WD	V	U	01

Building Characteristics

Bldg Sketch	Description*	Year Blt	Base SF	Actual SF	Bldg Value
NONE					

Extra Features & Out Buildings (Codes)

Code	Desc	Year Blt	Value	Units	Dims
NONE					

Land Breakdown

Code	Desc	Units	Adjustments	Eff Rate	Land Value
0000	VAC RES (MKT)	6.640 AC	1.0000/1.0000 1.0000/ /	\$22,500 /AC	\$149,400
9900	AC NON-AG (MKT)	15.410 AC	1.0000/1.0000 1.0000/ /	\$22,500 /AC	\$346,725

Prepared by:

Branden L. Strickland, Esq.
Strickland Law Firm, P.L.
283 NW Cole Terrace
Lake City, FL 32055
File #: 22-0572

The preparer of this instrument has performed no title examination nor has the preparer issued any title insurance or furnished any opinion regarding the title, names, addresses, tax identification number and legal description furnished by parties.

Inst: 202212014112 Date: 07/19/2022 Time: 3:46PM
Page 1 of 3 B: 1471 P: 1278, James M Swisher Jr, Clerk of Court
Columbia County, By: VC *W*
Deputy Clerk Doc Stamp-Deed: 0.70

Warranty Deed

THIS WARRANTY DEED, made this 14 day of July, 2022, between North Florida International School LLC, a Florida Limited Liability Company, and Tennis Forever Limited Liability Company, a Florida Limited Liability Company (herein Grantor), to Tennis Forever Limited Liability Company, a Florida Limited Liability Company, whose address is 1361 SW Sisters Welcome Road, Lake City, FL 32025 (hereinafter Grantee).

The terms Grantor and Grantee, shall include their respective heirs, devisees, personal representatives, successors, and assigns; any gender shall include all genders, the plural number shall include the singular and the singular number shall include the plural.

WITNESSETH:

That said Grantor, for and in consideration of the sum of \$10.00, and other good and valuable consideration, the receipt of which is hereby acknowledged, does hereby grant and convey to Grantees forever the following described property in **Columbia County, Florida**:

See Exhibit "A" Attached Hereto and by this Reference Made a Part Thereof.

SUBJECT TO all reservations, restrictions and easements of record, if any.

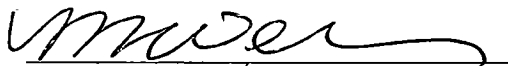
SUBJECT to easements and restrictions of record and taxes accruing subsequent to the prior year.

TOGETHER WITH ALL the tenements, hereditaments, privileges, appurtenances, thereto belonging or in any way appertaining to the said property.

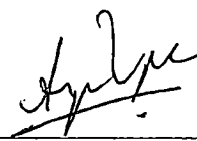
Grantor hereby covenants with said Grantee that Grantor is lawfully seized of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land; that the Grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever.

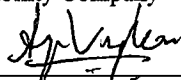
IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed on this date the year first above written.

Signed, Sealed, and Delivered in the Presence
of:


WITNESS Madison Williams


WITNESS Michael H. Harrell


Anjan Viplav, as Authorized Member of North
Florida International School LLC, a Florida
Limited Liability Company


Anjan Viplav, as Authorized Member of Tennis
Forever Limited Liability Company, a Florida
Limited Liability Company

STATE OF FLORIDA

COUNTY OF COLUMBIA

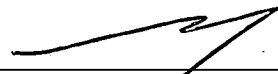
I HEREBY CERTIFY that on this day, before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgements, by means of physical presence, personally appeared Anjan Viplav, as Authorized Member of North Florida International School LLC, a Florida Limited Liability Company and Anjan Viplav, as Authorized Member of Tennis Forever Limited Liability Company, a Florida Limited Liability Company, to me known to be the person described in and who executed the foregoing instrument that he/she acknowledged before me that he executed the same, and who provided DL as identification.

WITNESS my hand and official seal in the County and State last aforesaid this 18th day of July, 2022.

(SEAL)



MICHAEL H. HARRELL
Notary Public
State of Florida
Comm# HH203548
Expires 11/30/2025


NOTARY PUBLIC

My Commission Expires:

22-0572

Exhibit "A"

COMMENCE AT THE SOUTHEAST CORNER OF SECTION 6, TOWNSHIP 4 SOUTH, RANGE 17 EAST, COLUMBIA COUNTY, FLORIDA AND RUN THENCE S 85°45'49" W ALONG THE SOUTH LINE OF SAID SECTION 6, 1381.02 FEET, THENCE N 2°04'49" E, 30.18 FEET TO THE NORTH RIGHT-OF-WAY LINE OF BROWN LANE AND TO THE POINT OF BEGINNING, THENCE S 85°45'49" W ALONG SAID NORTH RIGHT-OF-WAY LINE, 1313.19 FEET, THENCE S 85°56'04" W STILL ALONG SAID NORTH RIGHT-OF-WAY LINE, 247.07 FEET, THENCE N 0°09'46" E, 612.96 FEET, THENCE N 85°46'54" E, 1580.93 FEET, THENCE S 2°04'49" W, 615.20 FEET TO THE POINT OF BEGINNING. SAID LANDS BEING A PART OF THE SW ¼ OF SE ¼ AND A PART OF THE SW ¼ OF THE SE ¼ AND A PART OF THE SE ¼ OF SW ¼.



[Department of State](#) / [Division of Corporations](#) / [Search Records](#) / [Search by Entity Name](#) /

Detail by Entity Name

Florida Limited Liability Company

TENNIS FOREVER LIMITED LIABILITY COMPANY

Filing Information

Document Number L15000082757
FEI/EIN Number 47-4110918
Date Filed 05/11/2015
Effective Date 05/11/2015
State FL
Status ACTIVE
Last Event REINSTATEMENT
Event Date Filed 09/29/2016

Principal Address

250 NW MAIN BLVD
 UNIT 219
 Lake City, FL 32056

Changed: 07/18/2022

Mailing Address

P.O. BOX 219
 Lake City, FL 32055

Changed: 07/18/2022

Registered Agent Name & Address

VIPLAV, ANJAN
 1361 SW SISTERS WELCOME RD
 LAKE CITY, FL 32025

Name Changed: 09/29/2016

Address Changed: 07/31/2015

Authorized Person(s) Detail

Name & Address

Title Authorized Member

VIPLAV, ANJAN
1363 SW Sisters Welcome Road
Lake City, FL 32025

Annual Reports

Report Year	Filed Date
2021	03/29/2021
2021	04/29/2021
2022	03/23/2022

Document Images

03/23/2022 -- ANNUAL REPORT	View image in PDF format
04/29/2021 -- AMENDED ANNUAL REPORT	View image in PDF format
03/29/2021 -- ANNUAL REPORT	View image in PDF format
01/16/2020 -- ANNUAL REPORT	View image in PDF format
04/25/2019 -- ANNUAL REPORT	View image in PDF format
04/16/2018 -- ANNUAL REPORT	View image in PDF format
04/05/2017 -- ANNUAL REPORT	View image in PDF format
09/29/2016 -- REINSTATEMENT	View image in PDF format
08/14/2015 -- CORLCRACHG	View image in PDF format
05/11/2015 -- Florida Limited Liability	View image in PDF format

Authority to Act as Agent

On my/our behalf, I appoint Carol Chadwick, PE
(Name of Person to Act as my Agent)

for n.a.
(Company Name for the Agent, if applicable)

to act as my/our agent in the preparation and submittal of this application
for Site Plan
(Type of Application)

I acknowledge that all responsibility for complying with the terms and conditions for approval of this application, still resides with me as the Applicant/Owner.

Applicant/Owner's Name: ANJAN VIPLAV

Applicant/Owner's Title: MEMBER.

On Behalf of: TENNIS FOREVER LLC
(Company Name, if applicable)

Telephone: 321 315 5319 Date: 11/01/2022

Applicant/Owner's Signature: [Signature]

Print Name: ANJAN VIPLAV

STATE OF FLORIDA
COUNTY OF COLUMBIA

The Foregoing instrument was acknowledged before me this 1ST day of NOVEMBER, 20 22, by _____, whom is personally known by me ☒ OR produced identification ☐.
Type of Identification Produced DRIVING LICENSE.

[Signature]
(Notary Signature)

(SEAL)



Columbia County Tax Collector

generated on 12/7/2022 4:15:22 PM EST

Tax Record

Last Update: 12/7/2022 4:14:51 PM EST



Ad Valorem Taxes and Non-Ad Valorem Assessments

The information contained herein does not constitute a title search and should not be relied on as such.

Account Number		Tax Type		Tax Year	
R08045-000		REAL ESTATE		2022	
Mailing Address		Property Address			
TENNIS FOREVER LIMITED LIABILITY COMPANY PO BOX 219 LAKE CITY FL 32056		2183 LAKE CITY			
		GEO Number			
		064S17-08045-000			
Exempt Amount		Taxable Value			
See Below		See Below			
Exemption Detail		Millage Code		Escrow Code	
NO EXEMPTIONS		001			
Legal Description (click for full description).					
06-4S-17 9900/000022.05 Acres COMM SE COR OF SEC, W 1381.02 FT, N 30.18 FT TO N R/W OF BROWN LN (NKA BASCOM NORRIS DR) & POB, W ALONG N R/W 1313.19 FT, W STILL ALONG N R/W 247.07 FT, N 612.96 FT, E 1580.93 FT, S 615.20 FT TO POB. 682-439, 712-700, 948-436, WD 1412-710, WD 1412-728, WD 1471-1278,					
Ad Valorem Taxes					
Taxing Authority	Rate	Assessed Value	Exemption Amount	Taxable Value	Taxes Levied
CITY OF LAKE CITY	4.9000	496,125	0	\$496,125	\$2,431.01
BOARD OF COUNTY COMMISSIONERS	7.8150	496,125	0	\$496,125	\$3,877.22
COLUMBIA COUNTY SCHOOL BOARD					
DISCRETIONARY	0.7480	496,125	0	\$496,125	\$371.10
LOCAL	3.2990	496,125	0	\$496,125	\$1,636.72
CAPITAL OUTLAY	1.5000	496,125	0	\$496,125	\$744.19
SUWANNEE RIVER WATER MGT DIST	0.3368	496,125	0	\$496,125	\$167.09
LAKE SHORE HOSPITAL AUTHORITY	0.0001	496,125	0	\$496,125	\$0.05
Total Millage		18.5989	Total Taxes	\$9,227.38	
Non-Ad Valorem Assessments					
Code	Levying Authority	Amount			
XLCP	CITY FIRE ASSESSMENT	\$50.40			
		Total Assessments		\$50.40	
Taxes & Assessments				\$9,277.78	
		If Paid By		Amount Due	
		11/30/2022		\$8,906.67	
		12/31/2022		\$8,999.45	
		1/31/2023		\$9,092.22	
		2/28/2023		\$9,185.00	
		3/31/2023		\$9,277.78	

Prior Years Payment History

Prior Year Taxes Due	
NO DELINQUENT TAXES	

[Click Here To Pay Now](#)

Project Summary

Project Name: Tennis Forever

Project Number: CPA23-02 and Z23-02

Parcel Number: 08045-000

Project Notes

- Project type: Comp Plan Amendment and Re-zoning
- Future land use is: Residential-moderate
- Proposed future land use is: Residential-High
- Zoning designation is: Residential Single Family-2
- Proposed zoning is: Residential Multi-family-1
- Proposed use of the property: Multi-family Housing
- Land is conducive for use: Yes, per the LDR section 4.9.2.3. The parcel is not contiguous with other parcels in the residential multi-family district but is in close proximity.
- See staff review for notes from directors and city staff for their comments.

Project Summary

Project CPA23-02 Z23-02 is for a re-zoning and has been reviewed by city staff. Application is sufficient for review. After review of the petition the city staff has determined that the petition is consistent with the land development regulations and the comprehensive plan.



DEPARTMENT OF GROWTH MANAGEMENT
205 North Marion Avenue
Lake City, Florida 32055
Telephone: (386) 719-5750
growthmanagement@lcfla.com

REVIEW REPORT TO PLANNING AND ZONING, BOARD OF ADJUSTMENT AND
HISTORICAL COMMITTEES' BY STAFF
FOR SITE PLAN REVIEW, SPECIAL EXCEPTIONS, VARIANCES, COMPREHENSIVE
PLAN AMENDMENTS/ ZONING AND CERTIFICATE OF APPROPRIATENESS

Date: 12/8/22

Request Type: Site Plan Review (SPR) ☐ Special Exception (SE) ☐ Variances (V) ☐

Comprehensive Plan Amendment/Zoning (CPA/Z) ☒ Certificate of Appropriateness (COA) ☐

Project Number: CPA22-09 and Z22-07

Project Name: Tennis Forever

Project Address: 2189 SW Bascom Norris Dr

Project Parcel Number: 06-4S-17-08045-000

Owner Name: Tennis Forever LLC

Owner Address: PO Box 219 Lake City, FL 32056

Owner Contact Information: telephone number 321-315-5319 e-mail anjanviplav@lcloud.com

Owner Agent Name: Carol Chadwick

Owner Agent Address: 1208 SW Fairfax Glen Lake City, FL 32025

Owner Agent Contact Information: telephone 307-680-1772 e-mail ccpewyo@gmail.com

The City of Lake City staff has reviewed the application and documents provided for the above request and have determined the following:

Growth Management – Building Department, Planning and Zoning, Code Enforcement, Permitting

Building Department: Approved ☐ Disapproved ☐ Reviewed by: _____

Comments: _____

Planning and Zoning: Approve ☒ Disapprove ☐ Reviewed by: Robert Angelo

Comments: Property is not contiguous with residential multi-family district but
Property is not contiguous with residential multi-family district but
is in close proximity see attached zoning map.

Business License: Approve ☒ Disapprove ☐ Reviewed by: Marshall Sova

Comments: Will need to apply for a business license

Code Enforcement: Approve ☒ Disapprove ☐ Reviewed by: Marshall Sova

Comments: No issues

Permitting: Approve ☒ Disapprove ☐ Reviewed by: Ann Jones

Comments: _____

Permitting with county if value base is over \$4000

Utilities – Water, Sewer, Gas, Water Distribution/Collections, Customer Service

Water Department: Approved ☒ Disapproved ☐ Reviewed by: Mike Osborn

Comments: No commits at this time.

Sewer Department: Approved ☒ Disapproved ☐ Reviewed by: Cody Pridgeon

Comments: No commits at this time.

Gas Department: Approved ☒ Disapproved ☐ Reviewed by: Steve Brown

Comments: _____

Water Distribution/Collection: Approved ☒ Disapproved ☐ Reviewed by: Brian Scott

Comments: No commits at this time.

Customer Service: Approved ☒ Disapproved ☐ Reviewed by: Shasta Pelham

Comments: No commits at this time.

Public Safety – Public Works, Fire Department, Police Department

Public Works: Approved ☒ Disapproved ☐ Reviewed by: Steve Brown

Comments: _____

Fire Department: Approve ☒ Disapprove ☐ Reviewed by: Dwight Boozer

Comments: No Concerns at this time.

Police Department: Approve ☒ Disapprove ☐ Reviewed by: Chief Butler

Comments: PD has no concerns

Please provide separate pages for comments that will not fit in provided spaces and please label the pages for your department and for the project.

Tennis Forever

Zoning Map



1

Tennis Forever- Parcel 08045-000
Current Zoning- RSF-2
Proposed Zoning- RMF-1
Current FLU- Residential Moderate (4
Dwelling Units per acre)
Proposed FLU- Residential Medium (8
Dwelling Units per acre)

2

RMF-1 Zoning district

3

RMF-1 Zoning district

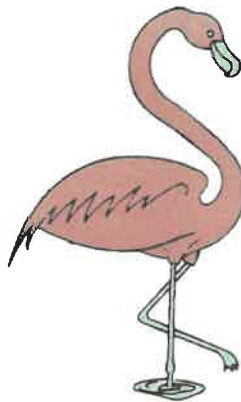
4

RMF-2 Zoning District

TENNIS FOREVER DEVELOPMENT TRAFFIC STUDY

COLUMBIA COUNTY, FLORIDA

January 2023



BUCKHOLZ TRAFFIC



BUCKHOLZ TRAFFIC
3585 KORI ROAD
JACKSONVILLE, FLORIDA 32257
(904) 886-2171 jwbuckholz@aol.com

January 26, 2023

Mr. Anjan Viplav
1361 SW Sisters Welcome Road
Lake City, Florida 32025

Re: Tennis Forever Traffic Study

Dear Mr. Viplav:

Attached is the completed traffic study. If there are any questions or comments regarding this study, please contact me.

Sincerely,

 Digitally signed by Jeffrey W. Buckholz
DN: cn=Jeffrey W. Buckholz, o=BUCKHOLZ TRAFFIC ENGINEERING, ou, email=jwbuckholz@aol.com, c=US
Date: 2023.01.26 12:38:53 -05'00'

Jeffrey W. Buckholz, P.E., PTOE
Principal

This item has been digitally signed and sealed by Jeffrey W. Buckholz, P.E. on 1/26/23. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

INTRODUCTION

This proposed development will contain 60 multi-family residential units and a six-court tennis facility. The development will be located on the north side of SW Bascom Norris Drive between SW McFarland Avenue and SW Tomoka Terrace approximately 1/4 mile west of SR 47 in Lake City, Florida. Access to the residential development will be provided via two full access connections to SW Bascom Norris Drive and access to the tennis facility will be provided via one full access connection on SW Bascom Norris Drive opposite SW Tomoka Terrace.

SW Bascom Norris Drive is a two lane undivided urban major collector with a posted speed limit of 45 mph. SW McFarlane Avenue is a two lane undivided urban major collector with a posted speed limit of 35 mph. SR 47 is a four lane divided urban minor arterial with a posted speed limit of 45mph and SW Tomoka Terrace is a two lane undivided local road with no posted speed limit.

Figure 1 shows the site location and surrounding road network while Appendix A contains the proposed site plan. The development is expected to be complete and fully occupied by the end of 2026. Consequently, 2026 was chosen as the design year for this study.

EXISTING TRAFFIC VOLUMES

Weekday peak period manual turning movement counts were conducted by Buckholz Traffic personnel at the SR 47/SW Bascom Norris Drive intersection, at the SW Bascom Norris Drive/SW McFarland Avenue intersection and at the SW Bascom Norris Drive/SW Tomoka Terrace intersection. These counts, which are provided in Appendix B, were conducted during the weekday AM peak period (6:30-8:30 AM) and the weekday PM peak period (3:45 – 5:45 PM). The data was recorded at 15-minute intervals and includes a separate tabulation for trucks and pedestrians. Figures 2 and 3 graphically summarize the AM and PM peak hour and peak period counts.

Appendix C provides daily traffic volumes from three nearby FDOT traffic count stations. The existing average daily traffic on SW Bascom Norris Drive in the vicinity of the site is about 6400 vehicles per day.

TRIP GENERATION

Trip generation calculations were carried out using the 11th edition of ITE's Trip Generation Manual and referencing land use codes 220 (Multi-Family Low Rise Housing) and 490 (Tennis Courts). Tables 1 and 2 contain the daily, AM peak hour, and PM peak hour trip generation calculations. During an average weekday the development is expected to generate 642 trips (321 entering and 321 exiting) with 67 trips (23 entering and 44 exiting) occurring during the AM peak hour and 72 trips (42 entering and 30 exiting) occurring during the PM peak hour. All of these trips will be new trips.

SITE TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

Weekday AM and PM peak hour site trips for the condos and the tennis facility were directionally distributed based on peak period turning movement counts and engineering judgment as shown in Figures 4 and 5. The results were added together to obtain the weekday peak hour site traffic assignments provided in Figure 6.

FUTURE TRAFFIC VOLUMES

The expected weekday 2026 peak hour background (No Build) traffic volumes and total (Build) traffic volumes at intersections of interest are graphically depicted in Figures 7 through 10. The No Build traffic volumes were obtained by multiplying the existing traffic volumes by a seasonal adjustment factor and then by a 1.1% annual growth rate. A linear regression analysis of FDOT daily traffic counts in the area (see graph C-1 in Appendix C) indicates that daily traffic volumes have been increasing at a median annual rate of 1.1% over recent years. The 2026 Build traffic volumes were then obtained by adding the traffic generated by the new development to the 2026 No Build traffic volumes.

TURN LANE EVALUATION

A formal analysis was made to determine if a right turn lane is warranted on westbound SW Bascom Norris Drive at any of the three site drives or at SW McFarlane Avenue. The methodology contained in NCHRP Report 279 was used to conduct this analysis. As is indicated in Figures 11 through 14, right turn volumes under expected 2026 Build conditions will not be high enough to warrant an exclusive right turn lane at any of the three site drives. However, right turn volumes are currently high enough at SW McFarlane Avenue to warrant an exclusive right turn lane. These results are supported by NCHRP Report 420 which requires 80 right turns per hour to warrant a right turn lane on a 2-lane roadway with a posted speed of 45 mph or less.

Using the 2026 Build traffic volumes a formal analysis was also made to determine if a left turn lane is warranted on SW Bascom Norris Drive at any of the three site drives, at SW Tomoka Terrace, or at SW McFarlane Avenue. The methodology contained in a paper written by M.D. Harmelink entitled: "Volume Warrants for Left Turn Storage Lanes at Unsignalized Grade Intersections" was used to conduct this evaluation. Applying engineering judgment, a minimum of 10 peak hour left turns from SW Bascom Norris Drive is also used in the turn lane evaluation which eliminates the condo site drive intersections from consideration. The results for the SW Bascom Norris Drive/SW Tomoka Terrace/Tennis Driveway intersection and the SW Bascom Norris Drive/SW McFarlane Avenue intersection indicate that traffic volumes on SW Bascom Norris Drive will be high enough to warrant an exclusive left turn lane at both SW McFarlane Avenue and at SW Tomoka Terrace Drive. The supporting analyses are provided in Figures 15 through 17.

UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS

The SW Bascom Norris Drive/SW McFarland Avenue intersection, the SW Bascom Norris Drive/SW Tomoka Terrace intersection, and the site drive intersections were analyzed using the two-way stop control methodology contained in the year 2023 version of the Highway Capacity Software. The supporting calculations are provided in Appendix D. Table 3 summarizes the capacity analysis results under existing conditions while Tables 4 and 5 summarize the capacity analysis results under 2026 Build conditions.

All minor movements currently operate at level of service B or better during both weekday peak hours at the SW Bascom Norris Drive/SW Tomoka Terrace intersection. Under 2026 Build conditions at the new SW Bascom Norris Drive/SW Tomoka Terrace/Tennis Driveway intersection all minor movements are expected to operate at level of service C or better during both peak hours.

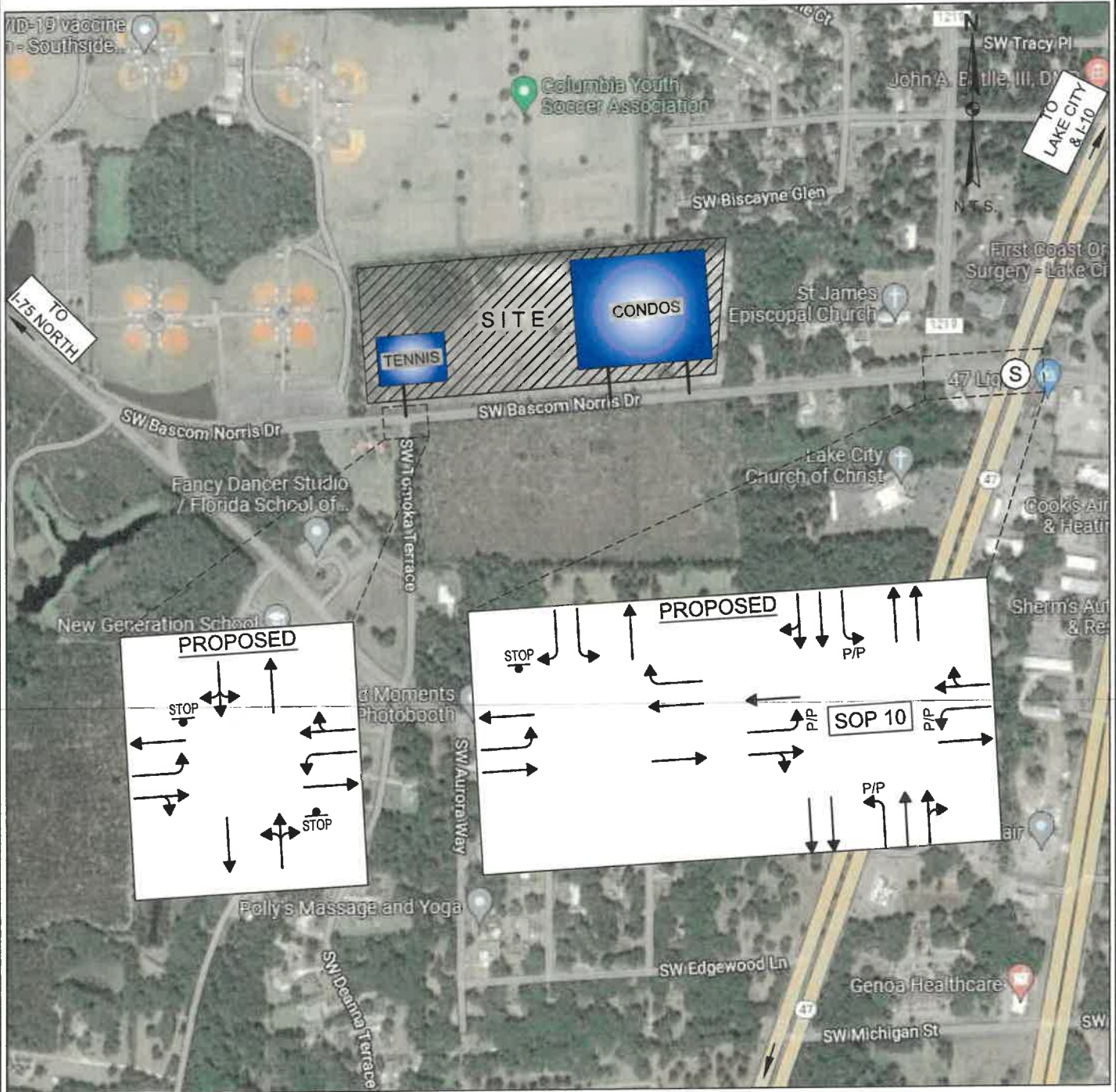
At the SW Bascom Norris Drive/SW McFarlane Avenue intersection all minor movements currently operate at level of service C or better during the weekday PM peak hour and level of service D or better during the weekday AM peak hour with minimal queuing and a volume-to-capacity ratio well below one. Under 2026 Build conditions all minor movements are expected to operate at level of service D or better during the weekday PM peak hour and level of service E or better during the weekday AM peak hour – still with minimal queuing and a volume-to-capacity ratio well below one.

All minor movements at the SW Bascom Norris Drive/East Condo Driveway intersection are expected to operate at level of service C or better during both peak hours under 2026 Build conditions with minimal queuing and a volume-to-capacity ratio well below one. The same is true for the SW Bascom Norris Drive/West Condo Driveway intersection.

SIGNALIZED INTERSECTION CAPACITY ANALYSIS

The SR 47/Bascom Norris Drive intersection was analyzed using the signalized intersection operational methodology contained in the year 2023 version of the Highway Capacity Software. The intersection capacity results for both 2023 existing conditions and 2026 Build conditions are summarized in Table 6 while Appendix E provides the supporting capacity analysis calculations. The existing signal timings for this intersection are provided in Appendix F. The intersection currently operates at level of service C during both weekday peak hours and is expected to continue to operate at level of service C during both peak hours under 2026 Build conditions. All volume-to-capacity ratios and queue storage ratios are under one for both existing and 2026 Build conditions.

Given the close proximity of SW McFarlane Avenue to SR 47, consideration should be given to decreasing the maximum green time for the main street movements and increasing the maximum green time for the side street movements at this traffic signal.



TO I-75
SOUTH

P/P = PROTECTED/PEMISSIVE

Ⓢ = TRAFFIC SIGNAL

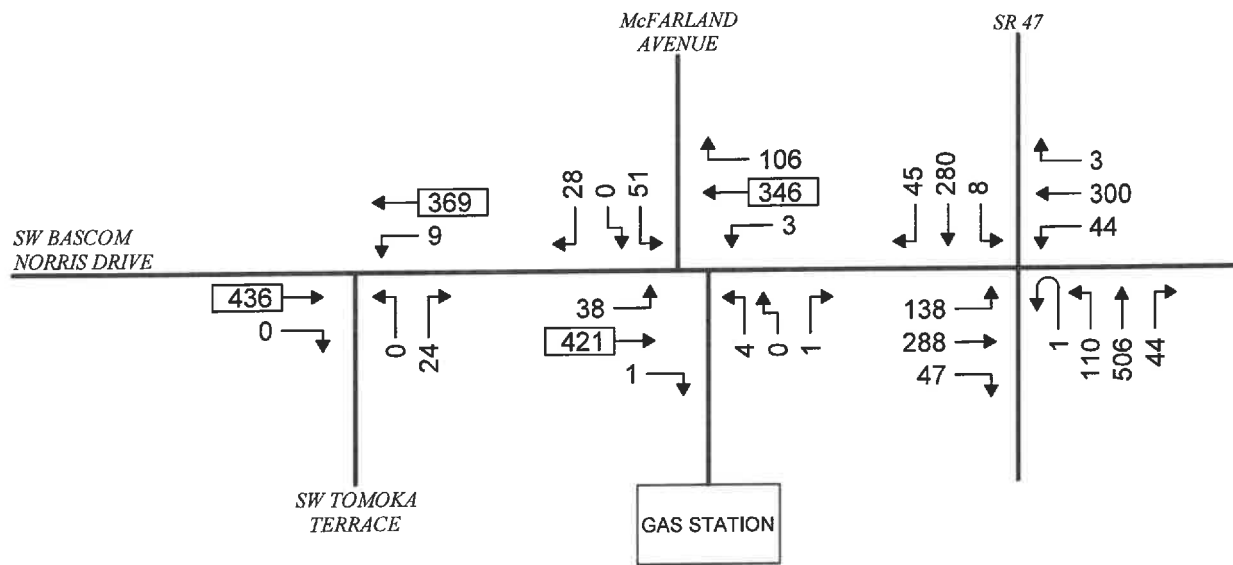
Buckholz Traffic

FIGURE 1

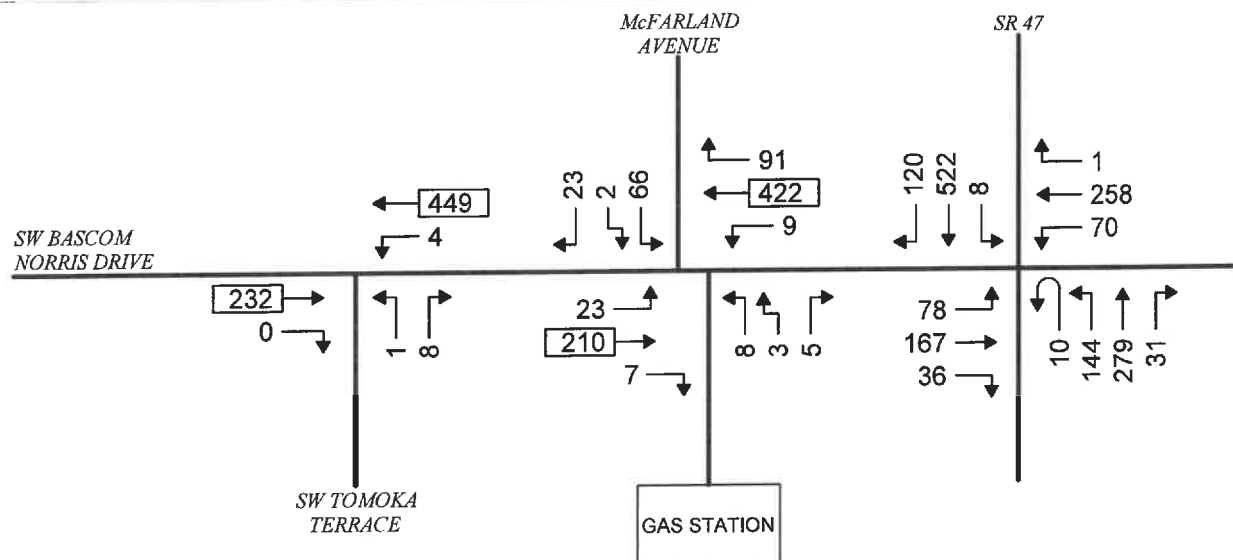
SITE LOCATION



7:15-8:15 AM



4:30-5:30 PM



XXX = CALCULATED VALUE

Buckholz Traffic

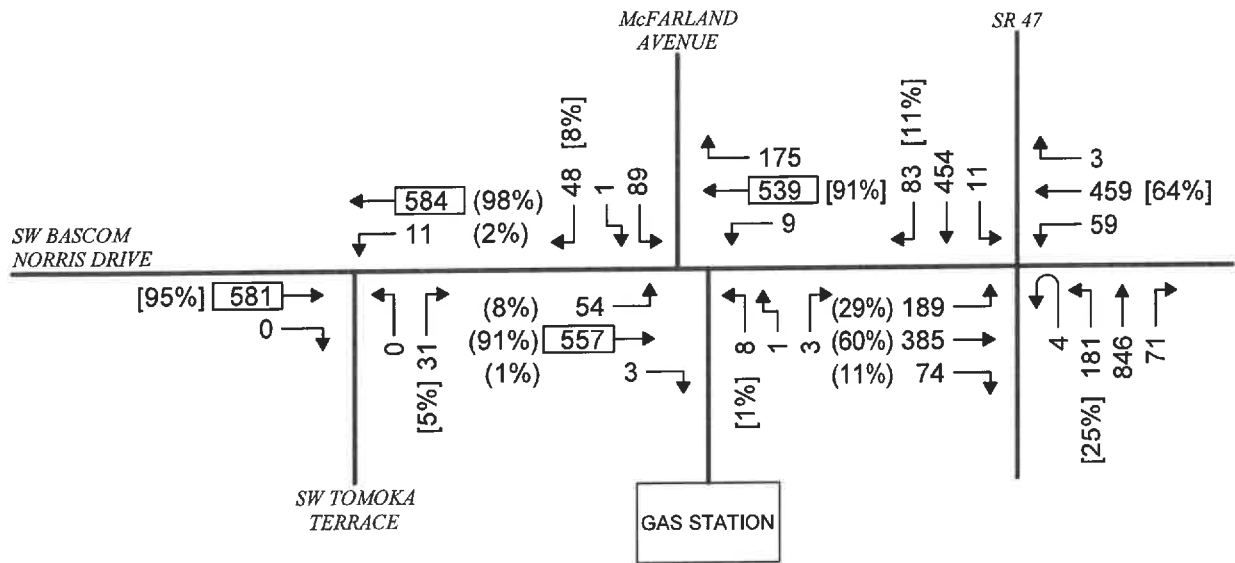
FIGURE 2

TRAFFIC
COUNTS

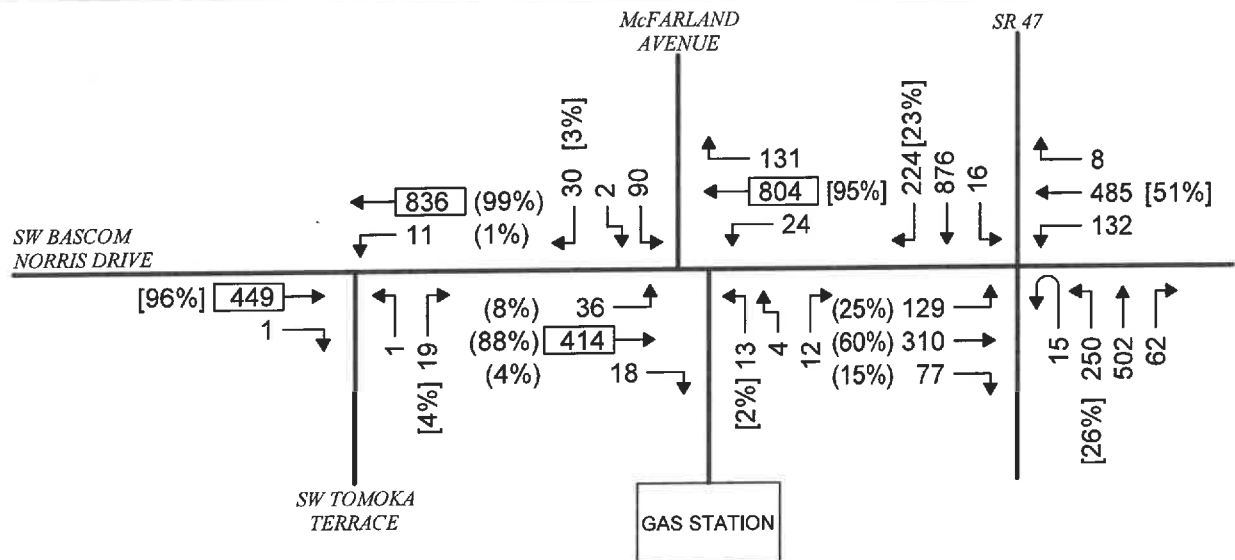
WEEKDAY PEAK HOURS



6:30-8:30 AM



3:45-5:45 PM



[XXX] = CALCULATED VALUE
 [XX%] = ENTERING SITE TRAFFIC DIRECTIONAL SPLIT
 (YY%) = EXITING SITE TRAFFIC DIRECTIONAL SPLIT

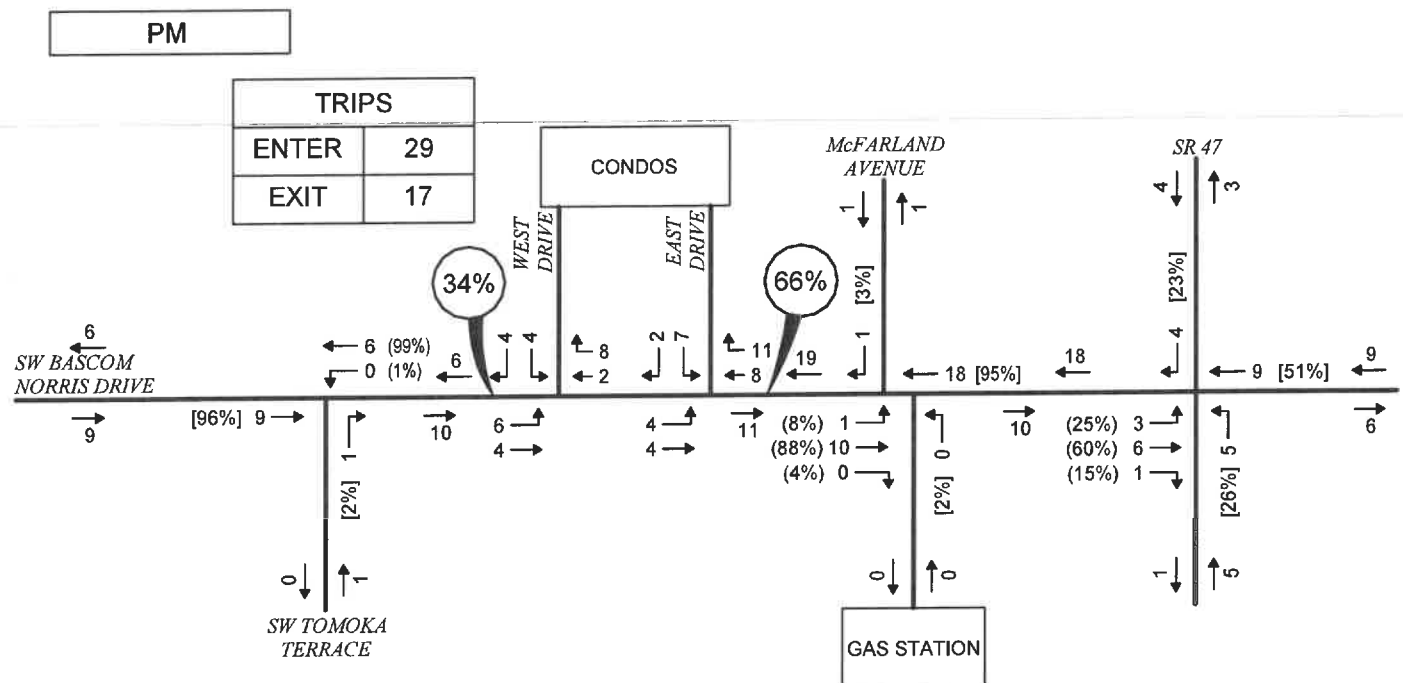
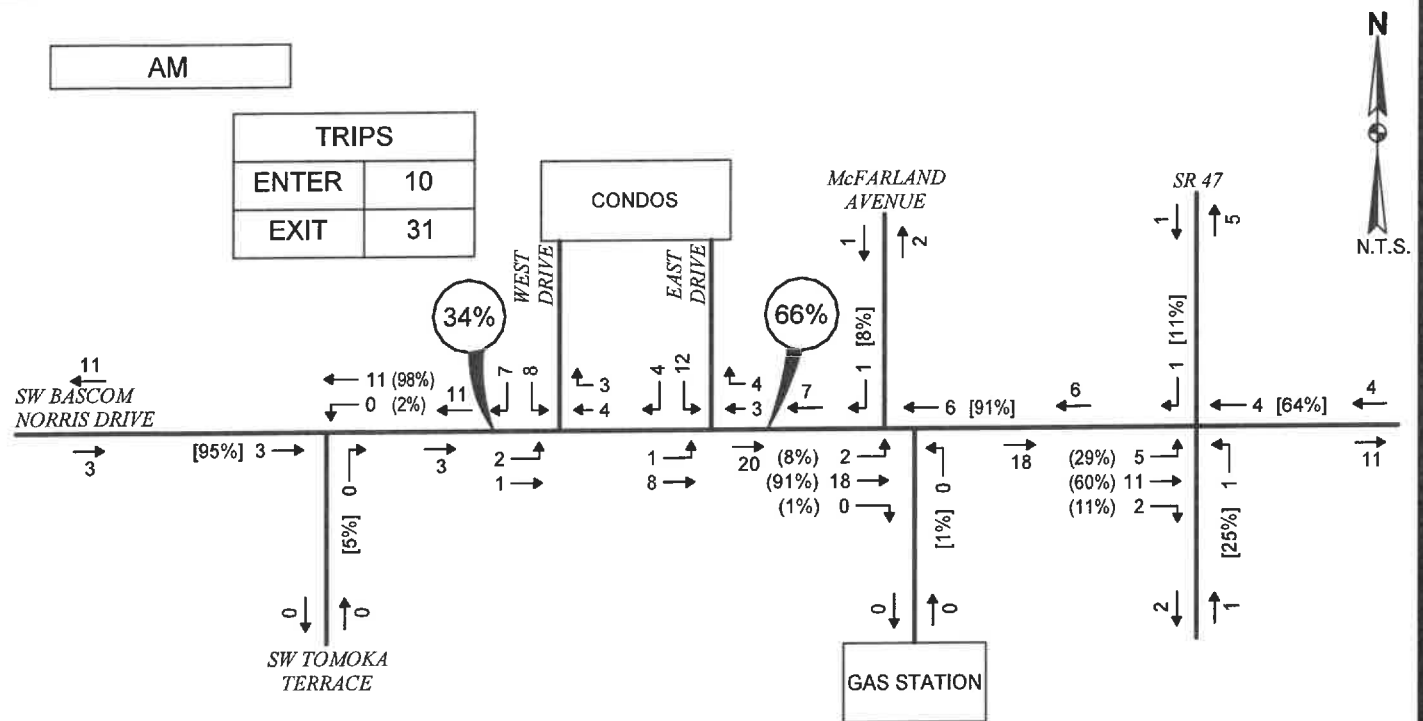
Buckholz Traffic

FIGURE 3

TRAFFIC COUNTS

WEEKDAY PEAK PERIODS

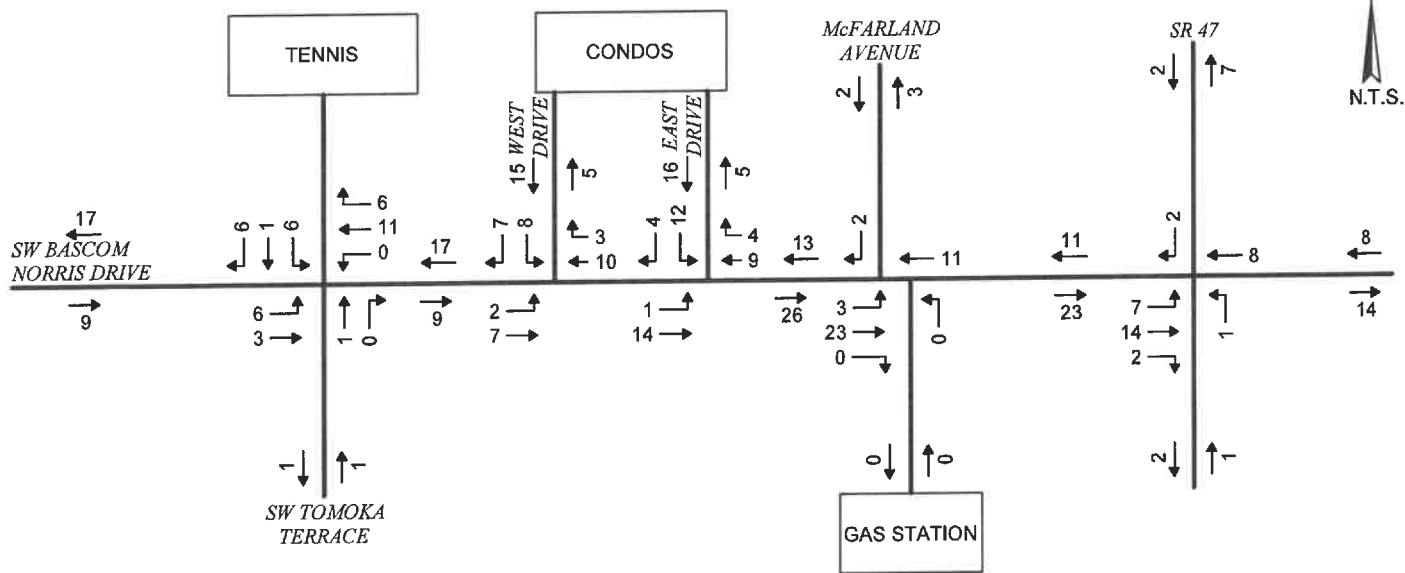




Buckholz Traffic

WEEKDAY PEAK HOURS

AM



PM

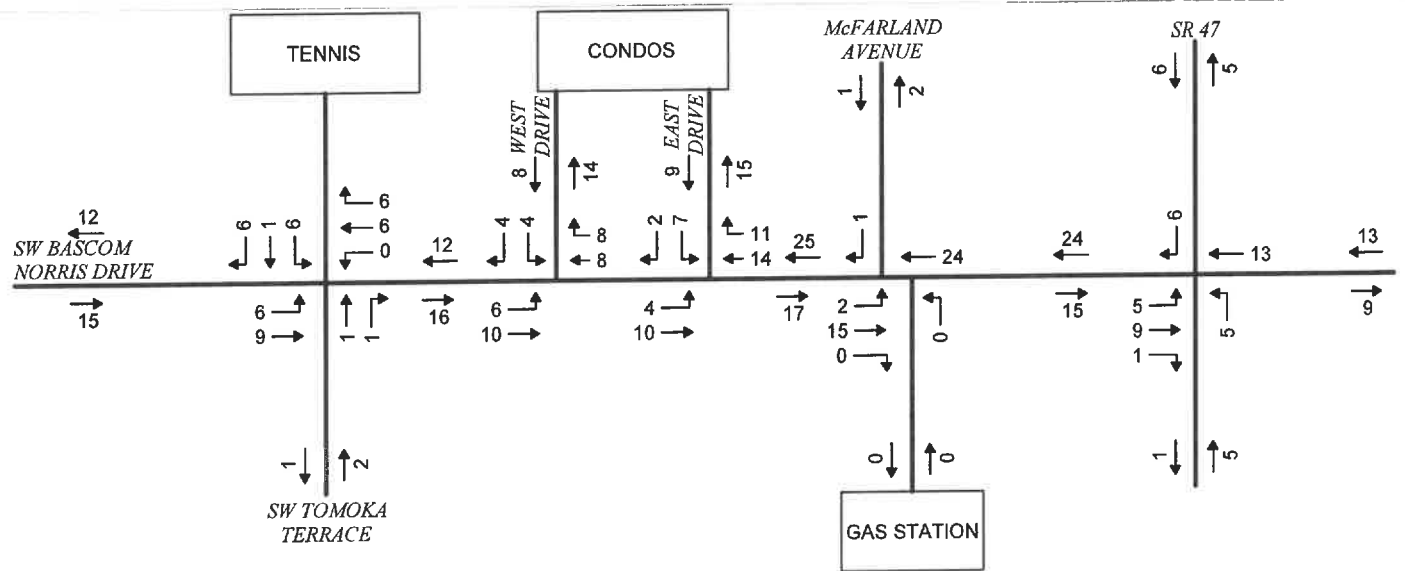


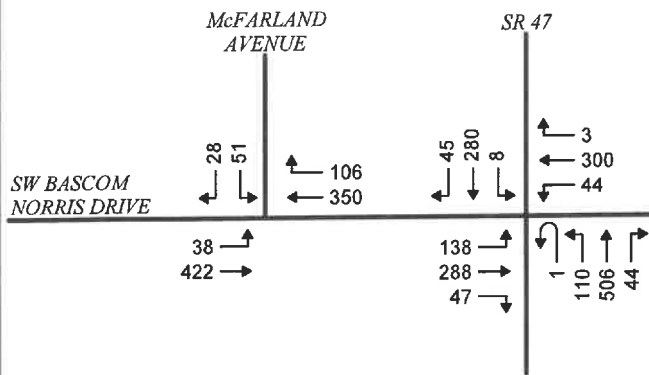
FIGURE 6

SITE TRAFFIC
ASSIGNMENT

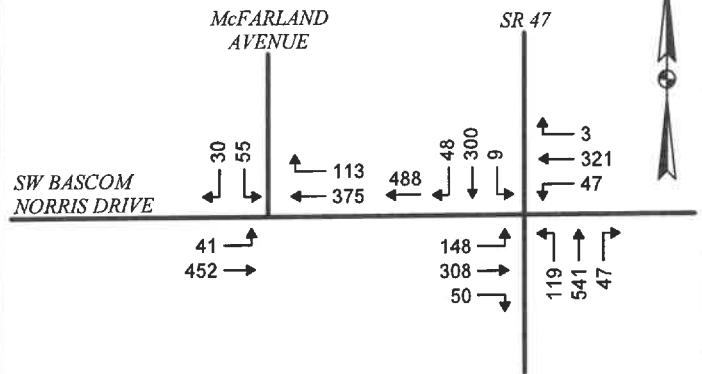
WEEKDAY PEAK HOURS



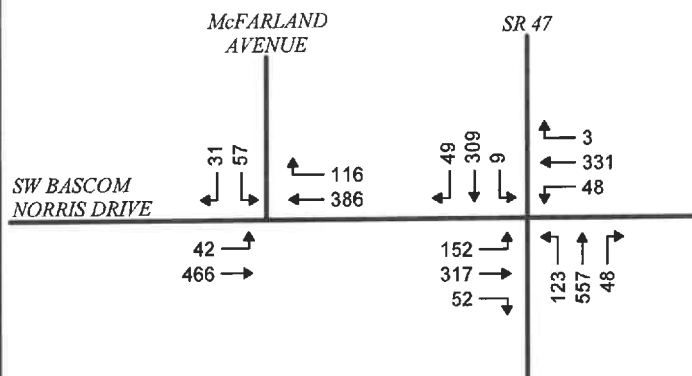
Buckholz Traffic



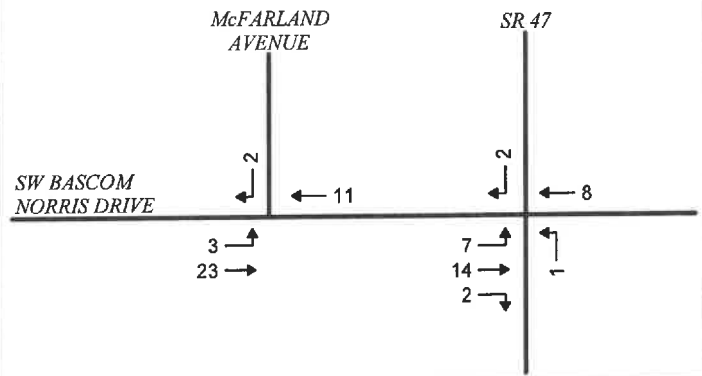
EXISTING TRAFFIC
01/12/23
7:15-8:15 AM



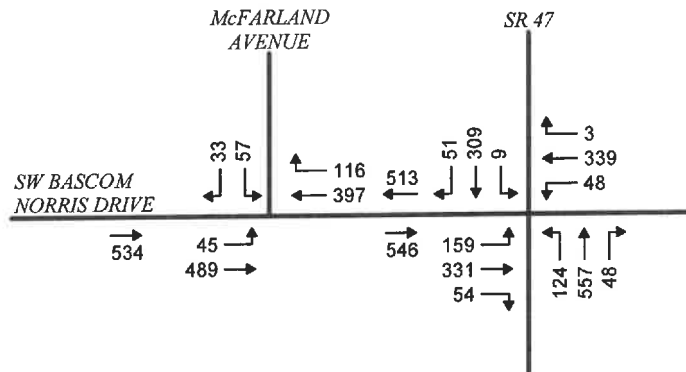
2023 SEASONALLY ADJUSTED TRAFFIC
FDOT SEASONAL CORRECTION FACTOR = 1.07



2026 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 1.1% (GF=1.03)



SITE TRAFFIC



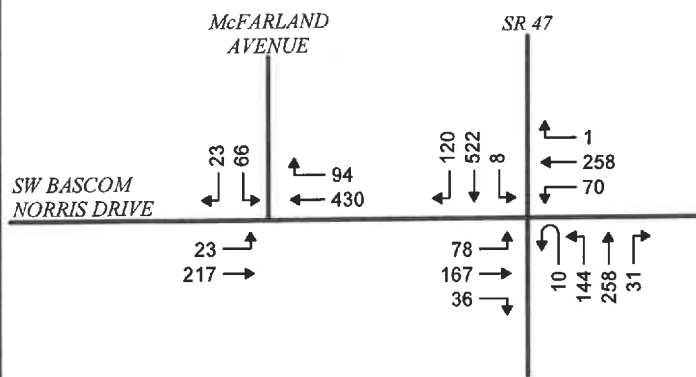
2026 BUILD TRAFFIC

FIGURE 7

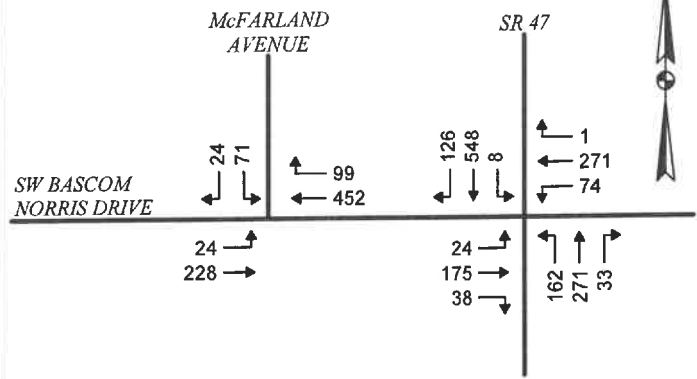
2026 BUILD TRAFFIC
SR 47 / SW BASCOM NORRIS DR.

WEEKDAY AM PEAK HOUR

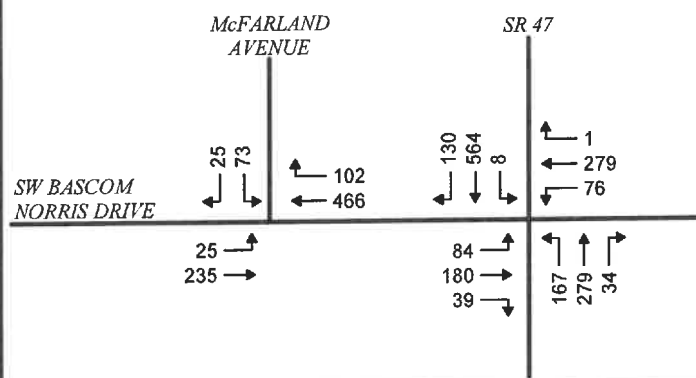




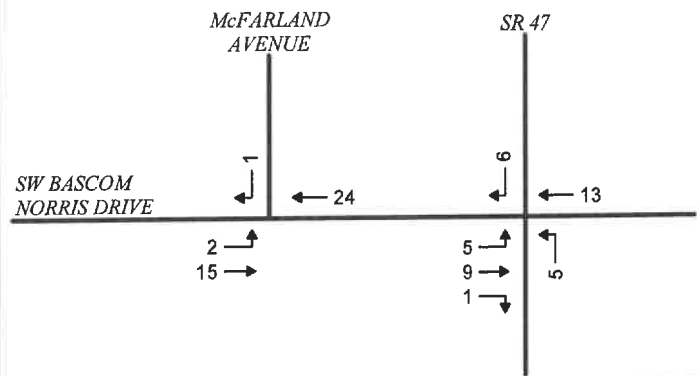
EXISTING TRAFFIC
01/09/23
4:30-5:30 PM



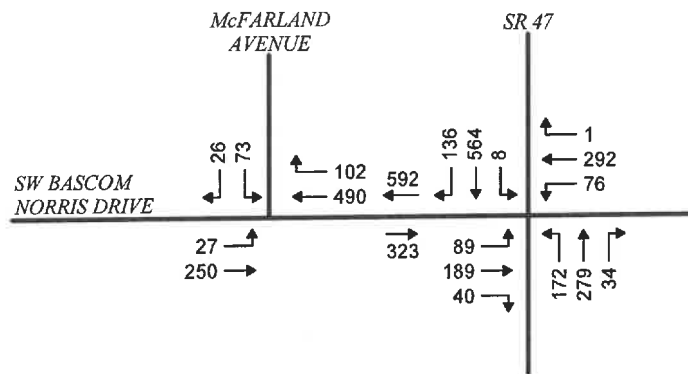
2023 SEASONALLY ADJUSTED TRAFFIC
FDOT SEASONAL CORRECTION FACTOR = 1.05



2026 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 1.1% (GF=1.03)



SITE TRAFFIC



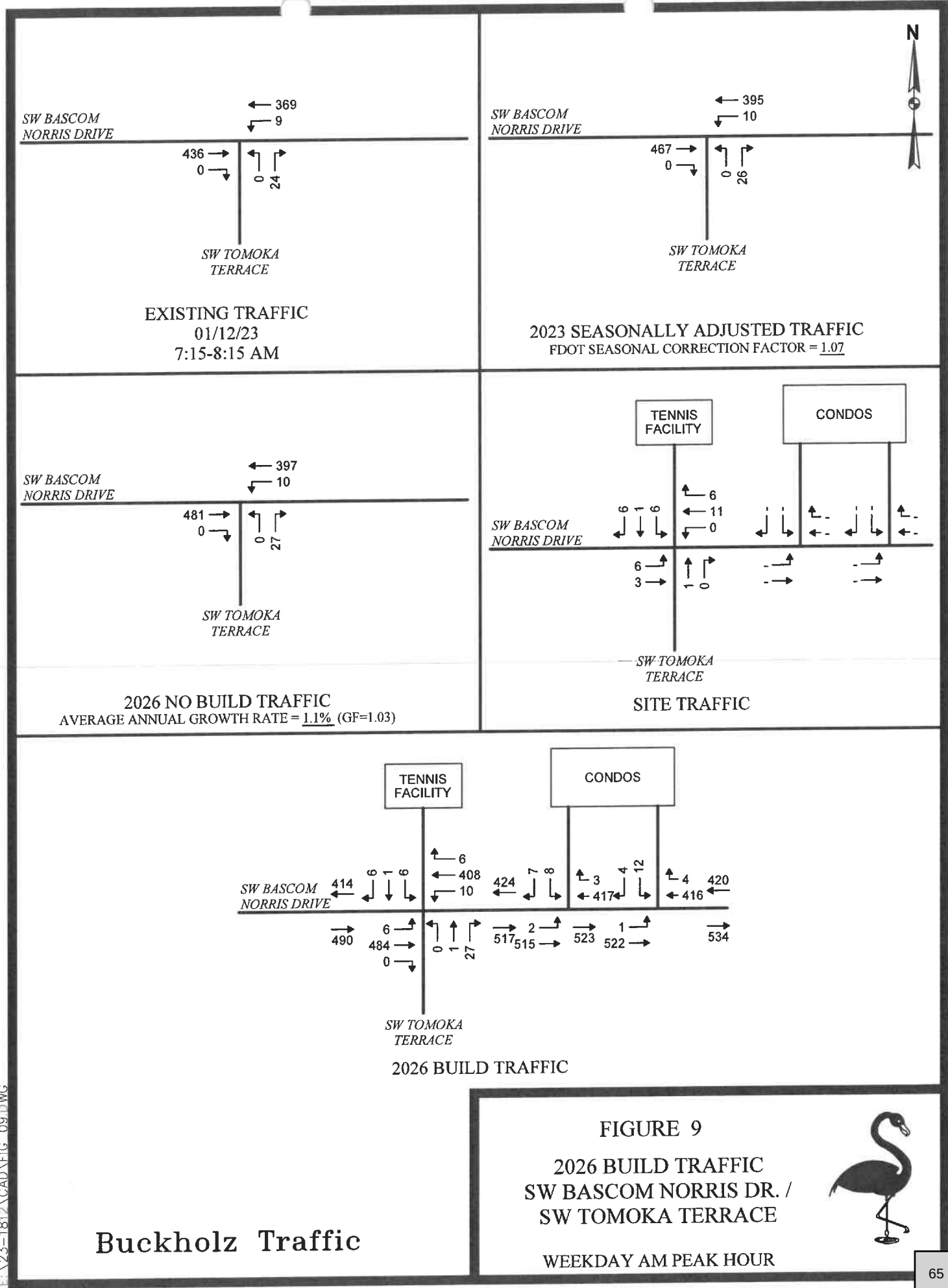
2026 BUILD TRAFFIC

FIGURE 8

2026 BUILD TRAFFIC
SR 47 / SW BASCOM NORRIS DR.

WEEKDAY PM PEAK HOUR







232 →
0 →

← 449
↓ 4

SW TOMOKA
TERRACE

EXISTING TRAFFIC
01/09/23
4:30-5:30 PM



244 →
0 ↘

← 471
↓ 4

SW TOMOKA
TERRACE

2023 SEASONALLY ADJUSTED TRAFFIC
FDOT SEASONAL CORRECTION FACTOR = 1.05

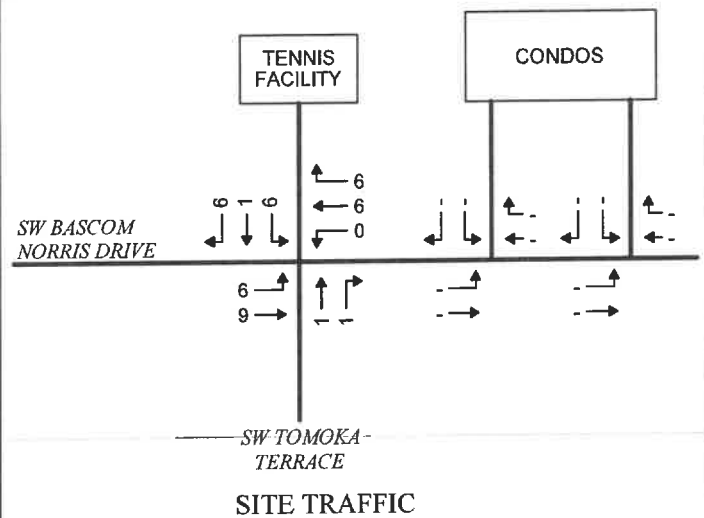


251 →
0 ↘

← 485
↓ 4

SW TOMOKA
TERRACE

2026 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 1.1% (GF=1.03)

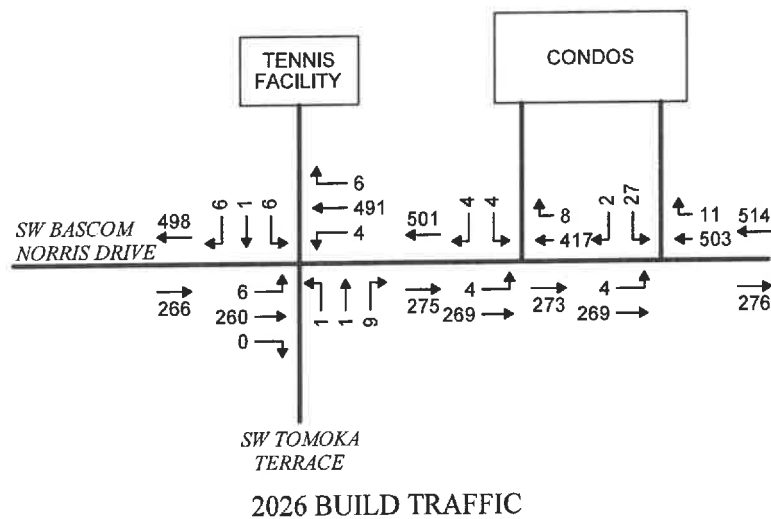


CONDOS

SW BASCOM
NORRIS DRIVE

—SW TOMOKA—
TERRACE

SITE TRAFFIC



CONDOS

SW BASCOM
NORRIS DRIVE

SW TOMOKA
TERRACE

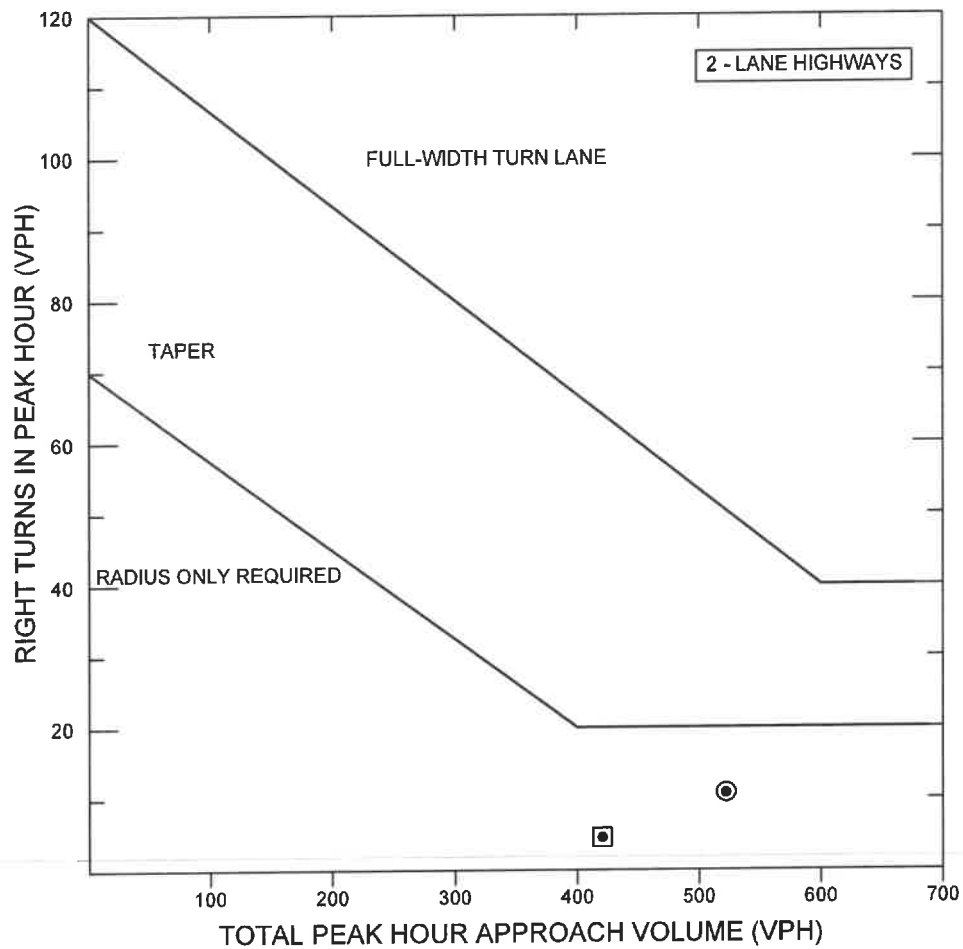
2026 BUILD TRAFFIC

FIGURE 10
2026 BUILD TRAFFIC
SW BASCOM NORRIS DR. /
SW TOMOKA TERRACE

WEEKDAY PM PEAK HOUR



WESTBOUND SW BASCOM NORRIS DRIVE @ EAST CONDO DRIVEWAY



NOMOGRAPH FOR RIGHT TURN LANES

SOURCE: TRANSPORTATION RESEARCH BOARD NCHRP REPORT #279

▣ AM PEAK HOUR

⊙ PM PEAK HOUR

V_A	420
V_R	4

V_A	514
V_R	11

NCHRP 420	
2 LANE	≤ 45 MPH

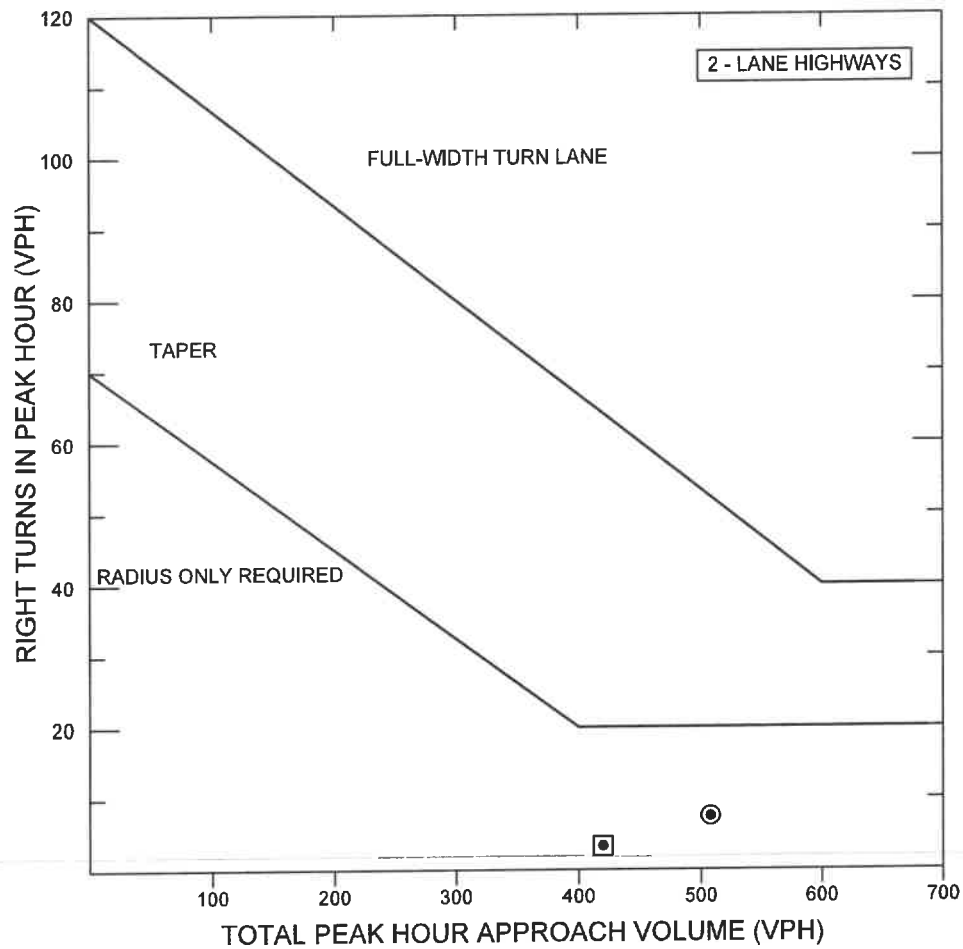
4 & 11 < 80 REQUIRED

FIGURE 11

RIGHT TURN
LANE ANALYSIS



WESTBOUND SW BASCOM NORRIS DRIVE @ WEST CONDO DRIVEWAY



NOMOGRAPH FOR RIGHT TURN LANES

SOURCE: TRANSPORTATION RESEARCH BOARD NCHRP REPORT #279

AM PEAK HOUR

PM PEAK HOUR

V_A	420
V_R	3

V_A	505
V_R	8

NCHRP 420	
2 LANE	≤ 45 MPH

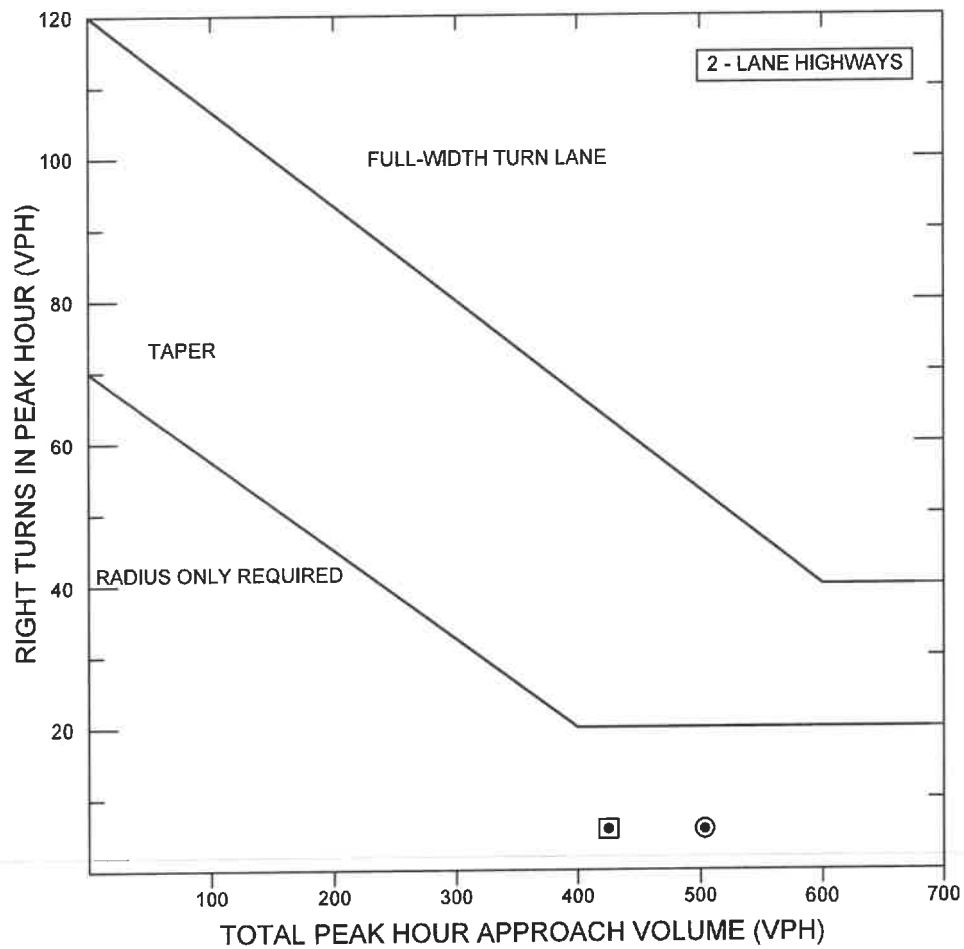
3 & 8 < 80 REQUIRED

FIGURE 12

RIGHT TURN
LANE ANALYSIS



WESTBOUND SW BASCOM NORRIS DRIVE @ TENNIS DRIVEWAY



NOMOGRAPH FOR RIGHT TURN LANES

SOURCE: TRANSPORTATION RESEARCH BOARD NCHRP REPORT #279

□ AM PEAK HOUR

⊙ PM PEAK HOUR

V_A	424
V_R	6

V_A	501
V_R	6

NCHRP 420	
2 LANE	≤ 45 MPH

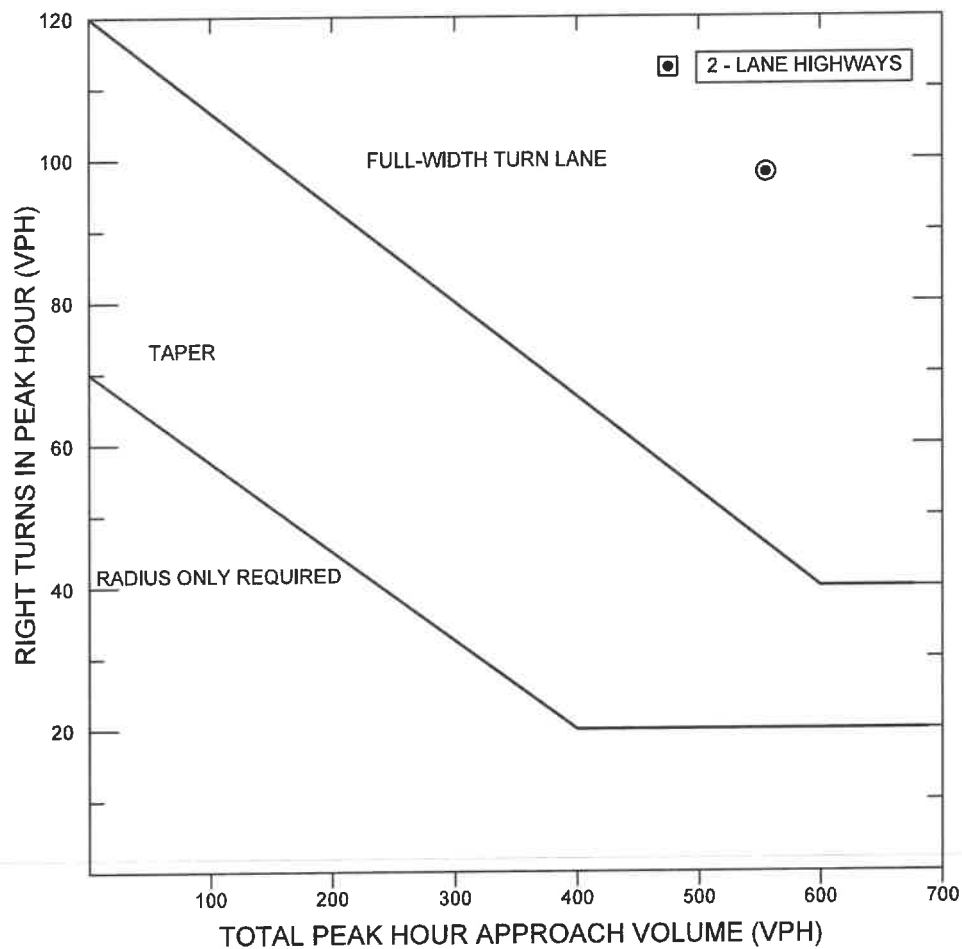
6 & 6 < 80 REQUIRED

FIGURE 13

RIGHT TURN
LANE ANALYSIS



WESTBOUND SW BASCOM NORRIS DRIVE @ SW McFARLANE AVENUE



NOMOGRAPH FOR RIGHT TURN LANES

SOURCE: TRANSPORTATION RESEARCH BOARD NCHRP REPORT #279

2023 TRAFFIC VOLUMES

☒ AM PEAK HOUR

 ☒ PM PEAK HOUR

V_A	488
V_R	113

V_A	551
V_R	99

NCHRP 420	
2 LANE	≤ 45 MPH

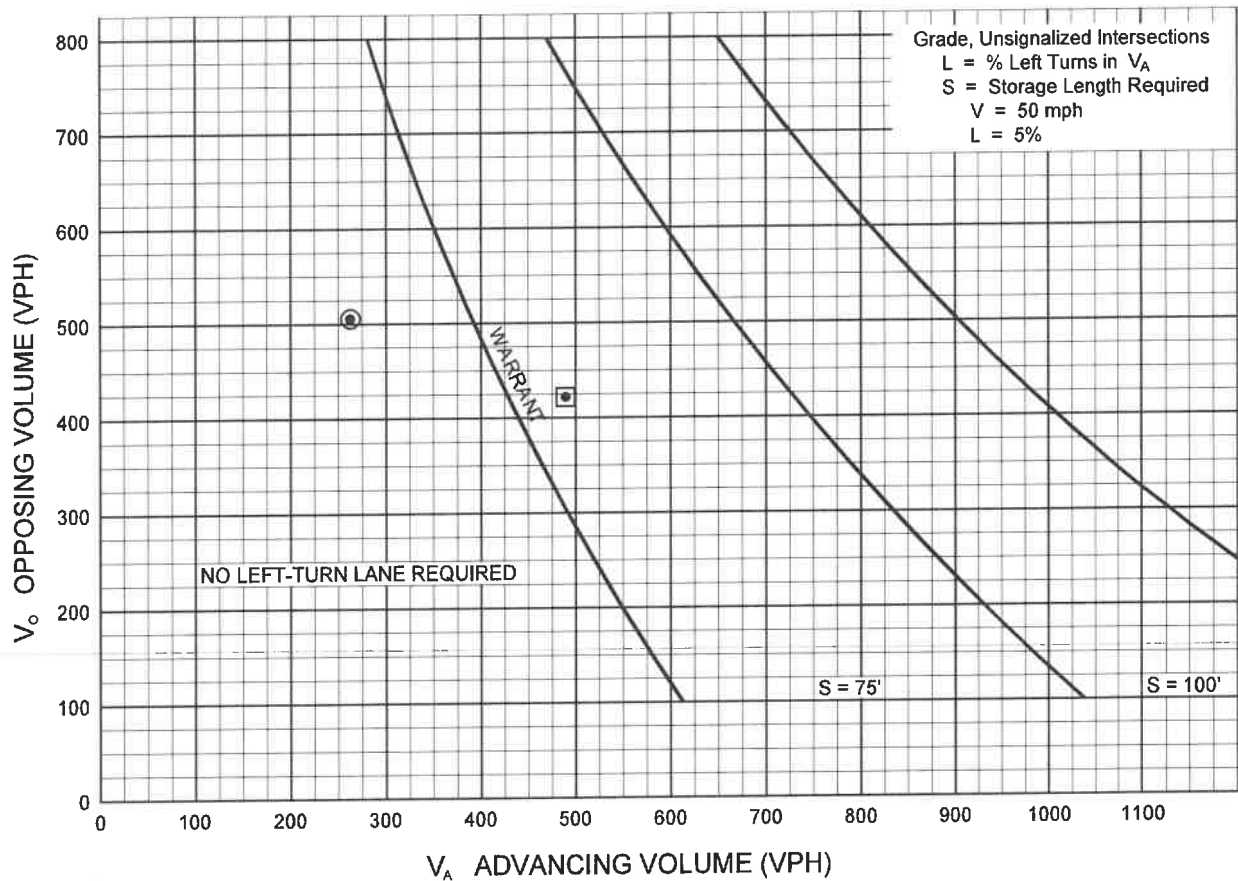
116 & 102 > 80 REQUIRED

FIGURE 14

RIGHT TURN
LANE ANALYSIS



EASTBOUND SW BASCOM NORRIS DRIVE @ TENNIS DRIVEWAY



WARRANT FOR LEFT-TURN LANES ON TWO-LANE HIGHWAYS

■ AM PEAK HOUR

$V_A = 490$
$V_O = 424$
$V_L = 6$
%LT = 1%

● PM PEAK HOUR

$V_A = 266$
$V_O = 501$
$V_L = 6$
%LT = 2%

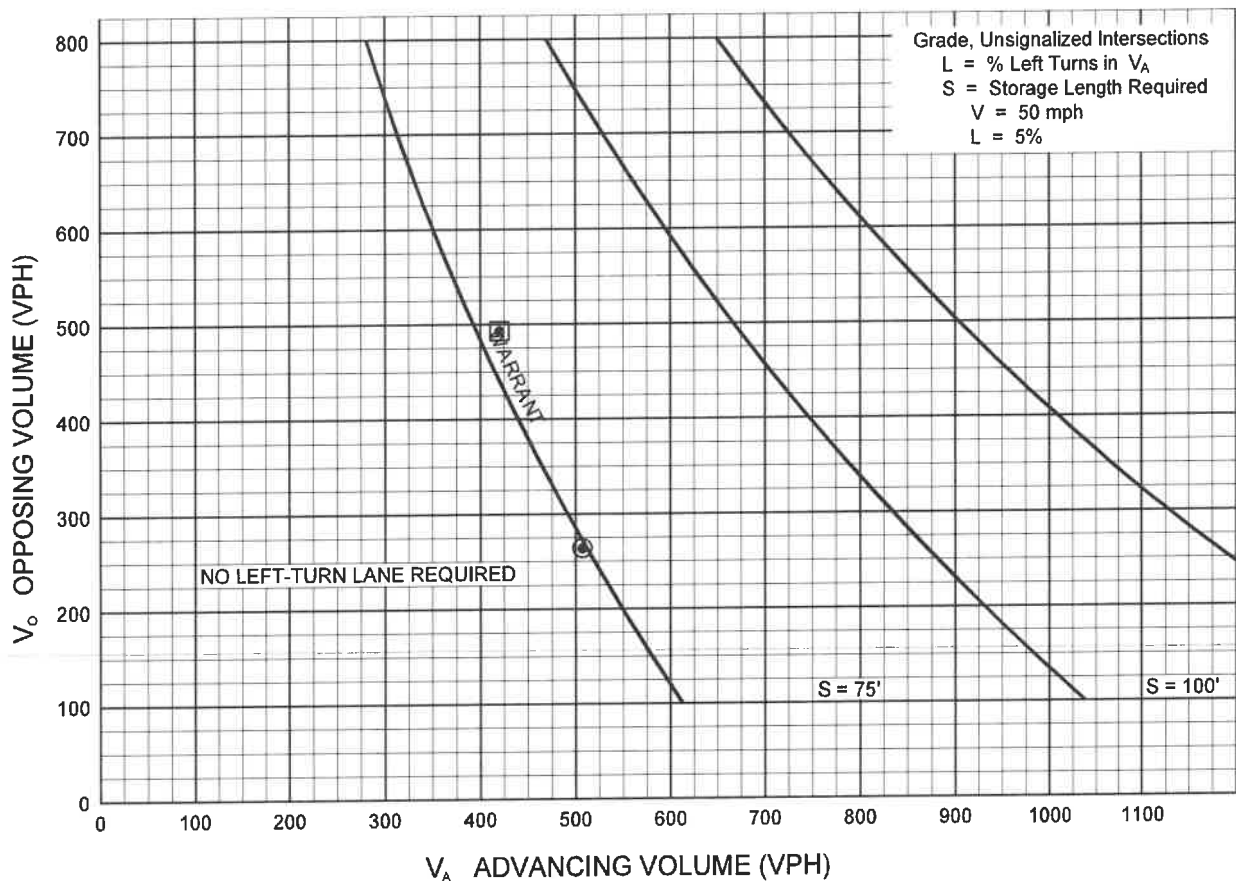
FIGURE 15

LEFT TURN
LANE ANALYSIS



SOURCE: HARMELINK

WESTBOUND SW BASCOM NORRIS DRIVE @ TOMOKA TERRACE



WARRANT FOR LEFT-TURN LANES ON TWO-LANE HIGHWAYS

AM PEAK HOUR

$V_A = 424$
$V_o = 490$
$V_L = 10$
%LT = 2%

PM PEAK HOUR

$V_A = 501$
$V_o = 266$
$V_L = 4$
%LT = 1%

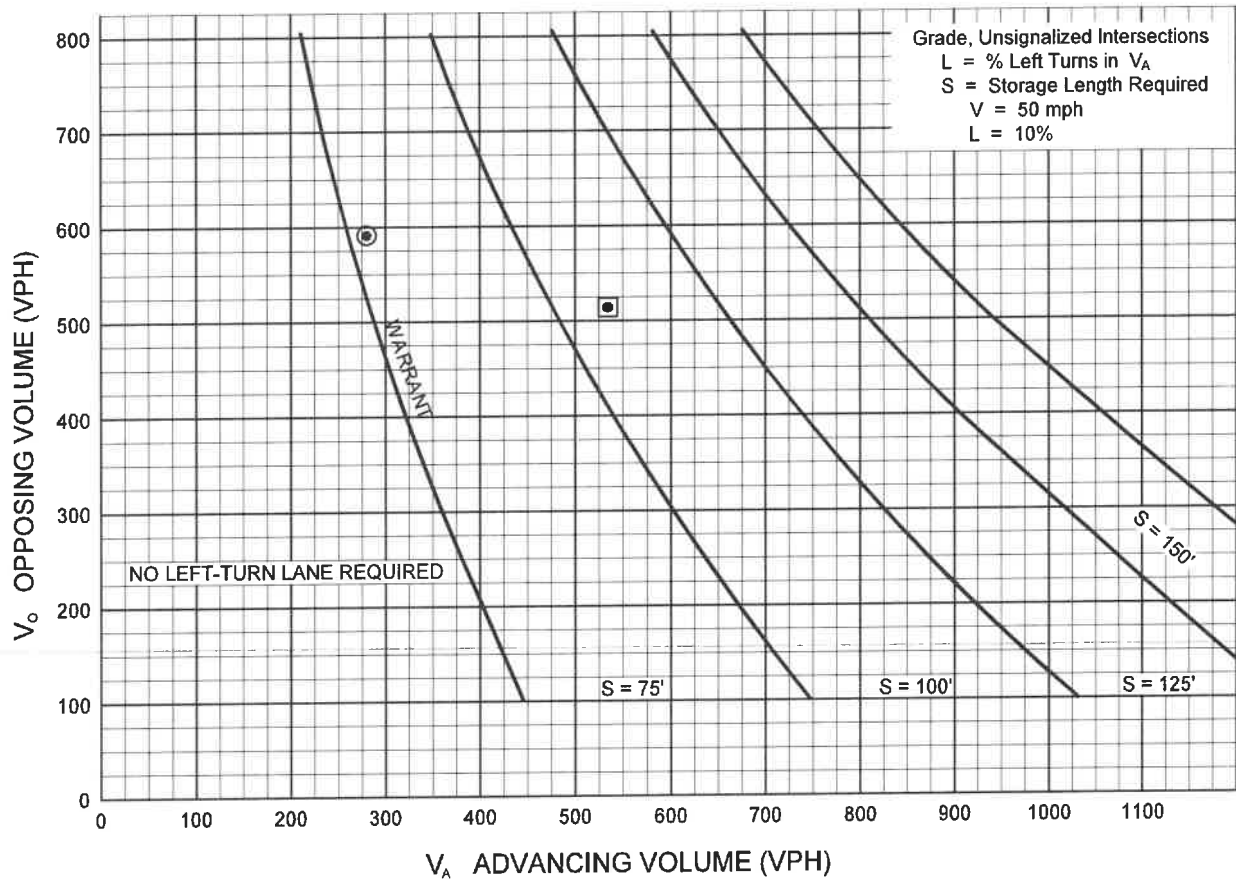
FIGURE 16

LEFT TURN
LANE ANALYSIS



SOURCE: HARMELINK

EASTBOUND SW BASCOM NORRIS DRIVE @ SW MCFARLANE AVENUE



WARRANT FOR LEFT-TURN LANES ON TWO-LANE HIGHWAYS

AM PEAK HOUR

$V_A = 534$
$V_o = 513$
$V_L = 45$
%LT = 8%

PM PEAK HOUR

$V_A = 277$
$V_o = 592$
$V_L = 27$
%LT = 10%

FIGURE 17

LEFT TURN
LANE ANALYSIS



SOURCE: HARMELINK

TABLE 1

TRIP GENERATION CALCULATIONS

MULTIFAMILY HOUSING (LOW-RISE)
Not Close to Rail Transit

Land Use Code 220

T = Number of Vehicle Trip Ends

X = Number of Dwelling Units = 60

<u>TIME PERIOD</u>	<u>TRIP GENERATION EQUATION</u>	<u>TOTAL TRIP ENDS</u>	<u>PERCENT ENTERING</u>	<u>PERCENT EXITING</u>	<u>TOTAL TRIP ENDS ENTERING</u>	<u>TOTAL TRIP ENDS EXITING</u>
WEEKDAY						
Daily	$T = 6.41 (X) + 75.31$	460	50%	50%	230	230
AM Peak Hour	$T = 0.31 (X) + 22.85$	41	24%	76%	10	31
PM Peak Hour	$T = 0.43 (X) + 20.55$	46	63%	37%	29	17

SOURCE: Institute of Transportation Engineers, "Trip Generation", 11th Edition (2021)

BUCKHOLZ TRAFFIC

TABLE 2
WEEKDAY TRIP GENERATION CALCULATIONS

TENNIS COURTS

Land Use Code 490

T = Number of Vehicle Trip Ends

X = Number of Courts = 6

<u>TIME PERIOD</u>	<u>TOTAL</u> <u>TRIP GENERATION</u> <u>EQUATION</u>	<u>TOTAL</u> <u>TRIP</u> <u>ENDS</u>	<u>PERCENT</u> <u>ENTERING</u>	<u>PERCENT</u> <u>EXITING</u>	<u>TOTAL</u> <u>TRIP ENDS</u> <u>ENTERING</u>	<u>TOTAL</u> <u>TRIP ENDS</u> <u>EXITING</u>
AVERAGE WEEKDAY						
Daily	T = 30.32 (X)	182	50%	50%	91	91
AM Peak Hour	T = 4.21 (X)	26	50%	50%	13	13
PM Peak Hour	T = 4.21 (X)	26	50%	50%	13	13
Estimated						

SOURCE: Institute of Transportation Engineers, "Trip Generation", 11th Edition (2021)

BUCKHOLZ TRAFFIC

**TABLE 3
UNSIGNALIZED INTERSECTION CAPACITY RESULTS
EXISTING CONDITIONS**

SW BASCOM NORRIS DRIVE / SW McFARLANE AVENUE

	WEEKDAY AM PEAK HOUR			
Movement	LOS	Delay	V/C Ratio	95th % Queue (vehicles)
Eastbound Left Turn	A	8.8 sec/veh	0.05	1
Side Street Left Turn	D	30.8 sec/veh	0.32	1.3
Side Street Right Turn	B	11.9 sec/veh	0.06	1

	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	V/C Ratio	95th % Queue (vehicles)
Eastbound Left Turn	A	9.1 sec/veh	0.03	1
Side Street Left Turn	C	23.1 sec/veh	0.30	1.2
Side Street Right Turn	B	12.6 sec/veh	0.06	1

SW BASCOM NORRIS DRIVE / SW TOMOKA TERRACE

	WEEKDAY AM PEAK HOUR			
Movement	LOS	Delay	V/C Ratio	95th % Queue (vehicles)
Westbound Left Turn	A	8.6 sec/veh	0.01	1
Side Street Approach	B	12.1 sec/veh	0.06	1

	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	V/C Ratio	95th % Queue (vehicles)
Westbound Left Turn	A	7.8 sec/veh	0.00	1
Side Street Approach	B	10.6 sec/veh	0.02	1

BUCKHOLZ TRAFFIC

TABLE 4
UNSIGNALIZED INTERSECTION CAPACITY RESULTS
2026 BUILD CONDITIONS

SW BASCOM NORRIS DRIVE / SW McFARLANE AVENUE

	WEEKDAY AM PEAK HOUR			
Movement	LOS	Delay	V/C Ratio	95th % Queue (vehicles)
Eastbound Left Turn	A	9.0 sec/veh	0.06	1
Side Street Left Turn	E	36.7 sec/veh	0.38	1.6
Side Street Right Turn	B	12.2 sec/veh	0.07	1

	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	V/C Ratio	95th % Queue (vehicles)
Eastbound Left Turn	A	9.3 sec/veh	0.04	1
Side Street Left Turn	D	26.9 sec/veh	0.35	1.5
Side Street Right Turn	B	13.2 sec/veh	0.07	1

SW BASCOM NORRIS DRIVE / SW TOMOKA TERRACE / TENNIS DRIVEWAY

	WEEKDAY AM PEAK HOUR			
Movement	LOS	Delay	V/C Ratio	95th % Queue (vehicles)
Eastbound Left Turn	A	8.4 sec/veh	0.01	1
Westbound Left Turn	A	8.6 sec/veh	0.01	1
Northbound Approach	B	12.8 sec/veh	0.07	1
Southbound Approach	C	20.0 sec/veh	0.06	1

	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	V/C Ratio	95th % Queue (vehicles)
Eastbound Left Turn	A	8.7 sec/veh	0.01	1
Westbound Left Turn	A	7.9 sec/veh	0.00	1
Northbound Approach	B	11.8 sec/veh	0.02	1
Southbound Approach	C	16.9 sec/veh	0.05	1

TABLE 5
UNSIGNALIZED INTERSECTION CAPACITY RESULTS
2026 BUILD CONDITIONS

SW BASCOM NORRIS DRIVE / EAST CONDO DRIVEWAY

	WEEKDAY AM PEAK HOUR			
Movement	LOS	Delay	V/C Ratio	95th % Queue (vehicles)
Eastbound Left Turn	A	8.4 sec/veh	0.00	1
Side Street Approach	C	19.5 sec/veh	0.07	1

	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	V/C Ratio	95th % Queue (vehicles)
Eastbound Left Turn	A	8.8 sec/veh	0.01	1
Side Street Approach	C	16.7 sec/veh	0.03	1

SW BASCOM NORRIS DRIVE / WEST CONDO DRIVEWAY

	WEEKDAY AM PEAK HOUR			
Movement	LOS	Delay	V/C Ratio	95th % Queue (vehicles)
Eastbound Left Turn	A	8.4 sec/veh	0.00	1
Side Street Approach	C	17.0 sec/veh	0.06	1

	WEEKDAY PM PEAK HOUR			
Movement	LOS	Delay	V/C Ratio	95th % Queue (vehicles)
Eastbound Left Turn	A	8.7 sec/veh	0.01	1
Side Street Approach	C	15.1 sec/veh	0.03	1

BUCKHOLZ TRAFFIC

TABLE 6
SUMMARY OF SIGNALIZED INTERSECTION CAPACITY RESULTS
SR 47 / SW BASCOM NORRIS DRIVE

EXISTING CONDITIONS

WEEKDAY AM PEAK HOUR	Highest v/c Ratio	Highest Queue Storage Ratio	Highest Delay Movements with LOS	Approach LOS	Intersection Delay & LOS
79 sec cycle	0.79 WBT	0.82 EBLT	WBT: 36.7 sec/veh LOS D	NB/SB: C EB/WB: C	30.4 sec/veh LOS C

WEEKDAY PM PEAK HOUR	Highest v/c Ratio	Highest Queue Storage Ratio	Highest Delay Movements with LOS	Approach LOS	Intersection Delay & LOS
86 sec cycle	0.81 SBT	0.63 WBT	WBT: 42.1 sec/veh LOS D	NB/SB: C EB/WB: C/D	30.8 sec/veh LOS C

2026 BUILD CONDITIONS

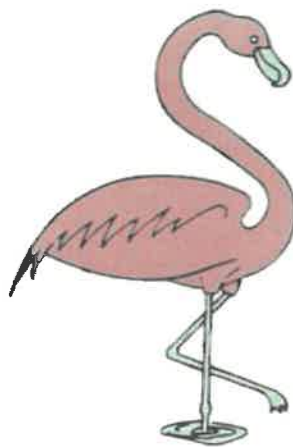
WEEKDAY AM PEAK HOUR	Highest v/c Ratio	Highest Queue Storage Ratio	Highest Delay Movements with LOS	Approach LOS	Intersection Delay & LOS
82 sec cycle	0.80 WBT	0.90 EBLT	WBT: 37.6 sec/veh LOS D	NB/SB: C EB/WB: C/D	31.7 sec/veh LOS C

WEEKDAY PM PEAK HOUR	Highest v/c Ratio	Highest Queue Storage Ratio	Highest Delay Movements with LOS	Approach LOS	Intersection Delay & LOS
91 sec cycle	0.83 SBT	0.71 WBT	WBT: 44.6 sec/veh LOS D	NB/SB: C/D EB/WB: C/D	32.9 sec/veh LOS C

BUCKHOLZ TRAFFIC

APPENDIX A

SITE PLAN





C:\ProgramData\Trimble\...

APPENDIX B

TURNING MOVEMENT COUNTS



JW BUCKHOLZ TRAFFIC ENGINEERING INC.

DAY: THURSDAY

DATE: 01/12/23

WEATHER: CLEAR & DRY

BEGIN TIME (MILITARY): 06:30 Hrs

MANUAL TURNING MOVEMENTS COUNT

SR 47 @ SW BASCOM NORRIS DRIVE

COLUMBIA COUNTY, FLORIDA

Site Code : 01122301

Start Date: 01/12/23

File I.D. : 01122301

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AUTOMOBILES, COMMERCIAL VEHICLES

SR 47					SW BASCOM NORRIS DRIVE					SR 47					SW BASCOM NORRIS DRIVE					Total
From North					From East					From South					From West					
Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		
Date 01/12/23																				
06:30	0	36	6	0	4	16	0	0	10	66	3	0	10	7	4	0			162	
06:45	0	40	14	0	3	28	0	0	13	103	5	0	13	18	6	0			243	
07:00	1	49	9	0	2	39	0	0	22	87	9	2	16	35	9	0			280	
07:15	0	65	8	0	9	44	0	0	19	113	12	0	33	50	13	0			366	
Hr Total	1	190	37	0	18	127	0	0	64	369	29	2	72	110	32	0			1051	
07:30	3	81	15	0	11	58	1	0	25	136	19	0	48	77	6	0			480	
07:45	3	70	9	0	12	120	0	0	39	142	9	0	34	83	18	0			539	
08:00	2	64	13	0	12	78	2	0	27	115	4	1	23	78	10	0			429	
08:15	2	49	9	0	6	76	0	0	26	84	10	1	12	37	8	0			320	
Hr Total	10	264	46	0	41	332	3	0	117	477	42	2	117	275	42	0			1768	
TOTAL	11	454	83	0	59	459	3	0	181	846	71	4	189	385	74	0			2819	

Peak Hour Analysis By Entire Intersection for the Period: 07:15 to 08:15 on 01/12/23

Peak start 07:15					07:15					07:15					07:15				
Volume	8	280	45	0	44	300	3	0	110	506	44	1	138	288	47	0			
Percent	2%	84%	14%	0%	13%	86%	1%	0%	17%	77%	7%	0%	29%	61%	10%	0%			
Pk total	333				347				661				473						
Highest	07:30				07:45				07:45				07:45						
Volume	3	81	15	0	12	120	0	0	39	142	9	0	34	83	18	0			
Hi total	99				132				190				135						
PHF	.84				.66				.87				.88						

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

DAY: THURSDAY

DATE: 01/12/23

WEATHER: CLEAR & DRY

BEGIN TIME (MILITARY): 06:30 Hrs

MANUAL TURNING MOVEMENTS COUNT

SR 47 @ SW BASCOM NORRIS DRIVE

COLUMBIA COUNTY, FLORIDA

Site Code : 01122301

Start Date: 01/12/23

File I.D. : 01122301

Page : 1

AUTOMOBILES

SR 47 From North					SW BASCOM NORRIS DRIVE From East					SR 47 From South					SW BASCOM NORRIS DRIVE From West					Total
Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		
Date 01/12/23																				
06:30	0	31	6	0	4	16	0	0	10	63	3	0	9	7	4	0		153		
06:45	0	36	14	0	3	27	0	0	13	99	5	0	13	18	6	0		234		
07:00	1	44	8	0	2	39	0	0	21	82	9	2	16	33	9	0		266		
07:15	0	64	8	0	9	43	0	0	19	108	11	0	33	50	12	0		357		
Hr Total	1	175	36	0	18	125	0	0	63	352	28	2	71	108	31	0		1010		
07:30	3	79	14	0	11	56	1	0	25	132	18	0	48	76	6	0		469		
07:45	3	65	9	0	12	117	0	0	38	138	9	0	34	81	18	0		524		
08:00	2	57	13	0	11	72	2	0	26	108	4	1	23	67	10	0		396		
08:15	2	43	8	0	4	71	0	0	25	78	10	1	12	37	8	0		299		
Hr Total	10	244	44	0	38	316	3	0	114	456	41	2	117	261	42	0		1688		
TOTAL	11	419	80	0	56	441	3	0	177	808	69	4	188	369	73	0		2698		

Peak Hour Analysis By Entire Intersection for the Period: 07:15 to 08:15 on 01/12/23

Peak start 07:15					07:15					07:15					07:15				
Volume	8	265	44	0	43	288	3	0		108	486	42	1		138	274	46	0	
Percent	3%	84%	14%	0%	13%	86%	1%	0%		17%	76%	7%	0%		30%	60%	10%	0%	
Pk total	317				334					637					458				
Highest	07:30				07:45					07:45					07:45				
Volume	3	79	14	0	12	117	0	0		38	138	9	0		34	81	18	0	
Hi total	96				129					185					133				
PHF	.83				.65					.86					.86				

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

MANUAL TURNING MOVEMENTS COUNT

SR 47 @ SW BASCOM NORRIS DRIVE

COLUMBIA COUNTY, FLORIDA

Site Code : 01122301

Start Date: 01/12/23

File I.D. : 01122301

Page : 1

DAY: THURSDAY

DATE: 01/12/23

WEATHER: CLEAR & DRY

BEGIN TIME (MILITARY): 06:30 Hrs

COMMERCIAL VEHICLES

SR 47					SW BASCOM NORRIS DRIVE					SR 47					SW BASCOM NORRIS DRIVE					Total
From North					From East					From South					From West					
Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		
Date 01/12/23																				
06:30	0	5	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	9
06:45	0	4	0	0	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0	9
07:00	0	5	1	0	0	0	0	0	0	1	5	0	0	0	0	2	0	0	0	14
07:15	0	1	0	0	0	1	0	0	0	0	5	1	0	0	0	0	1	0	0	9
Hr Total	0	15	1	0	0	2	0	0	0	1	17	1	0	0	1	2	1	0	0	41
07:30	0	2	1	0	0	2	0	0	0	0	4	1	0	0	0	1	0	0	0	11
07:45	0	5	0	0	0	3	0	0	0	1	4	0	0	0	0	2	0	0	0	15
08:00	0	7	0	0	1	6	0	0	0	1	7	0	0	0	0	11	0	0	0	33
08:15	0	6	1	0	2	5	0	0	0	1	6	0	0	0	0	0	0	0	0	21
Hr Total	0	20	2	0	3	16	0	0	0	3	21	1	0	0	0	14	0	0	0	80
TOTAL	0	35	3	0	3	18	0	0	0	4	38	2	0	0	1	16	1	0	0	121

Peak Hour Analysis By Entire Intersection for the Period: 07:15 to 08:15 on 01/12/23

Peak start 07:15					07:15					07:15					07:15				
Volume	0	15	1	0	1	12	0	0	0	2	20	2	0	0	0	14	1	0	0
Percent	0%	94%	6%	0%	8%	92%	0%	0%	0%	8%	83%	8%	0%	0%	0%	93%	7%	0%	0%
Pk total	16				13					24					15				
Highest	08:00				08:00					08:00					08:00				
Volume	0	7	0	0	1	6	0	0	0	1	7	0	0	0	0	11	0	0	0
Hi total	7				7					8					11				
PHF	.57				.46					.75					.34				

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

MANUAL TURNING MOVEMENTS COUNT

SR 47 @ SW BASCOM NORRIS DRIVE

COLUMBIA COUNTY, FLORIDA

Site Code : 01122301

Start Date: 01/12/23

File I.D. : 01122301

Page : 1

DAY: THURSDAY

DATE: 01/12/23

WEATHER: CLEAR & DRY

BEGIN TIME (MILITARY): 06:30 Hrs

PEDESTRIAN & BICYCLES

SR 47					SW BASCOM NORRIS DRIVE					SR 47					SW BASCOM NORRIS DRIVE					
From North					From East					From South					From West					
Left	Thru	Right	PEDS		Left	Thru	Right	PEDS		Left	Thru	Right	PEDS		Left	Thru	Right	PEDS	Total	
Date 01/12/23																				
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	
07:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	
Hr Total	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	1	5	
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hr Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	1	5	

Peak Hour Analysis By Entire Intersection for the Period: 07:15 to 08:15 on 01/12/23

Peak start	07:15				07:15				07:15				07:15			
Volume	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%
Pk total	0				0				1				1			
Highest	06:30				06:30				07:15				07:15			
Volume	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Hi total	0				0				1				1			
PHF	.0				.0				.25				.25			

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

MANUAL TURNING MOVEMENTS COUNT

SR 47 @ SW BASCOM NORRIS DRIVE

COLUMBIA COUNTY, FLORIDA

Site Code : 01092301

Start Date: 01/09/23

File I.D. : 01092301

Page : 1

DAY: MONDAY

DATE: 01/09/23

WEATHER: CLEAR & DRY

BEGIN TIME (MILITARY): 15:45 Hrs

AUTOMOBILES, COMMERCIAL VEHICLES

SR 47 From North					SW BASCOM NORRIS DRIVE From East					SR 47 From South					SW BASCOM NORRIS DRIVE From West					Total	
Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN			
Date 01/09/23																					
15:45	2	79	24	0		14	58	3	0		31	56	14	1		18	46	14	0		360
16:00	4	89	25	0		19	62	0	0		23	68	5	1		11	39	9	0		355
16:15	1	106	25	0		17	52	3	0		32	60	7	2		15	36	11	0		367
16:30	3	130	24	0		18	60	1	0		33	67	8	2		23	37	6	0		412
Hr Total	10	404	98	0		68	232	7	0		119	251	34	6		67	158	40	0		1494
16:45	0	97	29	0		12	60	0	0		34	64	10	4		19	35	6	0		370
17:00	5	169	38	0		23	80	0	0		45	73	10	4		17	41	10	0		515
17:15	0	126	29	0		17	58	0	0		32	54	3	0		19	54	14	0		406
17:30	1	80	30	0		12	55	1	0		20	60	5	1		7	22	7	0		301
Hr Total	6	472	126	0		64	253	1	0		131	251	28	9		62	152	37	0		1592
TOTAL	16	876	224	0		132	485	8	0		250	502	62	15		129	310	77	0		3086

Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 17:30 on 01/09/23

Peak start 16:30					16:30					16:30					16:30				
Volume	8	522	120	0	70	258	1	0	144	258	31	10	78	167	36	0			
Percent	1%	80%	18%	0%	21%	78%	0%	0%	33%	58%	7%	2%	28%	59%	13%	0%			
Pk total	650				329				443				281						
Highest	17:00				17:00				17:00				17:15						
Volume	5	169	38	0	23	80	0	0	45	73	10	4	19	54	14	0			
Hi total	212				103				132				87						
PHF	.77				.80				.84				.81						

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

MANUAL TURNING MOVEMENTS COUNT

SR 47 @ SW BASCOM NORRIS DRIVE

COLUMBIA COUNTY, FLORIDA

Site Code : 01092301

Start Date: 01/09/23

File I.D. : 01092301

Page : 1

DAY: MONDAY

DATE: 01/09/23

WEATHER: CLEAR & DRY

BEGIN TIME (MILITARY): 15:45 Hrs

AUTOMOBILES

SR 47 From North					SW BASCOM NORRIS DRIVE From East					SR 47 From South					SW BASCOM NORRIS DRIVE From West					
Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN		Left	Thru	Right	U-TURN	Total	
Date 01/09/23																				
15:45	2	75	24	0	14	57	2	0	31	51	14	1	18	44	14	0		347		
16:00	4	86	25	0	19	60	0	0	23	63	5	1	11	37	9	0		343		
16:15	1	98	25	0	17	51	3	0	32	54	7	2	15	35	9	0		349		
16:30	3	127	23	0	18	57	1	0	33	58	7	2	23	34	6	0		392		
Hr Total	10	386	97	0	68	225	6	0	119	226	33	6	67	150	38	0		1431		
16:45	0	96	28	0	11	58	0	0	33	60	10	4	19	34	5	0		358		
17:00	5	164	37	0	22	80	0	0	44	67	10	4	17	40	10	0		500		
17:15	0	117	29	0	17	58	0	0	31	49	3	0	19	54	13	0		390		
17:30	1	79	30	0	12	54	1	0	20	52	5	1	7	20	5	0		287		
Hr Total	6	456	124	0	62	250	1	0	128	228	28	9	62	148	33	0		1535		
TOTAL	16	842	221	0	130	475	7	0	247	454	61	15	129	298	71	0		2966		

Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 17:30 on 01/09/23

Peak start 16:30					16:30					16:30					16:30				
Volume	8	504	117	0	68	253	1	0	141	234	30	10	78	162	34	0			
Percent	1%	80%	19%	0%	21%	79%	0%	0%	34%	56%	7%	2%	28%	59%	12%	0%			
Pk total	629				322				415				274						
Highest	17:00				17:00				17:00				17:15						
Volume	5	164	37	0	22	80	0	0	44	67	10	4	19	54	13	0			
Hi total	206				102				125				86						
PHF	.76				.79				.83				.80						

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

MANUAL TURNING MOVEMENTS COUNT

SR 47 @ SW BASCOM NORRIS DRIVE

COLUMBIA COUNTY, FLORIDA

Site Code : 01092301

Start Date: 01/09/23

File I.D. : 01092301

Page : 1

DAY: MONDAY

DATE: 01/09/23

WEATHER: CLEAR & DRY

BEGIN TIME (MILITARY): 15:45 Hrs

COMMERCIAL VEHICLES

SR 47 From North				SW BASCOM NORRIS DRIVE From East				SR 47 From South				SW BASCOM NORRIS DRIVE From West				Total
Left	Thru	Right	U-TURN	Left	Thru	Right	U-TURN	Left	Thru	Right	U-TURN	Left	Thru	Right	U-TURN	
Date 01/09/23																
15:45	0	4	0	0	0	1	1	0	0	5	0	0	0	2	0	13
16:00	0	3	0	0	0	2	0	0	0	5	0	0	0	2	0	12
16:15	0	8	0	0	0	1	0	0	0	6	0	0	0	1	2	18
16:30	0	3	1	0	0	3	0	0	0	9	1	0	0	3	0	20
Hr Total	0	18	1	0	0	7	1	0	0	25	1	0	0	8	2	63
16:45	0	1	1	0	1	2	0	0	1	4	0	0	0	1	1	12
17:00	0	5	1	0	1	0	0	0	1	6	0	0	0	1	0	15
17:15	0	9	0	0	0	0	0	0	1	5	0	0	0	0	1	16
17:30	0	1	0	0	0	1	0	0	0	8	0	0	0	2	2	14
Hr Total	0	16	2	0	2	3	0	0	3	23	0	0	0	4	4	57
TOTAL	0	34	3	0	2	10	1	0	3	48	1	0	0	12	6	120

Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 17:30 on 01/09/23

Peak start 16:30				16:30				16:30				16:30			
Volume	0	18	3	0	2	5	0	0	3	24	1	0	0	5	2
Percent	0%	86%	14%	0%	29%	71%	0%	0%	11%	86%	4%	0%	0%	71%	29%
Pk total	21				7				28				7		
Highest	17:15				16:30				16:30				16:30		
Volume	0	9	0	0	0	3	0	0	0	9	1	0	0	3	0
Hi total	9				3				10				3		
PHF	.52				.58				.70				.58		

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

MANUAL TURNING MOVEMENTS COUNT

SR 47 @ SW BASCOM NORRIS DRIVE

COLUMBIA COUNTY, FLORIDA

Site Code : 01092301

Start Date: 01/09/23

File I.D. : 01092301

Page : 1

DAY: MONDAY

DATE: 01/09/23

WEATHER: CLEAR & DRY

BEGIN TIME (MILITARY): 15:45 Hrs

PEDESTRIAN & BICYCLES

SR 47					SW BASCOM NORRIS DRIVE					SR 47					SW BASCOM NORRIS DRIVE					
From North					From East					From South					From West					
Left	Thru	Right	PEDS		Left	Thru	Right	PEDS		Left	Thru	Right	PEDS		Left	Thru	Right	PEDS	Total	
Date 01/09/23																				
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hr Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hr Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	

Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 17:30 on 01/09/23

Peak start 16:30				16:30				16:30				16:30			
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pk total	0				0				0				0		
Highest	15:45				15:45				15:45				15:45		
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hi total	0				0				0				0		
PHF	.0				.0				.0				.0		

TABLE B-1
SW Bascom Norris Drive / SW McFarlane Avenue
TURNING MOVEMENT COUNTS - ALL VEHICLES

Thursday, January 12, 2023

	SW BASCOM NORRIS DR.				SW McFARLANE AVE.			GAS STATION DRIVEWAY			All
	EB Left Turn	EB Right Turn	WB Left Turn	WB Right Turn	SB Left Turn	"Thru" to Gas Station	SB Right Turn	NB Left Turn	"Thru" to McFarlane	NB Right Turn	
6:30-6:45 AM	2	1	4	2	9	0	1	2	0	2	23
6:45-7:00 AM	2	0	1	16	4	0	1	1	0	0	25
7:00-7:15 AM	4	1	1	18	13	0	9	0	0	0	46
7:15-7:30 AM	13	0	1	17	9	0	10	0	0	0	50
7:30-7:45 AM	9	0	1	22	17	0	5	1	0	1	56
7:45-8:00 AM	13	0	0	39	14	0	8	1	0	0	75
8:00-8:15 AM	3	1	1	28	11	0	5	2	0	0	51
8:15-8:30 AM	8	0	0	33	12	1	9	1	1	0	65
AM PEAK PERIOD:	54	3	9	175	89	1	48	8	1	3	391
AM PEAK HOUR: 7:15-8:15 AM	38	1	3	106	51	0	28	4	0	1	232

Monday, January 9, 2023

	SW BASCOM NORRIS DR.				SW McFARLANE AVE.			GAS STATION DRIVEWAY			All
	EB Left Turn	EB Right Turn	WB Left Turn	WB Right Turn	SB Left Turn	"Thru" to Gas Station	SB Right Turn	NB Left Turn	"Thru" to McFarlane	NB Right Turn	
3:45-4:00 PM	1	2	1	3	3	0	0	1	0	2	13
4:00-4:15 PM	3	2	2	9	5	0	0	1	0	0	22
4:15-4:30 PM	2	6	4	13	5	0	2	3	1	3	39
4:30-4:45 PM	5	4	2	15	17	0	1	1	0	2	47
4:45-5:00 PM	4	1	1	24	14	1	6	3	1	0	55
5:00-5:15 PM	4	1	5	23	17	0	5	3	1	1	60
5:15-5:30 PM	10	1	1	29	18	1	11	1	1	2	75
5:30-5:45 PM	7	1	8	15	11	0	5	0	0	2	49
PM PEAK PERIOD:	36	18	24	131	90	2	30	13	4	12	360
PM PEAK HOUR: 4:30-5:30 PM	23	7	9	91	66	2	23	8	3	5	237

BUCKHOLZ TRAFFIC

TABLE B-2
SW Bascom Norris Drive / SW McFarlane Avenue
TURNING MOVEMENT COUNTS - TRUCKS

Thursday, January 12, 2023

Thursday, January 12, 2023											
	SW BASCOM NORRIS DR.				SW McFARLANE AVE.			GAS STATION DRIVEWAY			All
	EB Left Turn	EB Right Turn	WB Left Turn	WB Right Turn	SB Left Turn	"Thru" to Gas Station	SB Right Turn	NB Left Turn	"Thru" to McFarlane	NB Right Turn	
6:30-6:45 AM	0	0	0	0	0	0	0	0	0	0	0
6:45-7:00 AM	0	0	0	0	0	0	0	0	0	0	0
7:00-7:15 AM	0	0	0	0	0	0	0	0	0	0	0
7:15-7:30 AM	1	0	0	0	0	0	0	0	0	0	1
7:30-7:45 AM	0	0	0	0	1	0	1	0	0	0	2
7:45-8:00 AM	0	0	0	1	0	0	0	0	0	0	1
8:00-8:15 AM	0	0	0	3	0	0	0	0	0	0	3
8:15-8:30 AM	1	0	0	1	0	0	1	0	0	0	3
AM PEAK PERIOD:	2	0	0	5	1	0	2	0	0	0	10
AM PEAK HOUR: 7:15-8:15 AM	1	0	0	4	1	0	1	0	0	0	7

Monday, January 9, 2023

Monday, January 9, 2023											
	SW BASCOM NORRIS DR.				SW McFARLANE AVE.			GAS STATION DRIVEWAY			All
	EB Left Turn	EB Right Turn	WB Left Turn	WB Right Turn	SB Left Turn	"Thru" to Gas Station	SB Right Turn	NB Left Turn	"Thru" to McFarlane	NB Right Turn	
3:45-4:00 PM	0	0	0	0	0	0	0	0	0	0	0
4:00-4:15 PM	0	0	0	0	0	0	0	0	0	0	0
4:15-4:30 PM	0	0	0	0	0	0	0	0	0	1	1
4:30-4:45 PM	0	0	0	0	1	0	0	0	0	0	1
4:45-5:00 PM	0	0	0	0	0	0	0	0	0	0	0
5:00-5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:15-5:30 PM	1	0	0	1	1	0	0	0	0	0	3
5:30-5:45 PM	0	0	0	0	1	0	0	0	0	0	1
PM PEAK PERIOD:	1	0	0	1	3	0	0	0	0	1	6
PM PEAK HOUR: 4:30-5:30 PM	1	0	0	1	2	0	0	0	0	0	4

BUCKHOLZ TRAFFIC

TABLE B-3
SW Bascom Norris Drive / SW Tamoka Terrace
TURNING MOVEMENT COUNTS - ALL VEHICLES

Thursday, January 12, 2023

	SW BASCOM NORRIS DR.		SW TOMOKA TERR.		All
	WB Left Turn	EB Right Turn	NB Left Turn	NB Right Turn	
6:30-6:45 AM	0	0	0	0	0
6:45-7:00 AM	1	0	0	0	1
7:00-7:15 AM	0	0	0	3	3
7:15-7:30 AM	0	0	0	7	7
7:30-7:45 AM	4	0	0	5	9
7:45-8:00 AM	2	0	0	8	10
8:00-8:15 AM	3	0	0	4	7
8:15-8:30 AM	1	0	0	4	5
AM PEAK PERIOD:	11	0	0	31	42

AM PEAK HOUR: 9 0 0 24 33

7:15-8:15 AM

Monday, January 9, 2023

	SW BASCOM NORRIS DR.		SW TOMOKA TERR.		All
	WB Left Turn	EB Right Turn	NB Left Turn	NB Right Turn	
3:45-4:00 PM	2	0	0	5	7
4:00-4:15 PM	0	0	0	1	1
4:15-4:30 PM	2	1	0	4	7
4:30-4:45 PM	0	0	0	2	2
4:45-5:00 PM	3	0	1	2	6
5:00-5:15 PM	0	0	0	2	2
5:15-5:30 PM	1	0	0	2	3
5:30-5:45 PM	3	0	0	1	4
PM PEAK PERIOD:	11	1	1	19	32

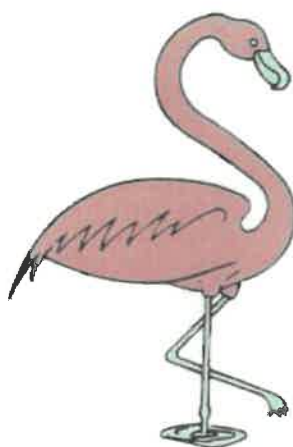
PM PEAK HOUR: 4 0 1 8 13

4:30-5:30 PM

BUCKHOLZ TRAFFIC

APPENDIX C

FDOT TRAFFIC DATA

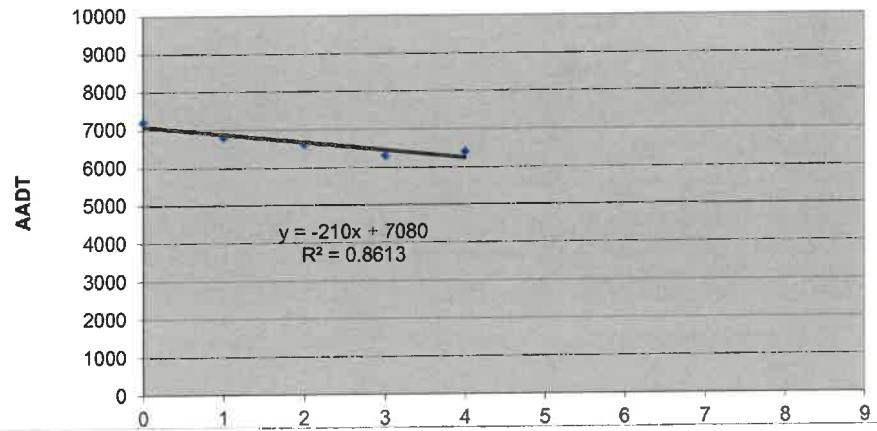


**TABLE C-1
LINEAR REGRESSION ANALYSIS**

Bascom Norris Drive, West of McFarland Avenue

Year	X	Actual AADT (Y)	Predicted AADT
2017	0	7200	7080
2018	1	6800	6870
2019	2	6600	6660
2020	3	6300	6450
2021	4	6400	6240
2022	5		6030
2023	6		5820
2024	7		5610
2025	8		5400
2026	9		5190

i = -3.4%



BUCKHOLZ TRAFFIC

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 29 - COLUMBIA

SITE: 5040 - CR 100A (BASCOM NORRIS DR) W. OF MCFARLANE AVE.

YEAR	AADT	DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2021	6400 F		0		0	9.00	54.20	12.60
2020	6300 C	N	0	S	0	9.00	54.80	1.30
2019	6600 C	N	0	S	0	9.00	54.80	0.90
2018	6800 C	N	0	S	0	9.00	54.70	6.60
2017	7200 C	N	0	S	0	9.00	55.50	1.10
2016	7100 C	N	0	S	0	9.00	53.90	1.30
2015	7000 C	N	0	S	0	9.00	54.50	0.90
2014	6800 C	N	0	S	0	9.00	54.40	1.40
2013	7000 C	N	0	S	0	9.00	55.30	1.20
2012	6500 C	N	0	S	0	9.00	54.70	0.80
2011	7300 C	N	0	S	0	9.00	53.70	1.80
2010	6500 C	N	0	S	0	9.94	54.40	1.40
2009	6500 C	N	0	S	0	9.78	54.18	3.50
2008	7400 C	N	0	S	0	9.82	54.63	2.00
2007	6700 C	N	0	S	0	9.99	54.46	1.40
2006	7900 C	N	0	S	0	10.01	55.64	1.90

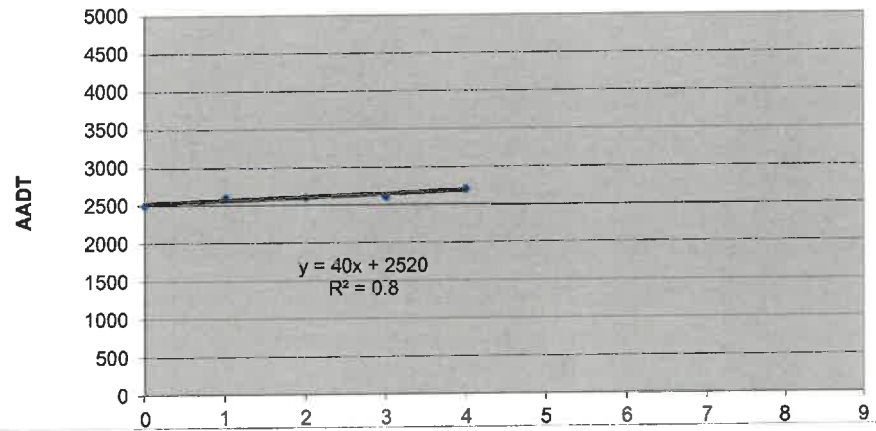
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

TABLE C-2
LINEAR REGRESSION ANALYSIS

McFarland Avenue, North of Bascom Norris Drive

Year	X	Actual AADT (Y)	Predicted AADT
2017	0	2500	2520
2018	1	2600	2560
2019	2	2600	2600
2020	3	2600	2640
2021	4	2700	2680
2022	5		2720
2023	6		2760
2024	7		2800
2025	8		2840
2026	9		2880

i = 1.5%



BUCKHOLZ TRAFFIC

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 29 - COLUMBIA

SITE: 5025 - MCFARLAND AVE. .1 MI. N. OF BASCOM NORRIS DR. (HPMS)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	2700 R	0	0	9.00	54.20	3.60
2020	2600 T	0	0	9.00	54.80	3.70
2019	2600 S	0	0	9.00	54.80	3.40
2018	2600 F	0	0	9.00	54.70	3.90
2017	2500 C	N 0	S 0	9.00	55.50	2.90
2016	2800 R	0	0	9.00	53.90	3.20
2015	2700 T	0	0	9.00	54.50	4.30
2014	2700 S	0	0	9.00	54.40	3.10
2013	2700 F	0	0	9.00	55.30	3.00
2012	2700 C	N 0	S 0	9.00	54.70	3.90

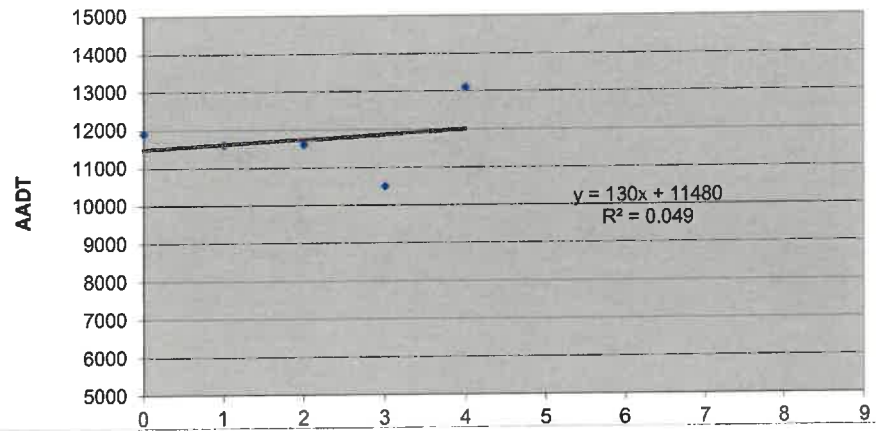
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

**TABLE C-3
LINEAR REGRESSION ANALYSIS**

SR 47, South of Bascom Norris Drive

Year	X	Actual AADT (Y)	Predicted AADT
2017	0	11900	11480
2018	1	11600	11610
2019	2	11600	11740
2020	3	10500	11870
2021	4	13100	12000
2022	5		12130
2023	6		12260
2024	7		12390
2025	8		12520
2026	9		12650

i = 1.1%



BUCKHOLZ TRAFFIC

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 29 - COLUMBIA

SITE: 0227 - SR 47 300' S. OF BASCOM NORRIS DR..

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	13100 C	N 7000	S 6100	9.00	54.20	5.10
2020	10500 C	N 5500	S 5000	9.00	54.80	5.60
2019	11600 C	N 6000	S 5600	9.00	54.80	3.90
2018	11600 C	N 6200	S 5400	9.00	54.70	3.90
2017	11900 C	N 6200	S 5700	9.00	55.50	4.20
2016	11300 C	N 5900	S 5400	9.00	53.90	4.00
2015	10700 C	N 5600	S 5100	9.00	54.50	4.00
2014	11200 C	N 5900	S 5300	9.00	54.40	3.40
2013	9600 C	N 5100	S 4500	9.00	55.30	4.00
2012	10200 C	N 5400	S 4800	9.00	54.70	3.80
2011	10300 C	N 5500	S 4800	9.00	53.70	4.60
2010	9800 C	N 5700	S 4100	9.94	54.40	4.20
2009	11200 F	N 5800	S 5400	9.78	54.18	4.30
2008	11200 C	N 5900	S 5300	9.82	54.63	3.90
2007	10000 C	N 5200	S 4800	9.99	54.46	4.40
2006	9400 F	N 4800	S 4600	10.01	55.64	10.60

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

COUNTY: 29
 STATION: 0227
 DESCRIPTION: SR 47 300' S. OF BASCOM NORRIS DR.
 START DATE: 09/29/2021
 START TIME: 0000

TIME	DIRECTION: N					DIRECTION: S					COMBINED TOTAL
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	
0000	3	8	2	3	16	10	9	9	6	34	50
0100	4	5	4	9	22	14	3	6	8	31	53
0200	1	4	2	3	10	8	7	5	6	26	36
0300	4	6	9	16	35	3	6	10	7	26	61
0400	9	19	16	20	64	3	4	7	12	26	90
0500	15	29	38	59	141	12	12	19	21	64	205
0600	58	72	88	91	309	28	28	55	58	169	478
0700	115	157	172	210	654	69	100	91	91	351	1005
0800	177	155	114	114	560	81	97	75	68	321	881
0900	109	91	99	106	405	76	72	96	81	325	730
1000	103	108	103	97	411	96	75	84	100	355	766
1100	113	112	135	151	511	93	85	109	114	401	912
1200	123	118	112	111	464	115	120	101	122	458	922
1300	108	112	122	122	464	103	93	99	132	427	891
1400	141	149	142	168	600	119	124	129	107	479	1079
1500	128	147	147	121	543	134	114	125	139	512	1055
1600	106	142	151	117	516	155	134	149	146	584	1100
1700	149	144	141	109	543	172	157	138	113	580	1123
1800	109	91	67	68	335	90	59	80	65	294	629
1900	71	54	41	49	215	73	64	63	46	246	461
2000	36	25	21	27	109	51	31	44	49	175	284
2100	25	28	25	24	102	33	26	24	20	103	205
2200	17	11	12	9	49	15	20	30	19	84	133
2300	9	4	7	3	23	11	11	10	16	48	71

24-HOUR TOTALS: 7101 6119 13220

DIRECTION: N			DIRECTION: S			COMBINED DIRECTIONS		
HOUR	VOLUME		HOUR	VOLUME		HOUR	VOLUME	
A.M.	715	716	715	363	715	1079		
P.M.	1400	600	1630	624	1630	1185		
DAILY	715	716	1630	624	1630	1185		

TRUCK PERCENTAGE 4.70 5.62 5.13

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	26	4502	2239	15	125	42	1	34	110	4	2	0	1	0	0	334	7101
S	28	3945	1802	5	88	63	22	34	128	3	1	0	0	0	0	344	6119

GENERATED BY SPS 5.0.57P

2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 2900 COLUMBIA COUNTYWIDE

MOCF: 0.96
 PSCF

WEEK	DATES	SF	PSCF
1	01/01/2021 - 01/02/2021	1.03	1.07
2	01/03/2021 - 01/09/2021	1.05	1.09
3	01/10/2021 - 01/16/2021	1.07	1.11
4	01/17/2021 - 01/23/2021	1.06	1.10
5	01/24/2021 - 01/30/2021	1.05	1.09
6	01/31/2021 - 02/06/2021	1.04	1.08
7	02/07/2021 - 02/13/2021	1.04	1.08
8	02/14/2021 - 02/20/2021	1.03	1.07
9	02/21/2021 - 02/27/2021	1.01	1.05
10	02/28/2021 - 03/06/2021	1.00	1.04
11	03/07/2021 - 03/13/2021	0.98	1.02
12	03/14/2021 - 03/20/2021	0.97	1.01
*13	03/21/2021 - 03/27/2021	0.97	1.01
*14	03/28/2021 - 04/03/2021	0.97	1.01
*15	04/04/2021 - 04/10/2021	0.96	1.00
*16	04/11/2021 - 04/17/2021	0.96	1.00
*17	04/18/2021 - 04/24/2021	0.96	1.00
*18	04/25/2021 - 05/01/2021	0.95	0.99
*19	05/02/2021 - 05/08/2021	0.95	0.99
*20	05/09/2021 - 05/15/2021	0.94	0.98
*21	05/16/2021 - 05/22/2021	0.95	0.99
*22	05/23/2021 - 05/29/2021	0.95	0.99
*23	05/30/2021 - 06/05/2021	0.96	1.00
*24	06/06/2021 - 06/12/2021	0.96	1.00
*25	06/13/2021 - 06/19/2021	0.97	1.01
26	06/20/2021 - 06/26/2021	0.99	1.03
27	06/27/2021 - 07/03/2021	1.00	1.04
28	07/04/2021 - 07/10/2021	1.02	1.06
29	07/11/2021 - 07/17/2021	1.03	1.07
30	07/18/2021 - 07/24/2021	1.04	1.08
31	07/25/2021 - 07/31/2021	1.04	1.08
32	08/01/2021 - 08/07/2021	1.04	1.08
33	08/08/2021 - 08/14/2021	1.05	1.09
34	08/15/2021 - 08/21/2021	1.05	1.09
35	08/22/2021 - 08/28/2021	1.04	1.08
36	08/29/2021 - 09/04/2021	1.03	1.07
37	09/05/2021 - 09/11/2021	1.02	1.06
38	09/12/2021 - 09/18/2021	1.01	1.05
39	09/19/2021 - 09/25/2021	1.00	1.04
40	09/26/2021 - 10/02/2021	0.99	1.03
41	10/03/2021 - 10/09/2021	0.99	1.03
42	10/10/2021 - 10/16/2021	0.98	1.02
43	10/17/2021 - 10/23/2021	0.99	1.03
44	10/24/2021 - 10/30/2021	0.99	1.03
45	10/31/2021 - 11/06/2021	1.00	1.04
46	11/07/2021 - 11/13/2021	1.01	1.05
47	11/14/2021 - 11/20/2021	1.01	1.05
48	11/21/2021 - 11/27/2021	1.02	1.06
49	11/28/2021 - 12/04/2021	1.02	1.06
50	12/05/2021 - 12/11/2021	1.02	1.06
51	12/12/2021 - 12/18/2021	1.03	1.07
52	12/19/2021 - 12/25/2021	1.05	1.09
53	12/26/2021 - 12/31/2021	1.07	1.11

* PEAK SEASON

08-MAR-2022 12:36:24

830UPD

2_2900_PKSEASON.TXT

APPENDIX D

**CAPACITY CALCULATIONS
UNSIGNALIZED INTERSECTIONS**



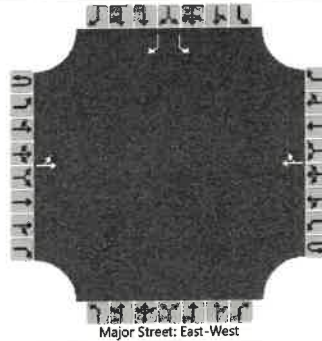
AM PEAK HOUR

HCS Two-Way Stop-Control Report

General Information

Analyst	J. Buckholz	Intersection	SW Bascom Norris Dr. / SW McFarlane Ave.
Agency/Co.	BUCKHOLZ TRAFFIC	Jurisdiction	Columbia County
Date Performed	1/18/2023	East/West Street	SW Bascom Norris Drive
Analysis Year	2023	North/South Street	SW McFarlane Avenue
Time Analyzed	Weekday AM Peak Hour	Peak Hour Factor	0.84
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	#23-1812		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		41	452				375	113						55		30
Percent Heavy Vehicles (%)		3												2		4
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage							Undivided									

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.42		6.24
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.52		3.34

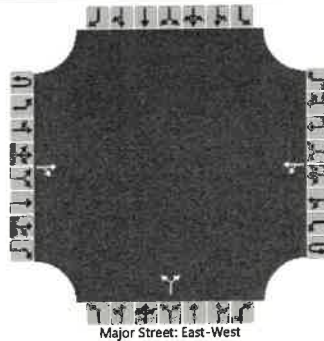
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		49												65		36
Capacity, c (veh/h)		988												204		557
v/c Ratio		0.05												0.32		0.06
95% Queue Length, Q ₉₅ (veh)		0.2												1.3		0.2
Control Delay (s/veh)		8.8	0.6											30.8		11.9
Level of Service (LOS)		A	A											D		B
Approach Delay (s/veh)		1.3												24.1		
Approach LOS		A												C		

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	J. Buckholz	Intersection	SW Bascom Norris Dr. / SW Tomoka Terrace
Agency/Co.	BUCKHOLZ TRAFFIC	Jurisdiction	Columbia County
Date Performed	1/18/2023	East/West Street	SW Bascom Norris Drive
Analysis Year	2023	North/South Street	SW Tomoka Terrace
Time Analyzed	Weekday AM Peak Hour	Peak Hour Factor	0.84
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	#23-1812		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			467	0		10	395			0		26				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						12					31					
Capacity, c (veh/h)						1025					534					
v/c Ratio						0.01					0.06					
95% Queue Length, Q ₉₅ (veh)						0.0					0.2					
Control Delay (s/veh)						8.6	0.1				12.1					
Level of Service (LOS)						A	A				B					
Approach Delay (s/veh)					0.3				12.1							
Approach LOS					A				B							

HCS Two-Way Stop-Control Report

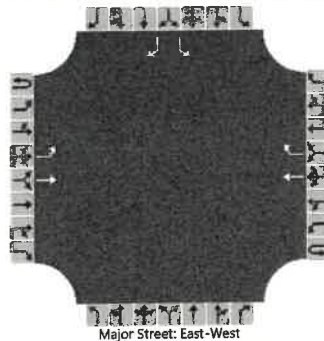
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	1/18/2023
Analysis Year	2026
Time Analyzed	AM Peak Hr. BUILD Traffic
Intersection Orientation	East-West
Project Description	#23-1812

Site Information

Intersection	SW Bascom Norris Dr. / SW McFarlane Ave.
Jurisdiction	Columbia County
East/West Street	SW Bascom Norris Drive
North/South Street	SW McFarlane Avenue
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		45	489				397	116						57		33
Percent Heavy Vehicles (%)		3												2		4
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type Storage							Undivided									

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.42		6.24
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.52		3.34

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		54												68		39
Capacity, c (veh/h)		963												204		587
v/c Ratio		0.06												0.33		0.07
95% Queue Length, Q ₉₅ (veh)		0.2												1.4		0.2
Control Delay (s/veh)		9.0												31.3		11.6
Level of Service (LOS)		A												D		B
Approach Delay (s/veh)		0.8												24.1		
Approach LOS		A												C		

HCS Two-Way Stop-Control Report

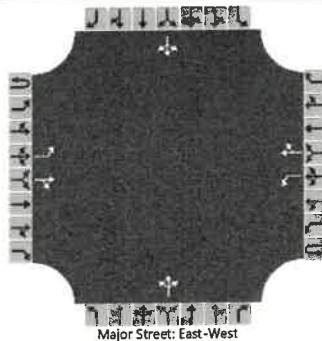
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	1/18/2023
Analysis Year	2026
Time Analyzed	AM Peak Hr. BUILD Traffic
Intersection Orientation	East-West
Project Description	#23-1812

Site Information

Intersection	SW Bascom Norris Dr. / SW Tomoka Terr. / T...
Jurisdiction	Columbia County
East/West Street	SW Bascom Norris Drive
North/South Street	SW Tomoka Terrace / TennisDriveway
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		0	1	0		0	1	0
Configuration		L		TR		L		TR			LTR				LTR	
Volume (veh/h)		6	484	0		10	408	6		0	1	27		6	1	6
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type Storage																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		7				12					33				15	
Capacity, c (veh/h)		1081				1007					494				258	
v/c Ratio		0.01				0.01					0.07				0.06	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.2				0.2	
Control Delay (s/veh)		8.4				8.6					12.8				19.9	
Level of Service (LOS)		A				A					B				C	
Approach Delay (s/veh)	0.1				0.2				12.8				19.9			
Approach LOS	A				A				B				C			

HCS Two-Way Stop-Control Report

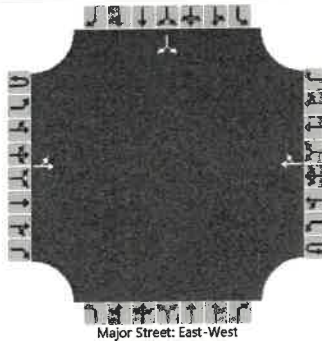
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	1/18/2023
Analysis Year	2026
Time Analyzed	AM Peak Hr. BUILD Traffic
Intersection Orientation	East-West
Project Description	#23-1812

Site Information

Intersection	SW Bascom Norris Dr. / East Condo Dr.
Jurisdiction	Columbia County
East/West Street	SW Bascom Norris Drive
North/South Street	East Condo Driveway
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		1	522				416	4						12		4
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage							Undivided									

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1													19	
Capacity, c (veh/h)		1064													268	
v/c Ratio		0.00													0.07	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		8.4	0.0												19.5	
Level of Service (LOS)		A	A												C	
Approach Delay (s/veh)			0.0												19.5	
Approach LOS			A												C	

HCS Two-Way Stop-Control Report

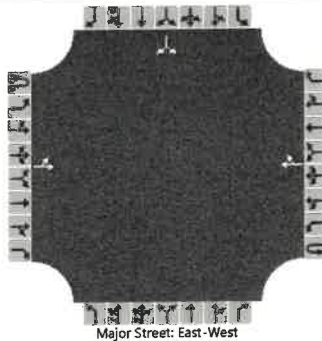
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	1/18/2023
Analysis Year	2026
Time Analyzed	AM Peak Hr. BUILD Traffic
Intersection Orientation	East-West
Project Description	#23-1812

Site Information

Intersection	SW Bascom Norris Dr. / West Condo Dr.
Jurisdiction	Columbia County
East/West Street	SW Bascom Norris Drive
North/South Street	West Condo Driveway
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		2	515				417	3						8		7
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage							Undivided									

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		2													18	
Capacity, c (veh/h)		1064													318	
v/c Ratio		0.00													0.06	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		8.4	0.0												17.0	
Level of Service (LOS)		A	A												C	
Approach Delay (s/veh)			0.1												17.0	
Approach LOS			A												C	

PM PEAK HOUR

HCS Two-Way Stop-Control Report

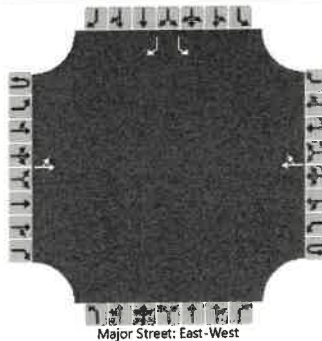
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	1/10/2023
Analysis Year	2023
Time Analyzed	Weekday PM Peak Hour
Intersection Orientation	East-West
Project Description	#23-1812

Site Information

Intersection	SW Bascom Norris Dr. / SW McFarlane Ave.
Jurisdiction	Columbia County
East/West Street	SW Bascom Norris Drive
North/South Street	SW McFarlane Avenue
Peak Hour Factor	0.83
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		24	228				452	99						71		24
Percent Heavy Vehicles (%)		5												2		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type Storage							Undivided									

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.15												6.42		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.52		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		29												86		29
Capacity, c (veh/h)		911												283		502
v/c Ratio		0.03												0.30		0.06
95% Queue Length, Q ₉₅ (veh)		0.1												1.2		0.2
Control Delay (s/veh)		9.1	0.3											23.1		12.6
Level of Service (LOS)		A	A											C		B
Approach Delay (s/veh)		1.2												20.5		
Approach LOS		A												C		

HCS Two-Way Stop-Control Report

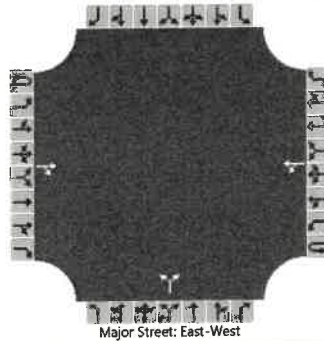
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	1/10/2023
Analysis Year	2023
Time Analyzed	Weekday PM Peak Hour
Intersection Orientation	East-West
Project Description	#23-1812

Site Information

Intersection	SW Bascom Norris Dr. / SW Tomoka Terrace
Jurisdiction	Columbia County
East/West Street	SW Bascom Norris Drive
North/South Street	SW Tomoka Terrace
Peak Hour Factor	0.83
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			244	0		4	471			1		8				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type Storage							Undivided									

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.10				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						5					11					
Capacity, c (veh/h)						1279					654					
v/c Ratio						0.00					0.02					
95% Queue Length, Q ₉₅ (veh)						0.0					0.1					
Control Delay (s/veh)						7.8	0.0				10.6					
Level of Service (LOS)						A	A				B					
Approach Delay (s/veh)						0.1					10.6					
Approach LOS						A					B					

HCS Two-Way Stop-Control Report

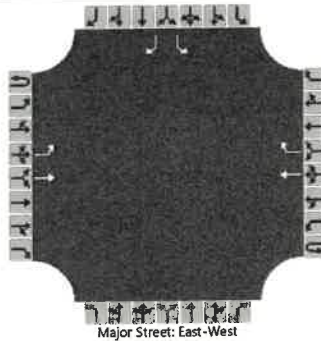
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	1/18/2023
Analysis Year	2026
Time Analyzed	PM Peak Hr. BUILD Traffic
Intersection Orientation	East-West
Project Description	#23-1812

Site Information

Intersection	SW Bascom Norris Dr. / SW McFarlane Ave.
Jurisdiction	Columbia County
East/West Street	SW Bascom Norris Drive
North/South Street	SW McFarlane Avenue
Peak Hour Factor	0.83
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	1		0	0	0		1	0	1
Configuration		L	T				T	R						L		R
Volume (veh/h)		27	250				490	102						73		26
Percent Heavy Vehicles (%)		5												2		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized							No							No		
Median Type Storage							Undivided									

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.15												6.42		6.20
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.25												3.52		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		33												88		31
Capacity, c (veh/h)		873												275		511
v/c Ratio		0.04												0.32		0.06
95% Queue Length, Q ₉₅ (veh)		0.1												1.3		0.2
Control Delay (s/veh)		9.3												24.1		12.5
Level of Service (LOS)		A												C		B
Approach Delay (s/veh)		0.9												21.0		
Approach LOS		A												C		

HCS Two-Way Stop-Control Report

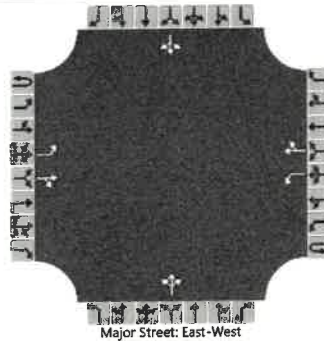
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	1/18/2023
Analysis Year	2026
Time Analyzed	PM Peak Hr. BUILD Traffic
Intersection Orientation	East-West
Project Description	#23-1812

Site Information

Intersection	SW Bascom Norris Dr. / SW Tomoka Terr. / T...
Jurisdiction	Columbia County
East/West Street	SW Bascom Norris Drive
North/South Street	SW Tomoka Terrace / Tennis Driveway
Peak Hour Factor	0.83
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		0	1	0		0	1	0
Configuration		L		TR		L		TR			LTR				LTR	
Volume (veh/h)		6	260	0		4	491	6		1	1	9		6	1	6
Percent Heavy Vehicles (%)		0				0				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type Storage																

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.10				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.20				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		7				5					13				16	
Capacity, c (veh/h)		988				1258					543				319	
v/c Ratio		0.01				0.00					0.02				0.05	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.1				0.2	
Control Delay (s/veh)		8.7				7.9					11.8				16.9	
Level of Service (LOS)		A				A					B				C	
Approach Delay (s/veh)	0.2				0.1				11.8				16.9			
Approach LOS	A				A				B				C			

HCS Two-Way Stop-Control Report

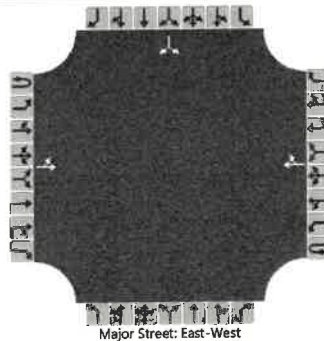
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	1/18/2023
Analysis Year	2026
Time Analyzed	PM Peak Hr. BUILD Traffic
Intersection Orientation	East-West
Project Description	#23-1812

Site Information

Intersection	SW Bascom Norris Dr. / East Condo Dr.
Jurisdiction	Columbia County
East/West Street	SW Bascom Norris Drive
North/South Street	East Condo Driveway
Peak Hour Factor	0.83
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		4	269				503	11						7		2
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage							Undivided									

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

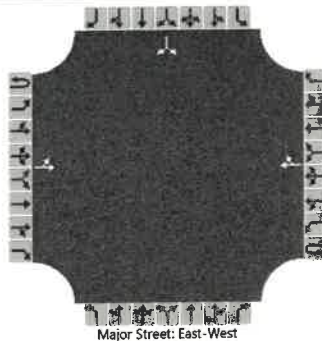
Flow Rate, v (veh/h)		5													11	
Capacity, c (veh/h)		961													318	
v/c Ratio		0.01													0.03	
95% Queue Length, Q ₉₅ (veh)		0.0													0.1	
Control Delay (s/veh)		8.8	0.1												16.7	
Level of Service (LOS)		A	A												C	
Approach Delay (s/veh)		0.2													16.7	
Approach LOS		A													C	

HCS Two-Way Stop-Control Report

General Information

Analyst	J. Buckholz	Intersection	SW Bascom Norris Dr. / West Condo Dr.
Agency/Co.	BUCKHOLZ TRAFFIC	Jurisdiction	Columbia County
Date Performed	1/18/2023	East/West Street	SW Bascom Norris Drive
Analysis Year	2026	North/South Street	West Condo Driveway
Time Analyzed	PM Peak Hr. BUILD Traffic	Peak Hour Factor	0.83
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	#23-1812		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		6	269				497	8						4		4
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type Storage							Undivided									

Critical and Follow-up Headways

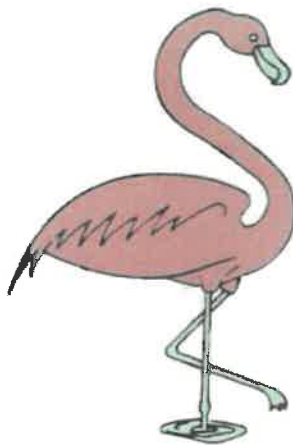
Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		7													10	
Capacity, c (veh/h)		970													366	
v/c Ratio		0.01													0.03	
95% Queue Length, Q ₉₅ (veh)		0.0													0.1	
Control Delay (s/veh)		8.7	0.1												15.1	
Level of Service (LOS)		A	A												C	
Approach Delay (s/veh)		0.3													15.1	
Approach LOS		A													C	

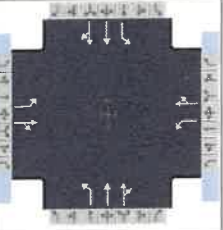
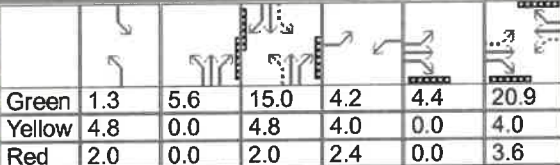
APPENDIX E

CAPACITY CALCULATIONS SIGNALIZED INTERSECTIONS

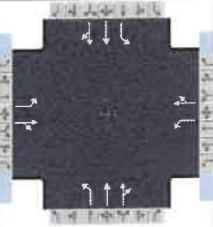
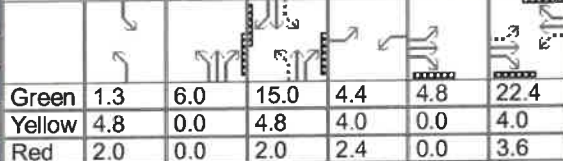
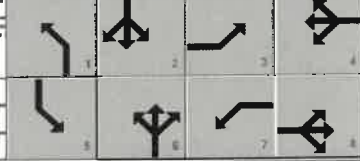


AM PEAK HOUR

HCS Signalized Intersection Results Summary

General Information						Intersection Information													
Agency		BUCKHOLZ TRAFFIC				Duration, h		0.250											
Analyst		J. Buckholz		Analysis Date		Jan 16, 2023		Area Type		Other									
Jurisdiction		Columbia County		Time Period		AM Peak Hour		PHF		0.84									
Urban Street		SR 47		Analysis Year		2023		Analysis Period		1> 16:30									
Intersection		SW Bascom Norris Drive		File Name		2023_AM_SR47_SWBascomNorris.xus													
Project Description		2023 AM Peak Hr Traffic																	
Demand Information				EB			WB			NB			SB						
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h				148	308	50	47	321	3	119	541	47	9	300	48				
Signal Information																			
Cycle, s	79.0	Reference Phase	2																
Offset, s	110	Reference Point	End																
Uncoordinated	Yes	Simult. Gap E/W	Off																
Force Mode	Fixed	Simult. Gap N/S	Off																
				Green	1.3	5.6	15.0	4.2	4.4	20.9									
				Yellow	4.8	0.0	4.8	4.0	0.0	4.0									
				Red	2.0	0.0	2.0	2.4	0.0	3.6									
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase				3		8		7		4		1		6		5		2	
Case Number				1.1		4.0		1.1		4.0		1.1		4.0		1.1		4.0	
Phase Duration, s				15.0		32.9		10.6		28.5		13.7		27.4		8.1		21.8	
Change Period, (Y+R c), s				7.3		7.6		6.4		7.6		6.8		6.8		6.8		6.8	
Max Allow Headway (MAH), s				4.9		6.9		4.9		6.8		4.9		4.4		4.9		4.5	
Queue Clearance Time (g s), s				7.4		18.7		3.7		17.3		6.9		16.0		2.4		10.5	
Green Extension Time (g e), s				0.4		3.2		0.1		3.6		0.3		3.1		0.0		1.8	
Phase Call Probability				0.98		1.00		0.71		1.00		0.96		1.00		0.21		1.00	
Max Out Probability				0.22		0.47		0.00		0.12		0.11		0.01		0.00		0.00	
Movement Group Results				EB			WB			NB			SB						
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R				
Assigned Movement				3	8	18	7	4	14	1	6	16	5	2	12				
Adjusted Flow Rate (v), veh/h				176	426		56	386		142	355	345	11	211	204				
Adjusted Saturation Flow Rate (s), veh/h/ln				1810	1796		1781	1852		1781	1841	1789	1810	1826	1738				
Queue Service Time (g s), s				5.4	16.7		1.7	15.3		4.9	13.9	14.0	0.4	8.3	8.5				
Cycle Queue Clearance Time (g c), s				5.4	16.7		1.7	15.3		4.9	13.9	14.0	0.4	8.3	8.5				
Green Ratio (g/C)				0.36	0.32		0.32	0.26		0.29	0.26	0.26	0.21	0.19	0.19				
Capacity (c), veh/h				340	575		267	490		326	481	467	165	347	330				
Volume-to-Capacity Ratio (X)				0.517	0.742		0.210	0.787		0.434	0.738	0.740	0.065	0.608	0.617				
Back of Queue (Q), ft/ln (95 th percentile)				102.7	317.5		33	312.7		90.1	257.4	260.6	7.4	174.4	170.1				
Back of Queue (Q), veh/ln (95 th percentile)				4.1	12.3		1.3	12.2		3.5	10.0	9.8	0.3	6.7	6.5				
Queue Storage Ratio (RQ) (95 th percentile)				0.82	0.00		0.22	0.66		0.30	0.00	0.00	0.02	0.00	0.00				
Uniform Delay (d 1), s/veh				19.6	24.0		20.3	27.0		22.4	26.7	26.7	25.8	29.3	29.4				
Incremental Delay (d 2), s/veh				1.7	7.1		0.5	9.7		1.3	3.2	3.3	0.2	2.4	2.7				
Initial Queue Delay (d 3), s/veh				0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0				
Control Delay (d), s/veh				21.3	31.1		20.9	36.7		23.7	29.9	30.0	26.0	31.8	32.0				
Level of Service (LOS)				C	C		C	D		C	C	C	C	C	C				
Approach Delay, s/veh / LOS				28.2	C		34.7	C		28.9	C		31.8	C					
Intersection Delay, s/veh / LOS				30.4						C									
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS																			
Bicycle LOS Score / LOS																			

HCS Signalized Intersection Results Summary

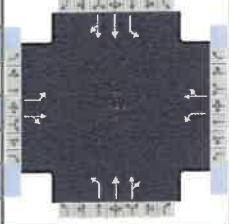
General Information						Intersection Information													
Agency		BUCKHOLZ TRAFFIC				Duration, h		0.250											
Analyst		J. Buckholz		Analysis Date		Jan 17, 2023		Area Type		Other									
Jurisdiction		Columbia County		Time Period		AM Peak Hour		PHF		0.84									
Urban Street		SR 47		Analysis Year		2026		Analysis Period		1> 16:30									
Intersection		SW Bascom Norris Drive		File Name		2026_B_AM_SR47_SWBascomNorris.xus													
Project Description		2026 BUILD AM Peak Hr Traffic																	
Demand Information				EB			WB			NB			SB						
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h				159	331	54	48	339	3	124	557	48	9	309	51				
Signal Information																			
Cycle, s	81.5	Reference Phase	2																
Offset, s	110	Reference Point	End																
Uncoordinated	Yes	Simult. Gap E/W	Off																
Force Mode	Fixed	Simult. Gap N/S	Off																
				Green	1.3	6.0	15.0	4.4	4.8	22.4									
				Yellow	4.8	0.0	4.8	4.0	0.0	4.0									
				Red	2.0	0.0	2.0	2.4	0.0	3.6									
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase				3		8		7		4		1		6		5		2	
Case Number				1.1		4.0		1.1		4.0		1.1		4.0		1.1		4.0	
Phase Duration, s				15.6		34.8		10.8		30.0		14.1		27.8		8.1		21.8	
Change Period, (Y+R _c), s				7.3		7.6		6.4		7.6		6.8		6.8		6.8		6.8	
Max Allow Headway (MAH), s				4.9		6.9		4.9		6.8		4.9		4.4		4.9		4.5	
Queue Clearance Time (g _s), s				7.9		20.6		3.8		18.7		7.2		17.0		2.4		11.2	
Green Extension Time (g _e), s				0.5		3.0		0.1		3.7		0.3		3.2		0.0		1.9	
Phase Call Probability				0.99		1.00		0.73		1.00		0.96		1.00		0.22		1.00	
Max Out Probability				0.31		0.67		0.00		0.18		0.15		0.01		0.00		0.00	
Movement Group Results				EB			WB			NB			SB						
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R				
Assigned Movement				3	8	18	7	4	14	1	6	16	5	2	12				
Adjusted Flow Rate (v), veh/h				189	458		57	407		148	365	355	11	218	211				
Adjusted Saturation Flow Rate (s), veh/h/ln				1810	1795		1781	1853		1781	1841	1789	1810	1826	1736				
Queue Service Time (g _s), s				5.9	18.6		1.8	16.7		5.2	15.0	15.0	0.4	9.0	9.2				
Cycle Queue Clearance Time (g _c), s				5.9	18.6		1.8	16.7		5.2	15.0	15.0	0.4	9.0	9.2				
Green Ratio (g/C)				0.38	0.33		0.33	0.27		0.29	0.26	0.26	0.20	0.18	0.18				
Capacity (c), veh/h				343	599		260	509		317	475	462	154	336	320				
Volume-to-Capacity Ratio (X)				0.552	0.765		0.220	0.800		0.466	0.768	0.770	0.070	0.649	0.659				
Back of Queue (Q), ft/ln (95 th percentile)				113	348.3		34.6	336.1		98	275.7	279.2	7.8	191.3	186.1				
Back of Queue (Q), veh/ln (95 th percentile)				4.5	13.5		1.4	13.1		3.9	10.7	10.5	0.3	7.4	7.2				
Queue Storage Ratio (RQ) (95 th percentile)				0.90	0.00		0.23	0.71		0.33	0.00	0.00	0.03	0.00	0.00				
Uniform Delay (d ₁), s/veh				19.8	24.3		20.6	27.5		23.2	28.0	28.0	27.0	30.8	30.9				
Incremental Delay (d ₂), s/veh				2.0	7.9		0.6	10.1		1.5	3.7	3.9	0.3	3.0	3.3				
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0				
Control Delay (d), s/veh				21.8	32.2		21.2	37.6		24.8	31.7	31.9	27.3	33.8	34.2				
Level of Service (LOS)				C	C		C	D		C	C	C	C	C	C				
Approach Delay, s/veh / LOS				29.1		C	35.6		D	30.6		C	33.8		C				
Intersection Delay, s/veh / LOS				31.7						C									
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS																			
Bicycle LOS Score / LOS																			

PM PEAK HOUR

HCS Signalized Intersection Results Summary

General Information

Agency	BUCKHOLZ TRAFFIC			Duration, h	0.250
Analyst	J. Buckholz	Analysis Date	Jan 11, 2023	Area Type	Other
Jurisdiction	Columbia County	Time Period	PM Peak Hour	PHF	0.83
Urban Street	SR 47	Analysis Year	2023	Analysis Period	1> 16:30
Intersection	SW Bascom Norris Drive	File Name	2023_PM_SR47_SWBascomNorris.xus		
Project Description	2023 PM Peak Hr Traffic				



Demand Information

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	82	175	38	74	271	1	162	271	33	8	548	126

Signal Information

Cycle, s	85.7	Reference Phase	2									
Offset, s	110	Reference Point	End									
Uncoordinated	Yes	Simult. Gap E/W	Off	Green	1.2	0.6	23.8	5.3	1.0	19.2		
Force Mode	Fixed	Simult. Gap N/S	Off	Yellow	4.8	4.8	4.8	4.0	0.0	4.0		
				Red	2.0	2.0	2.0	2.4	0.0	3.6		

Timer Results

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	3	8	7	4	1	6	5	2
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	12.7	27.9	11.7	26.8	15.5	38.1	8.0	30.6
Change Period, (Y+R _c), s	7.3	7.6	6.4	7.6	6.8	6.8	6.8	6.8
Max Allow Headway (MAH), s	4.9	6.9	4.9	6.8	4.9	4.4	4.9	4.5
Queue Clearance Time (g _s), s	5.5	12.9	5.3	16.1	8.3	8.5	2.3	20.1
Green Extension Time (g _e), s	0.2	2.2	0.2	3.0	0.5	1.5	0.0	3.7
Phase Call Probability	0.90	1.00	0.88	1.00	0.99	1.00	0.21	1.00
Max Out Probability	0.03	0.06	0.02	0.07	0.35	0.00	0.00	0.04

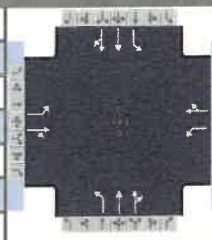
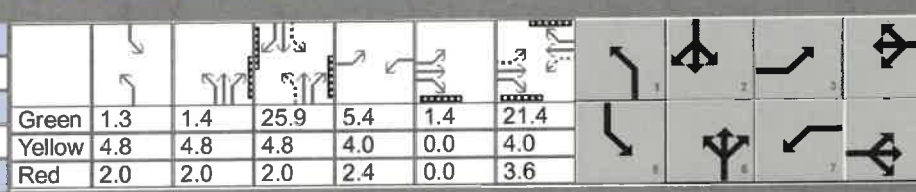
Movement Group Results

	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h	99	257		89	328		195	185	181	10	419	393
Adjusted Saturation Flow Rate (s), veh/h/ln	1810	1798		1767	1869		1781	1767	1699	1810	1856	1735
Queue Service Time (g _s), s	3.5	10.9		3.3	14.1		6.3	6.4	6.5	0.3	18.1	18.1
Cycle Queue Clearance Time (g _c), s	3.5	10.9		3.3	14.1		6.3	6.4	6.5	0.3	18.1	18.1
Green Ratio (g/C)	0.29	0.24		0.29	0.22		0.40	0.37	0.37	0.29	0.28	0.28
Capacity (c), veh/h	262	425		289	419		310	646	621	386	517	483
Volume-to-Capacity Ratio (X)	0.376	0.603		0.308	0.781		0.630	0.287	0.291	0.025	0.811	0.813
Back of Queue (Q), ft/ln (95 th percentile)	69.1	225.2		63.1	300.4		118.4	118.2	114.9	6.2	332.1	321.2
Back of Queue (Q), veh/ln (95 th percentile)	2.8	8.8		2.5	11.8		4.7	4.4	4.3	0.2	13.0	12.4
Queue Storage Ratio (RQ) (95 th percentile)	0.55	0.00		0.42	0.63		0.39	0.00	0.00	0.02	0.00	0.00
Uniform Delay (d ₁), s/veh	24.3	29.1		23.9	31.3		20.4	19.3	19.3	21.6	28.8	28.8
Incremental Delay (d ₂), s/veh	1.3	4.9		0.9	10.9		3.0	0.3	0.4	0.0	4.4	4.7
Initial Queue Delay (d ₃), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.6	34.1		24.7	42.1		23.4	19.6	19.7	21.6	33.2	33.6
Level of Service (LOS)	C	C		C	D		C	B	B	C	C	C
Approach Delay, s/veh / LOS	31.7		C	38.4		D	21.0		C	33.2		C
Intersection Delay, s/veh / LOS	30.8						C					

Multimodal Results

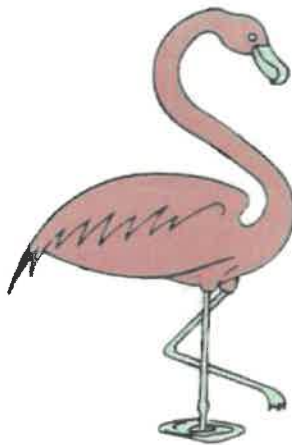
	EB	WB	NB	SB
Pedestrian LOS Score / LOS				
Bicycle LOS Score / LOS				

HCS signalized Intersection Results Summary

General Information						Intersection Information									
Agency		BUCKHOLZ TRAFFIC				Duration, h		0.250							
Analyst		J. Buckholz		Analysis Date		Jan 17, 2023		Area Type		Other					
Jurisdiction		Columbia County		Time Period		PM Peak Hour		PHF		0.83					
Urban Street		SR 47		Analysis Year		2026		Analysis Period		1> 16:30					
Intersection		SW Bascom Norris Drive		File Name		2026_B_PM_SR47_SWBascomNorris.xus									
Project Description		2026 BUILD PM Peak Hr Traffic													
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				89	189	40	76	292	1	172	279	34	8	564	136
Signal Information															
Cycle, s	91.3	Reference Phase	2												
Offset, s	110	Reference Point	End												
Uncoordinated	Yes	Simult. Gap E/W	Off												
Force Mode	Fixed	Simult. Gap N/S	Off												
Green	1.3	1.4	25.9	5.4	1.4	21.4									
Yellow	4.8	4.8	4.8	4.0	0.0	4.0									
Red	2.0	2.0	2.0	2.4	0.0	3.6									
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				3	8	7	4	1	6	5	2				
Case Number				1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0				
Phase Duration, s				13.2	30.4	11.8	29.0	16.3	40.9	8.1	32.7				
Change Period, (Y+R c), s				7.3	7.6	6.4	7.6	6.8	6.8	6.8	6.8				
Max Allow Headway (MAH), s				4.9	6.9	4.9	6.8	4.9	4.4	4.9	4.5				
Queue Clearance Time (g s), s				6.0	14.4	5.5	18.3	9.1	9.0	2.3	22.1				
Green Extension Time (g e), s				0.2	2.3	0.2	3.1	0.4	1.6	0.0	3.8				
Phase Call Probability				0.93	1.00	0.90	1.00	0.99	1.00	0.22	1.00				
Max Out Probability				0.05	0.11	0.03	0.12	0.56	0.00	0.00	0.07				
Movement Group Results				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3	8	18	7	4	14	1	6	16	5	2	12
Adjusted Flow Rate (v), veh/h				107	276		92	353		207	191	186	10	436	407
Adjusted Saturation Flow Rate (s), veh/h/ln				1810	1799		1767	1869		1781	1767	1699	1810	1856	1730
Queue Service Time (g s), s				4.0	12.4		3.5	16.3		7.1	6.9	7.0	0.3	20.1	20.1
Cycle Queue Clearance Time (g c), s				4.0	12.4		3.5	16.3		7.1	6.9	7.0	0.3	20.1	20.1
Green Ratio (g/C)				0.30	0.25		0.29	0.23		0.41	0.37	0.37	0.30	0.28	0.28
Capacity (c), veh/h				255	450		285	439		306	661	636	387	528	492
Volume-to-Capacity Ratio (X)				0.420	0.613		0.321	0.803		0.677	0.289	0.293	0.025	0.827	0.828
Back of Queue (Q), ft/ln (95 th percentile)				80.1	249.4		69.1	337.6		136.3	129.9	126.2	6.6	368.7	355.7
Back of Queue (Q), veh/ln (95 th percentile)				3.2	9.7		2.7	13.3		5.4	4.8	4.7	0.3	14.4	13.7
Queue Storage Ratio (RQ) (95 th percentile)				0.64	0.00		0.46	0.71		0.45	0.00	0.00	0.02	0.00	0.00
Uniform Delay (d 1), s/veh				25.4	30.3		25.0	32.9		21.7	20.1	20.1	22.6	30.6	30.6
Incremental Delay (d 2), s/veh				1.6	4.9		0.9	11.6		3.7	0.3	0.4	0.0	5.5	5.9
Initial Queue Delay (d 3), s/veh				0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh				27.0	35.2		25.9	44.6		25.4	20.4	20.5	22.6	36.0	36.5
Level of Service (LOS)				C	D		C	D		C	C	C	C	D	D
Approach Delay, s/veh / LOS				32.9	C		40.7	D		22.2	C		36.1	D	
Intersection Delay, s/veh / LOS				32.9						C					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS															
Bicycle LOS Score / LOS															

APPENDIX F

SIGNAL TIMINGS



STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION - DISTRICT TWO
Signal Retiming - SR 47 AND US 41
FIN 211083-2-32

Designed By:	SMP
Date:	8/10/2015
Checked By:	RAA
Date:	8/10/2015

Section		Mile Post		Node	5
Sig ID		Controller	Naztec 970	System ID	
Maj. Street	SR 47	Orientation	N-S	SOP	10
Min. Street	Bascom Norris Dr	Orientation	E-W		

Pedestrians								
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8
Direction	NBL	SB	EBL	WB	SBL	NB	WBL	EB
Speed Limit (mph)	45	45	25	35	45	45	35	25
Vehicle Traversed Width	121	142	158	148	118	140	154	148
Slope of Approach Grade	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ped-X (curb to curb)		82		123		76		113
Crossing Time		24		36		22		33
Max Ped-X (max ped det to curb)		33		22		45		33
Crossing Time	/	39	/	49	/	41	/	49
Slope of Approach (smart level)	0.00%	0.00%	-1.60%	0.00%	0.00%	0.00%	0.00%	-1.60%

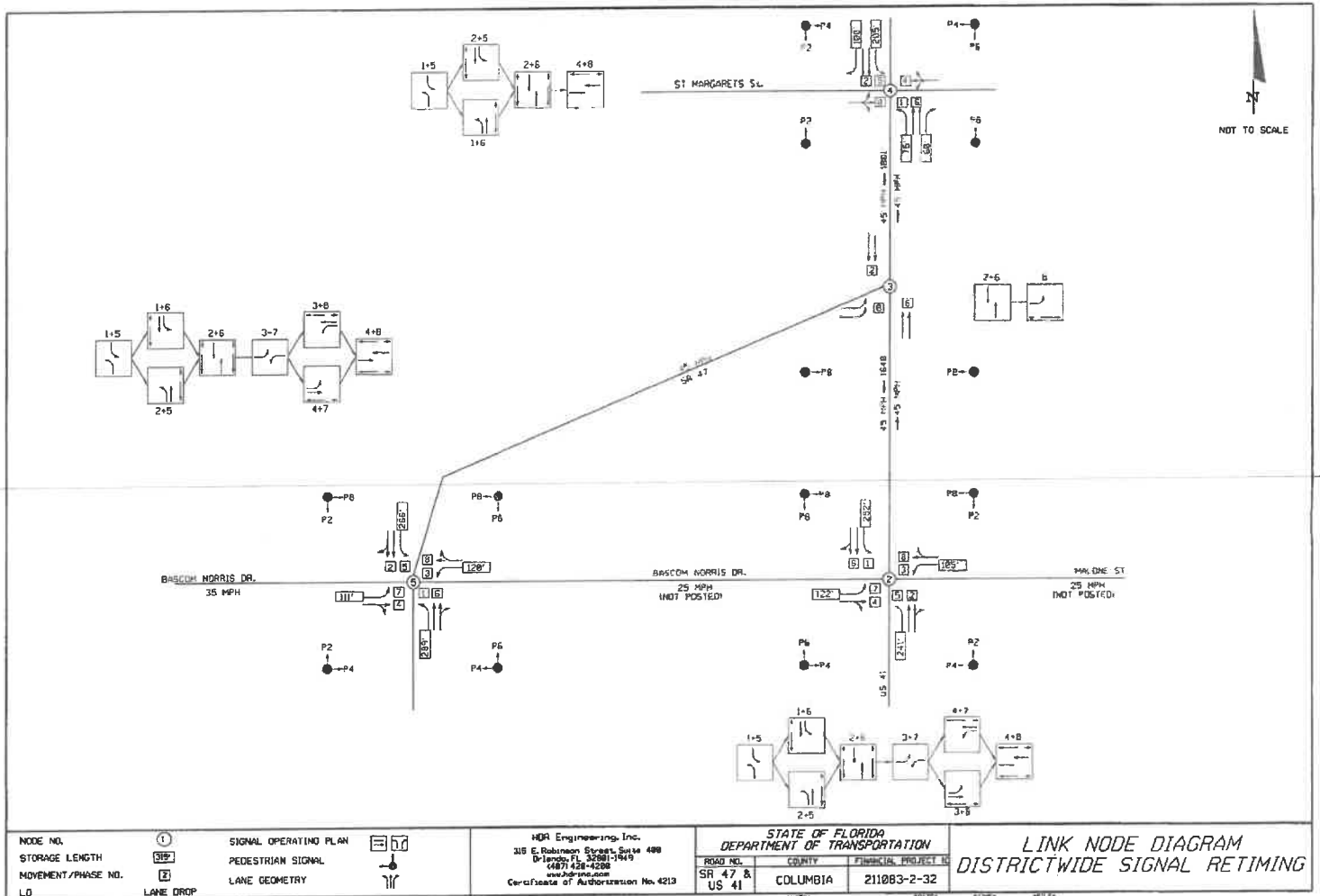
Controller Timings (seconds)								
Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8
Direction	NBL	SB	EBL	WB	SBL	NB	WBL	EB
Turn Type	Prot/Perm		Prot/Perm		Prot/Perm		Prot/Perm	
Min Green	6	15	6	10	6	15	6	7
Ext	4.0	4.0	4.0	6.0	4.0	4.0	4.0	6.0
Yellow	4.8	4.8	3.4	4.0	4.8	4.8	4.0	3.4
All Red	2.0	2.0	3.9	3.6	2.0	2.0	2.4	3.6
Max I	15	40	15	36	15	40	15	30
Max II	15	70	18	44	15	70	18	44
Walk		7		7		7		7
Fashing Don't Walk		24		36		22		33
Min Splits	13.0	38.0	14.0	51.0	13.0	38.0	13.0	47.0
Detector Memory		On				On		
Det. Cross Switch.	Yes				Yes			
Recall		Min				Min		
CNA								
Coord Phase		Yes				Yes		

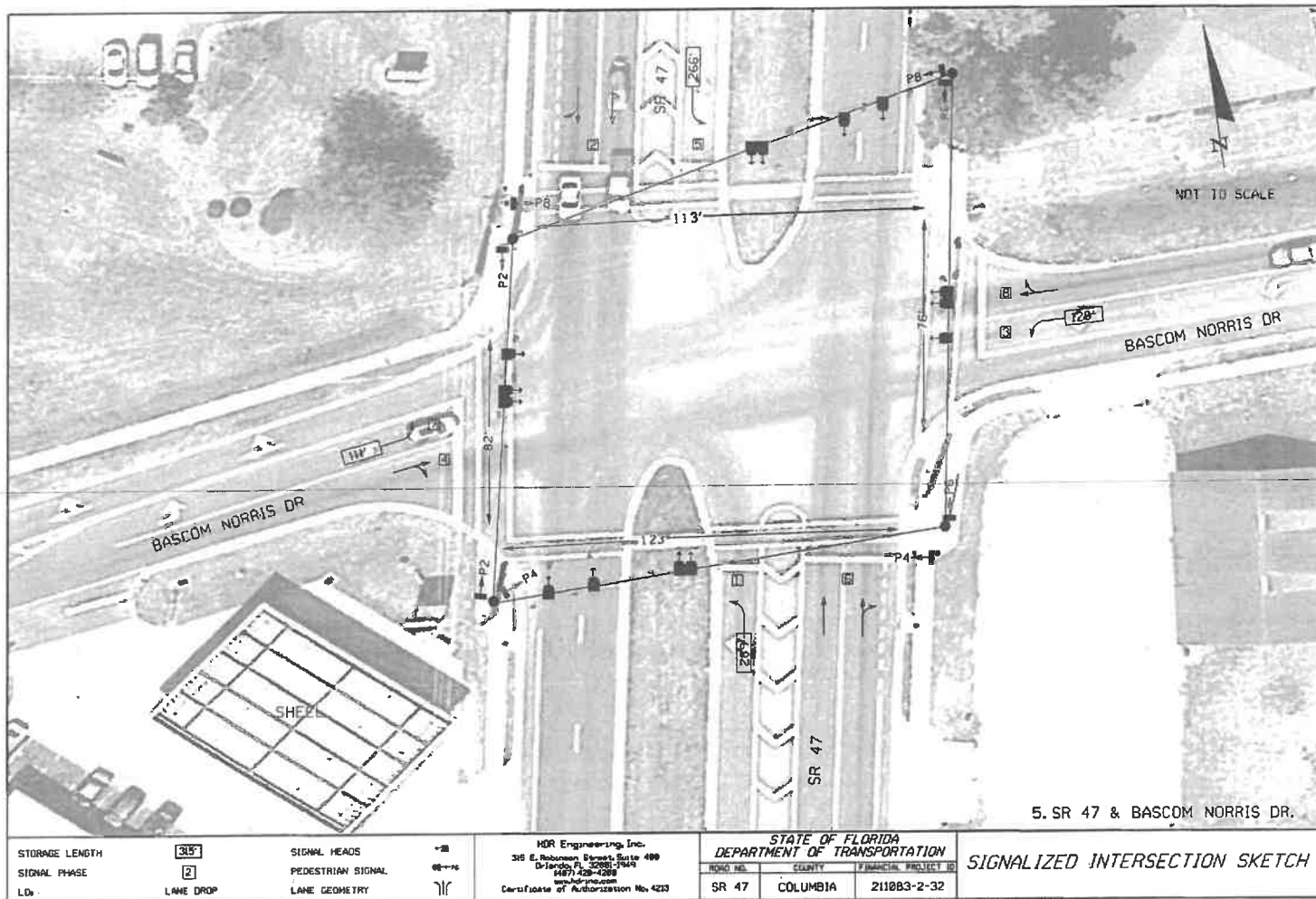
Coordination Timings (seconds)											
Plan	Pattern	C-O-S	Splits								Offset A
ALL	1	144	44	38	45	69	45	37	15	33	100
MIDDAY	2	277	17	44	17	32	13	46	16	32	110
PM	3	377	16	56	16	36	15	44	16	63	110
PM School	4	544	14	38	14	44	14	36	17	47	110
All School	5	677	14	56	15	39	15	37	15	33	100

Notes:

- 1) Offset referenced to "end of main street green"
- 2) Max II during coordination
- 3) Fixed force-offs
- 4) Red revert is 2.0 for all phases
- 5) Ø4 & Ø8 on min recall during patterns 1, 2, 3, & 5
- 6) Ø2 & Ø6 on max recall during patterns 1, 2, 3, & 5
- 7) Ø2, Ø6, & Ø8 on max recall and Ø4 on min recall during pattern 6

Signal Phasing - All Plans			
Ring-1	1	2	3
Ring-2	5	6	7





STORAGE LENGTH

315'

SIGNAL PHASE

2

LDs

LANE DROP

SIGNAL HEADS

PEDESTRIAN SIGNAL

LANE GEOMETRY

~8

00-70

11

MOR Engineering, Inc.
345 E. Robinson Street, Suite 400
Orlando, FL 32801-1944
(407) 428-4288
www.mor-inc.com
Certificate of Authorization No. 4233

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 47	COLUMBIA	211083-2-32

SIGNALIZED INTERSECTION SKETCH

MEMORANDUM

To: Chad Williams, P.E.
Columbia County Engineer

From: Vincent Spahr, P.E.
Kimley-Horn and Associates, Inc.

Date: April 4, 2023

Subject: Tennis Forever Development Traffic Study



Kimley-Horn has completed a review of the Tennis Forever Development on the behalf of Columbia County. The Tennis Forever Development is proposed to include 60 multi-family dwelling units and a six tennis courts located on the north side of SW Bascom Norris Drive next to the Southside Sports Complex. Access for the multi-family units is proposed via two full access connections to SW Bascom Norris Drive. Access to the tennis courts is proposed via one full access connection aligned with SW Tomoka Terrace. Build is planned by year 2026. The following summarizes Kimley-Horn's review of the Traffic Study.

PROJECT TRAFFIC

1. The trip generation calculations (67 AM peak hour trips and 72 PM peak hour trips) are consistent with the latest Institute of Transportation Engineers *Trip Generation Manual*.
2. The trip distribution and trip assignment were developed based on existing travel patterns in the area. The approach seems reasonable and justifiable.
3. Data collection for the PM Peak hour was conducted on a non-typical weekday (Monday). Based on additional data made available by the County, the traffic volumes collected do not vary significantly from typical weekday PM peak hour traffic volumes. No action necessary.

ANALYSIS

4. Turn Lane Evaluation
 - a. SW Bascom Norris Drive and SW Tomoka Terrace/Tennis Facility Driveway
 - i. The turn lane evaluation presented in the Traffic Study indicates that an ingress eastbound left-turn lane is warranted under buildout conditions. **The left-turn lane warrant presented in Figure 15 is based on a left-turn percentage of 5%, when actual left-turn percentages are expected to be 1-2%. An eastbound left-turn lane is not warranted at this intersection.**

- ii. The turn lane evaluation presented in the Traffic Study indicates that a westbound left-turn lane is warranted under buildout conditions. **The left-turn lane warrant presented in Figure 16 is based on a left-turn percentage of 5%, when actual left-turn percentages are expected to be 1-2%. A westbound left-turn lane is not warranted at this intersection.**
 - b. SW Bascom Norris Drive and SW McFarlane Avenue
 - i. The turn lane evaluation presented in the Traffic Study indicates that a westbound right-turn lane is warranted under existing conditions. **The applicant can construct a westbound right-turn lane at the intersection of SW Bascom Norris Drive and SW McFarlane Avenue if they would like, but otherwise the intersection is expected to operate acceptably through project buildout without it.**
 - ii. The turn lane evaluation presented in the Traffic Study indicates that an eastbound left-turn lane is warranted under buildout conditions. **The applicant can construct an eastbound left-turn lane at the intersection of SW Bascom Norris Drive and SW McFarlane Avenue if they would like, but otherwise the intersection is expected to operate acceptably through project buildout without it.**
- 5. Unsignalized Intersection Capacity Analysis: The analysis does not indicate any operational deficiencies upon project buildout.
- 6. Signalized Intersection Capacity Analysis: The analysis does not indicate any operational deficiencies upon project buildout.

CONCLUSIONS/RECOMMENDATIONS

- 7. Access Management
 - a. The County is amenable to the proposed two driveway connections serving the residential portion of the proposed Tennis Forever development. **However, please note that any future development on the property in the space between the tennis court facilities and the residential units will require interconnectivity with the currently proposed development. No additional access connections to SW Bascom Norris Drive will be permitted within the subject property.**

File Attachments for Item:

iii. **SPR23-04**, Petition submitted by Dalton Kurtz (agent) for 4 Brothers 2020 LLC (owner), for a Site Plan Review for Florida Gateway Drive RV Park, in the Commercial Highway Interchange (CHI) Zoning District, and located on Parcel 02714-014, which is regulated by the Land Development Regulations section 4.15.



GROWTH MANAGEMENT

205 North Marion Ave.
Lake City, FL 32055
Telephone: (386)719-5750
E-Mail:
growthmanagement@lcfla.com

FOR PLANNING USE ONLY

Application # _____
Application Fee: **\$200.00**
Receipt No. _____
Filing Date _____
Completeness Date _____

A. PROJECT INFORMATION

1. Project Name: FLORIDA GATEWAY DRIVE RV PARK
2. Address of Subject Property: LAKE CITY, FL
3. Parcel ID Number(s): 02-4S-16-02714-014
4. Future Land Use Map Designation: COMMERCIAL
5. Zoning Designation: CHI
6. Acreage: 8.5
7. Existing Use of Property: VACANT
8. Proposed use of Property: RV PARK
9. Type of Development (Check All That Apply):
() Increase of floor area to an existing structure: Total increase of square footage _____
(X) New construction: Total square footage Approx. 112,820 sqft (approx 2.6 acres of impervious)
() Relocation of an existing structure: Total square footage _____
() Increase in impervious area: Total Square Footage _____

B. APPLICANT INFORMATION

1. Applicant Status ☐ Owner (title holder) ☒ Agent
2. Name of Applicant(s): DALTON KURTZ Title: PROJECT MANAGER
Company name (if applicable): NORTH FLORIDA PROFESSIONAL SERVICES, INC
Mailing Address: 1450 SW SR-47
City: LAKE CITY State: FL Zip: 32025
Telephone: () 386-752-4675 Fax: () 386-752-4674 Email: DKURTZ@NFPS.NET

PLEASE NOTE: Florida has a very broad public records law. Most written communications to or from government officials regarding government business is subject to public records requests. Your e-mail address and communications may be subject to public disclosure.

3. If the applicant is agent for the property owner*.
Property Owner Name (title holder): 4 BROTHERS 2020 LLC
Mailing Address: 508 N FLORENCE ST.
City: BURBANK State: CA Zip: 91505
Telephone: () 352-363-7011 Fax: () Email: SSHARRAH@GMAIL.COM

PLEASE NOTE: Florida has a very broad public records law. Most written communications to or from government officials regarding government business is subject to public records requests. Your e-mail address and communications may be subject to public disclosure.

***Must provide an executed Property Owner Affidavit Form authorizing the agent to act on behalf of the property owner.**

C. ADDITIONAL INFORMATION

1. Is there any additional contract for the sale of, or options to purchase, the subject property?
If yes, list the names of all parties involved: _____
If yes, is the contract/option contingent or absolute: ☐ Contingent ☐ Absolute
2. Has a previous application been made on all or part of the subject property:
Future Land Use Map Amendment: ☐ Yes _____ ☒ No _____
Future Land Use Map Amendment Application No. CPA _____
Site Specific Amendment to the Official Zoning Atlas (Rezoning): ☒ Yes Z 21-08 ☐ No _____
Site Specific Amendment to the Official Zoning Atlas (Rezoning) Application No. Z _____
Variance: ☐ Yes _____ ☒ No _____
Variance Application No. V _____
Special Exception: ☐ Yes _____ ☒ No _____
Special Exception Application No. SE _____

D. ATTACHMENT/SUBMITTAL REQUIREMENTS

1. Vicinity Map – Indicating general location of the site, abutting streets, existing utilities, complete legal description of the property in question, and adjacent land use.
2. Site Plan – Including, but not limited to the following:
 - a. Name, location, owner, and designer of the proposed development.
 - b. Present zoning for subject site.
 - c. Location of the site in relation to surrounding properties, including the means of ingress and egress to such properties and any screening or buffers on such properties.
 - d. Date, north arrow, and graphic scale not less than one inch equal to 50 feet.
 - e. Area and dimensions of site (Survey).
 - f. Location of all property lines, existing right-of-way approaches, sidewalks, curbs, and gutters.
 - g. Access to utilities and points of utility hook-up.
 - h. Location and dimensions of all existing and proposed parking areas and loading areas.
 - i. Location, size, and design of proposed landscaped areas (including existing trees and required landscaped buffer areas).
 - j. Location and size of any lakes, ponds, canals, or other waters and waterways.
 - k. Structures and major features fully dimensioned including setbacks, distances between structures, floor area, width of driveways, parking spaces, property or lot lines, and percent of property covered by structures.
 - l. Location of trash receptacles.
 - m. For multiple-family, hotel, motel, and mobile home park site plans:
 - i. Tabulation of gross acreage.
 - ii. Tabulation of density.
 - iii. Number of dwelling units proposed.
 - iv. Location and percent of total open space and recreation areas.
 - v. Percent of lot covered by buildings.

- vi. Floor area of dwelling units.
 - vii. Number of proposed parking spaces.
 - viii. Street layout.
 - ix. Layout of mobile home stands (for mobile home parks only).
3. Stormwater Management Plan—Including the following:
 - a. Existing contours at one foot intervals based on U.S. Coast and Geodetic Datum.
 - b. Proposed finished elevation of each building site and first floor level.
 - c. Existing and proposed stormwater management facilities with size and grades.
 - d. Proposed orderly disposal of surface water runoff.
 - e. Centerline elevations along adjacent streets.
 - f. Water management district surface water management permit.
 4. Fire Department Access and Water Supply Plan: The Fire Department Access and Water Supply Plan must demonstrate compliance with Chapter 18 of the Florida Fire Prevention Code, be located on a separate signed and sealed plan sheet, and must be prepared by a professional fire engineer licensed in the State of Florida. The Fire Department Access and Water Supply Plan must contain fire flow calculations in accordance with the Guide for Determination of Required Fire Flow, latest edition, as published by the Insurance Service Office (“ISO”) and/or Chapter 18, Section 18.4 of the Florida Fire Prevention Code, whichever is greater.
 5. Concurrency Impact Analysis: Concurrency Impact Analysis of impacts to public facilities. For commercial and industrial developments, an analysis of the impacts to Transportation, Potable Water, Sanitary Sewer, and Solid Waste impacts are required.
 6. Comprehensive Plan Consistency Analysis: An analysis of the application’s consistency with the Comprehensive Plan (analysis must identify specific Goals, Objectives, and Policies of the Comprehensive Plan and detail how the application complies with said Goals, Objectives, and Policies).
 7. Legal Description with Tax Parcel Number (In Word Format).
 8. Proof of Ownership (i.e. deed).
 9. Agent Authorization Form (signed and notarized).
 10. Proof of Payment of Taxes (can be obtained online via the Columbia County Tax Collector’s Office).
 11. Fee. The application fee for a Site and Development Plan Application is \$500. No application shall be accepted or processed until the required application fee has been paid.

NOTICE TO APPLICANT

All eleven (11) attachments are required for a complete application. Once an application is submitted and paid for, a completeness review will be done to ensure all the requirements for a complete application have been met. If there are any deficiencies, the applicant will be notified in writing. If an application is deemed to be incomplete, it may cause a delay in the scheduling of the application before the Planning & Zoning Board.

For submittal requirements, please see the Columbia County Building and Zoning Development Application Submittal Guidelines.

THE APPLICANT ACKNOWLEDGES THAT THE APPLICANT OR AGENT MUST BE PRESENT AT THE PUBLIC HEARING BEFORE THE PLANNING AND ZONING BOARD, AS ADOPTED IN THE BOARD RULES AND PROCEDURES, OTHERWISE THE REQUEST MAY BE CONTINUED TO A FUTURE HEARING DATE.

I hereby certify that all of the above statements and statements contained in any documents or plans submitted herewith are true and accurate to the best of my knowledge and belief.

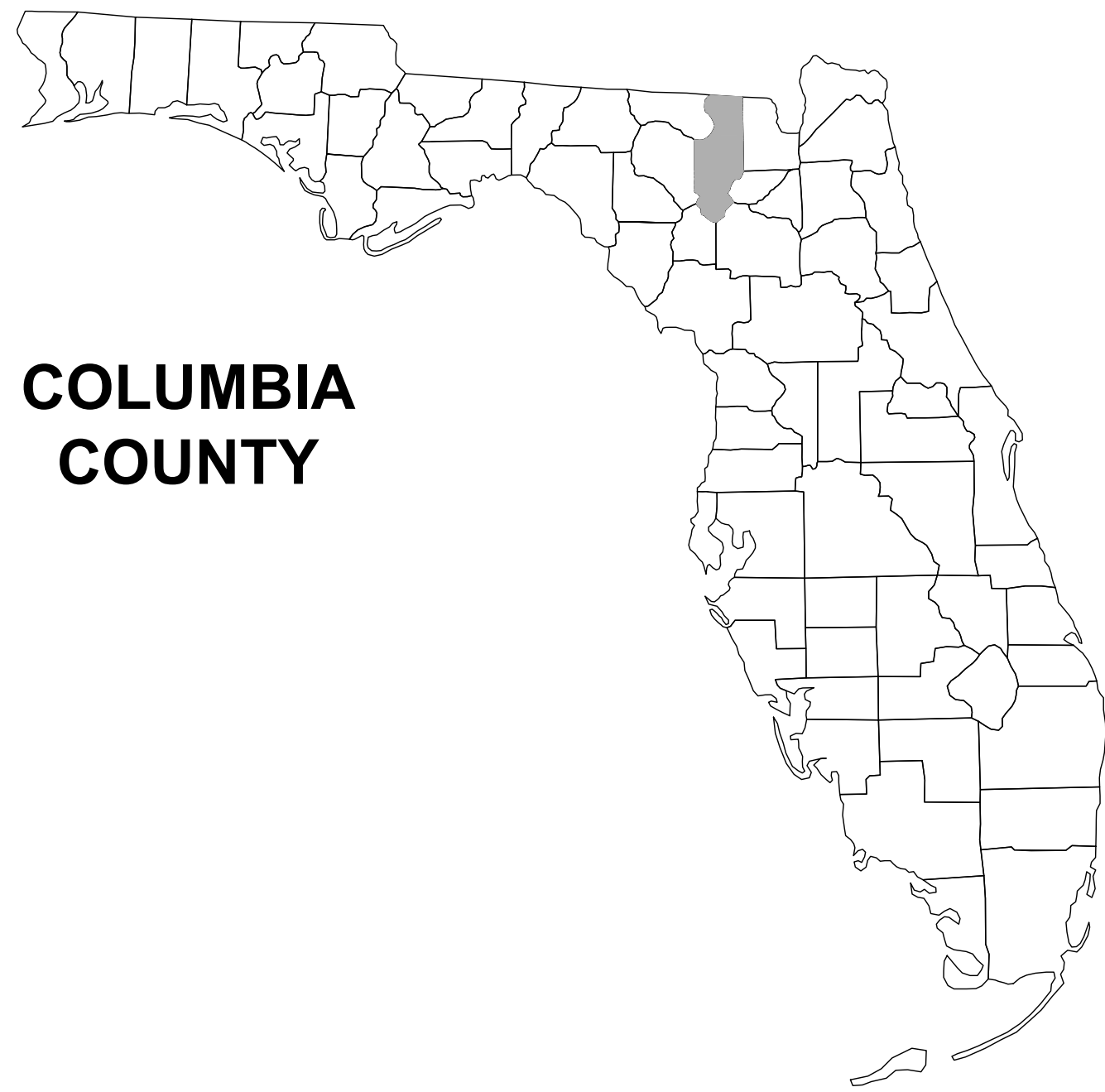
DALTON KURTZ

Applicant/Agent Name (Type or Print)

Applicant/Agent Signature

12/1/2022

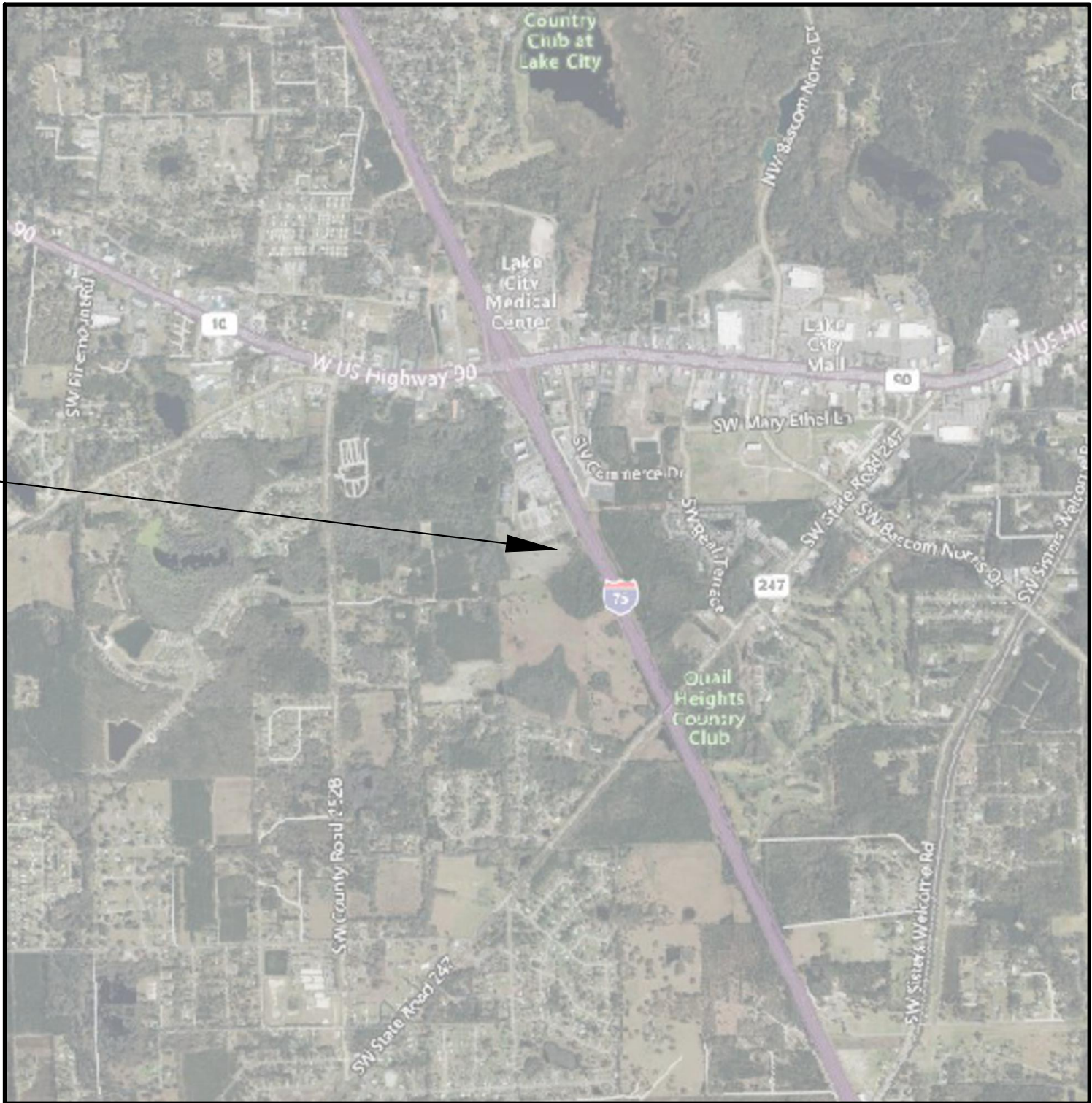
Date



COLUMBIA
COUNTY

FLORIDA GATEWAY DRIVE RV PARK LAKE CITY, FL

PROJECT LOCATION



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EROSION NOTES	C-45

PLANS PREPARED FOR:

4 BROTHERS 2020
7717 SW COUNTY RD 796
LAKE BUTLER, FL 32054
386-365-7483

ATTACHMENTS

SURVEY

S-1

REVISIONS	
DATE	DESCRIPTION



NORTH FLORIDA PROFESSIONAL SERVICES, INC.
P.O. BOX 3823
LAKE CITY, FL 32056
PH. 386-752-4675
LIC NO. LB8356

2551 BLAIRSTONE PINES DR.
TALLAHASSEE, FL 32301
WWW.NFPS.NET
CA# 29011

JOB NUMBER:
L210121SHA
EOR:
GREGORY G. BAILEY
P.E. NO.:
43858

COVER SHEET

SHEET
NO.

C-1

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



NFPS



PO BOX 3823
LAKE CITY, FL 32056



PHONE (386) 752-4675
FAX (386) 752-4674



www.nfps.net

Fire Department Access and Water Supply Plan 02-4S-16-02714-014

The Fire Department will have access to the property through SW Florida Gateway Dr. The site is a looped 12' wide one way paved access road. There will be 2 fire hydrants placed on the site and supplied via 8" main. See the site plan for details on the water supply network.

**CONCURRENCY
WORKSHEET**

RV PARK
09/08/2022

Trip Generation Analysis per Lot

ITE Code	ITE Use	ADT Multiplier	PM Peak Multiplier	Campsites	Total ADT	Total PM Peak
416	Campground/RV Park	9.00	0.98	43.00	387.00	42.14

Potable Water Analysis

Ch. 64E-6.008, F.A.C. Use	Ch. 64E-6.008, F.A.C. Gallons Per Day (GPD)	Ch. 64E-6.008, F.A.C. Multiplier*	Total (Gallons Per Day)	Dwelling Unit*	Total Development (GPD)
Transient RV Park Overnight W/ Water & Sewer	75.00	2.00	150.00	43.00	6450.00

*Multiplier or "peaking factor" was obtained from the publication " Recommended Standards for Wastewater Facilities" by the Great Lakes-upper Mississippi River Board of State and Provincial Public Health and Environmental Managers. Page 10-6, Figure 1.

Sanitary Sewer Analysis

Ch. 64E-6.008, F.A.C. Use	Ch. 64E-6.008, F.A.C. Gallons Per Day (GPD)	Ch. 64E-6.008, F.A.C. Multiplier*	Total (Gallons Per Day)	Dwelling Unit*	Total Development (GPD)
Transient RV Park Overnight W/ Water & Sewer	75.00	2.00	150.00	43.00	6450.00

*Multiplier or "peaking factor" was obtained from the publication " Recommended Standards for Wastewater Facilities" by the Great Lakes-upper Mississippi River Board of State and Provincial

Solid Waste Analysis

Use	Pounds Per Person Per unit Per day	Estimated Population	Units	Total Development (Lbs Per Day)
Transient RV Park	5.50	86.00	43.00	473.00



NFPS



PO BOX 3823
LAKE CITY, FL 32056



PHONE (386) 752-4675
FAX (386) 752-4674



www.nfps.net

Comprehensive Plan Consistency Analysis Florida Gateway Drive RV Park

The following analysis identifies how this application is consistent with the City's Comprehensive Plan. Language from the comprehensive plan is provided in normal font, and the consistency statements are provided in bold and italics font.

Proposed Site Plan

The property is 8.5 acres and is located along SW Florida Gateway Dr in Columbia County. The proposed development is zoned as commercial, highway interchange.

(Tax Parcel 02-4S-16-02714-014)

Future Land Use Element

GOAL I - IN RECOGNITION OF THE IMPORTANCE OF ENHANCING THE QUALITY OF LIFE IN THE CITY, DIRECT DEVELOPMENT TO THOSE AREAS WHICH HAVE IN PLACE, OR HAVE AGREEMENTS TO PROVIDE, SERVICE CAPACITY TO ACCOMMODATE GROWTH IN AN ENVIRONMENTALLY ACCEPTABLE MANNER.

OBJECTIVE I.1 The City Concurrence Management System shall make available or schedule for availability the public facilities for future growth and urban development as development occurs in order to provide for urban densities and intensities within the City.

Consistency: The proposed RV park is consistent with both the land use and zoning for the area. The location provides an excellent spot as it is located near a freeway exchange, RV dealer & service center and facilitates manageable growth around it.

Policy I.1.1 The location of higher density residential, high intensity commercial and heavy industrial uses shall be directed to areas adjacent to arterial or collector roads, identified on the Future Traffic Circulation Map, where public facilities are available to support such higher density or intensity.

Consistency: The subject property is located within an area zoned CI and feeds directly onto US 90 and is directly North of I-75. The neighboring developments (hotels & service center) all have similar density.

Policy I.1.2 The land development regulations of the City shall be based on and be consistent with the following land use classifications and corresponding standards for densities and intensities and shall establish the following floor area ratio(s) to be applied to each classification of land use:

RESIDENTIAL:

Residential use classifications provide locations for dwelling units at low, moderate medium, and high density within the city as defined within this Comprehensive Plan. Public, charter, and private elementary and middle schools are permitted within low and moderate density residential land use classifications. Public, charter, and private elementary, middle schools and high schools are permitted in medium and high-density residential land use classifications. In addition,

churches and other houses of worship, golf courses, country clubs, racquet and tennis clubs, cemeteries and mausoleums, private clubs and lodges, home occupations, childcare centers, group homes, commercial greenhouses and plant nurseries, and other similar uses compatible with residential uses may be approved as special exceptions and be subject to an intensity of less than or equal to 0.50 floor area ratio. Where a lot, parcel or development is located within more than one residential density category the permitted density shall be calculated separately for each portion of land within the separate density categories.

Residential low density shall be limited to a density of less than or equal to 2.0 dwelling units per acre.

Residential moderate density shall be limited to a density of less than or equal to 4.0 dwelling units per acre.

Residential medium density shall be limited to a density of less than or equal to 8.0 dwelling units per acre.

The medium density residential use classification can also provide location for professional and business activities along arterial and collector streets in transitional areas buffering residential neighborhoods from intensive nonresidential areas and such activities shall be limited to an intensity of 1.0 floor area ratio.

Residential high density shall be limited to a density of less than or equal to 20.0 dwelling units per acre.

Consistency: The subject property is not residential.

Policy I.1.3 The City shall continue to allocate amounts and types of land uses for residential, commercial, industrial, public, and recreation to meet the needs of the existing and projected future populations and to locate urban land uses in a manner where public facilities may be provided to serve such urban land uses. (Urban land uses shall be herein defined as residential, commercial and industrial land use categories).

Consistency: The subject property is located at the end of Florida Gateway Drive and is surrounded by similar transient based establishments.

Policy I.1.4 The City shall continue to limit the designation of residential, commercial and industrial lands depicted on the Future Land Use Plan map to acreage which can be reasonably expected to develop by the year 2025.

Consistency: This section of the City & County has increasing commercial developments that shall be completed by 2024.

Policy I.1.5 The City shall continue to provide for a neighborhood commercial district to provide small scale retail and service establishments which will serve the convenience needs of adjacent areas. Neighborhood commercial activities are not shown on the Future Land Use Plan Map; rather, these commercial activities should be accommodated throughout the city as market forces determine the need according to the following criteria:

1. Neighborhood commercial activities are intended to be oriented to and compatible with the area to be served. Such activities shall include retail commercial outlets for the sale of food, hardware or drugs and service establishments such as barber or beauty shops, shoe repair shops, and self-service laundries

or dry cleaners. In addition, automotive service stations, childcare centers and financial institutions and similar uses compatible neighborhood commercial uses may be allowed as special exceptions and be subject to an intensity of less than or equal to 0.25 floor area ratio.

2. Neighborhood commercial activities shall be located on an arterial or collector road;
3. Floor area for each individual outlet or establishment shall not exceed 5,000 square feet; and
4. Sale, display, preparation, and storage shall be conducted completely within an enclosed building, and no more than 20 percent of the floor area shall be devoted to storage.
5. Neighborhood commercial uses shall be limited to an intensity of less than or equal to 0.25 floor area ratio.

Consistency: The site is close to neighborhood retail areas and will not affect any neighborhood commercial activities.

Policy I.1.7 The City shall require the development of public, private and charter school sites to be consistent with the following standards:

1. Middle and high schools shall be located on collector or arterial roadways, as functionally classified within the Comprehensive Plan, which have sufficient capacity to carry traffic to be generated by the school and are suitable for high volume traffic during evening and special events as determined by generally acceptable traffic engineering standards;
2. The location, arrangement and lighting of play fields and playgrounds shall be located and buffered as may be necessary to minimize impacts to adjacent residential property; and
3. All structural setbacks, building heights, and access requirements shall be governed by the City's land development regulations.

Consistency: The subject property will not affect the development of public or private schools.

OBJECTIVE I.2 The City shall adopt performance standards which regulate the location of land development consistent with topography and soil conditions and the availability of facilities and services.

Consistency: The subject property shall utilize the existing high spots and leverage the low-lying areas for stormwater treatment while discharging as little stormwater off site prior to treatment.

Policy I.2.1 The City shall restrict development within unsuitable areas due to flooding, improper drainage, steep slopes, rock formations and adverse earth formations by the following design standards for arrangement of development:

1. Streets shall be related appropriately to the topography. All streets shall be arranged so as to obtain as many as possible building sites at or above the grades of the streets. Grades of streets shall conform as closely as possible to the original topography. A combination of steep grades and curves shall be avoided.
2. Local streets shall be laid out to discourage use by through traffic, to permit efficient drainage and utility systems and to require the minimum number of streets necessary to provide convenient and safe access to property.
3. The rigid rectangular gridiron street pattern need not necessarily be adhered to, and the use of curvilinear streets, cul-de-sacs, or U-shaped streets shall be encouraged where such use will result in

more desirable layout.

4. Proposed streets shall be extended to the boundary lines of the tract to be subdivided, unless prevented by topography or other physical conditions, or unless, in the opinion of the City Council, such extension is not necessary or desirable for the coordination of the layout or the most advantageous future development of adjacent tracts.

Consistency: The subject property shall be designed in accordance with City of Lake Land Development, Suwannee River Water Management District Stormwater (SRWMD), Florida Department of Environmental Protection (FDEP), Florida Department of Health (FDOH), & Florida Department of Transportation (FDOT) standards.

OBJECTIVE I.3 The City shall require that all proposed development be approved only where the public facilities meet or exceed the adopted level of service standard.

Consistency: The subject property will be designed in accordance with the design standards of the City of Lake City and regulating agencies with jurisdiction.

Policy I.3.1 The City shall limit the issuance of development orders and permits to areas where the adopted level of service standards for the provision of public facilities found within the Comprehensive Plan are maintained. This provision also includes areas where development orders were issued prior to the adoption of the Comprehensive Plan.

Consistency: The subject property will be designed in accordance with the design standards of the City of Lake City and regulating agencies with jurisdiction.

OBJECTIVE I.4 The City shall continue to include provisions for Planned Residential Development regulations. A Planned Residential Development (PRD) is:

1. A concept which requires land to be under unified control, planned and developed as a whole in a single development or in an approved, programmed series of developments for dwelling units and related uses and facilities;
2. A plan which, when adopted, becomes the land development regulations for the land to which it is applied;
3. Inclusive of principal and accessory structures substantially related to the character of the development itself and the surrounding area of which it is a part; and
4. A concept which, when implemented, allows for development according to comprehensive and detailed plans that include streets, utilities, building sites and the like and site plans and elevations for all buildings as intended to be located, constructed, used, and related to each other.

It also includes detailed plans for other uses and the improvements on the land as related to the buildings.

Consistency: The subject property will not interfere with any existing or future PRD's.

Policy I.4.1 The City's land development regulations shall continue to contain specific and detailed provisions to manage future growth and development to implement the Comprehensive Plan which shall contain at a minimum the following provisions to:

1. Regulate the subdivision of land;

2. Regulate the use of land and water consistent with this Element to maintain the compatibility of adjacent land uses and provide for open space;
3. Protect environmentally sensitive lands identified within the Conservation Element;
4. Regulate areas subject to seasonal and periodic flooding and provide for drainage and stormwater management;
5. Protect potable water wellfields and aquifer recharge areas;
6. Regulate signage;
7. Provide safe and convenient onsite traffic flow and vehicle parking needs; and
8. Provide that development orders and permits shall not be issued which result in a reduction of the level of service standards adopted in this Comprehensive Plan.

Consistency: The subject property will be designed in accordance with the design standards of the City of Lake City and regulating agencies with jurisdiction.

OBJECTIVE I.5 The City shall continue to limit the extension of public facility geographic service areas to the adjacent urban development area, except that water line extensions may be made outside such designated urban development area to address public health and safety concerns associated with groundwater contamination and water and sewer line extensions may be made to public land uses located outside such designated urban development area. The boundary of this designated urban development area is depicted within the Future Land Use Map Series of this Comprehensive Plan.

Consistency: The subject property will require 350+ ft of water main and 600+ ft of sewer main extension, all of which is being covered by the developer and will benefit the City for future growth.

Policy I.5.1 The City shall adopt as part of its utility policies and programs a provision whereby any extension of public facility geographic service areas into surrounding unincorporated areas shall be limited to the adjacent designated urban development areas as identified within the Future Land Use Map Series of this Comprehensive Plan except that water line extensions may be made outside such boundary to address public health and safety concerns associated with groundwater contamination and water and sewer line extensions may be made to public land uses located outside of such designated urban development area. The City shall condition the extension of public facilities for residential uses to the adjacent unincorporated urban development area on first providing these facilities and services for the majority of the residents within the City which are not currently being served.

Consistency: The subject property will require 350+ ft of water main and 600+ ft of sewer main extension, all of which is being covered by the developer and will benefit the City for future growth.

Policy I.5.2 The City shall allow electrical substations as a permitted use by right within all land use classifications, except Conservation future land use category and any Historic Preservation Overlay district as depicted on the Future Land Use Plan Map. New distribution electric substations should be constructed to the maximum extent practicable, to achieve compatibility with adjacent and surrounding land uses. The following standards intended to balance the need for electricity with land use compatibility shall apply to new distribution electric substations.

1. In nonresidential areas, the distribution electric substation shall comply with the setback and landscaped buffer area criteria applicable to other similar uses in that district.

2. In residential areas, a setback of up to 100 feet between the distribution electric substation property boundary and permanent equipment structures shall be maintained, as follows:

- a. For setbacks between 100 feet and 50 feet, an open green space shall be formed by installing native landscaping, including trees and shrub material. Substation equipment shall be protected by a security fence.
- b. For setback of less than 50 feet, a buffer wall 8 feet high or a fence 8 feet high with native landscaping shall be installed around the substation.

Consistency: The subject properties electrical needs will allow for minimal electrical equipment vs. a high demand site.

OBJECTIVE I.6 The City shall continue to include within the portion regarding the report and recommendation of the Planning and Zoning Board on amendments to such regulations, that such report shall address whether the proposed amendment will be a deterrent to the improvement or development of adjacent land uses and it shall be concluded by the local governing body, based upon such report and prior to approval of the amendment, that the granting of the amendment will not adversely impact adjacent land uses.

Consistency: The subject property will be designed in accordance with the design standards of the City of Lake City and regulating agencies with jurisdiction.

Policy I.6.1 The City shall continue to permit mining activity as a special exception within areas designated on the Future Land Use Plan map as industrial.

Consistency: No mining to occur on the site.

Policy I.6.2 The City shall continue to include provisions for drainage, stormwater management, open space and safe and convenient on-site traffic flow including the provisions of needed vehicle parking for all development.

Consistency: The subject property will be designed in accordance with the design standards of the City of Lake City and regulating agencies with jurisdiction.

Policy I.6.3 The City shall continue to limit the intensity of development by requiring that the length of lots does not exceed three times the width of lots for the location of dwelling units.

Consistency: The subject property is to be designed for transient RV's and will remain one lot.

Policy I.6.4 The City shall participate in the National Flood Insurance Program and regulate development and the installation of utilities in flood hazard areas in conformance with the programs requirements.

Consistency: The subject property will be designed in accordance with the design standards of the City of Lake City and regulating agencies with jurisdiction.

OBJECTIVE I.7 The City shall identify and designate blighted areas which are feasible for redevelopment or renewal, through the updating of the housing condition survey based upon information as available from the University of Florida, Shimer Center for Affordable Housing.

Consistency: The subject property is not in a designated area of blight.

Policy I.7.1 The City shall request federal and state funds to redevelop and renew any identified blighted

areas, where the City finds there is a competitive feasibility to receive such funding.

Consistency: The subject property is not in a designated area of blight.

Policy I.8.1 The land development regulations of the City shall include the following provisions for nonconforming lots, structures and uses of land or structures:

1. Nonconforming lots of record shall be recognized within any zoning district in which single family dwellings are permitted. A single-family dwelling may be erected, expanded, or altered on any single lot of record. Such lots must be in separate ownership and not of continuous frontage with other lots in the same ownership.
2. Nonconforming uses of land shall be recognized where the lawful use of land exists which is not permitted by the land development regulations, such use may be continued, so long as it remains otherwise lawful, subject to limitation concerning enlargement, movement, discontinuance, and structural addition.
3. Nonconforming structures shall be recognized where a structure exists lawfully that would not be permitted to be built under the land development regulations by reason of restrictions on requirements other than use concerning the structure, such structure may be continued so long as it remains otherwise lawful, subject to limitations concerning provisions addressing enlargement or alteration, destruction, and movement.

Consistency: The subject property will be designed in accordance with the design standards of the City of Lake City and regulating agencies with jurisdiction.

OBJECTIVE I.9 The City shall continue to use a Historic Preservation Agency appointed by the City Council to assist the City Council with the designation of historic landmarks and landmark sites or historic districts within the City based upon criteria utilized for the National Register of Historic Places and the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. The Historic Preservation Agency shall review applications for historic designation and after conducting a duly noticed public hearing shall make a recommendation to the City Council based upon the criteria stated in the maintenance and reuses of historical structures policy contained within the Future Land Use Element of the Comprehensive Plan.

Consistency: The subject property is not developed nor is it eligible for historic preservation.

Policy I.9.1 The City shall continue to establish criteria for designating historic structures and sites and further, establish guidelines for the maintenance and adaptive reuse of historic structures and sites.

Consistency: The subject property is not developed nor is it eligible for historic preservation.

Policy I.9.2 The City shall maintain a listing of all known prehistoric and historic sites within the City. This list shall be provided within the Land Development Regulations and shall be updated by the Planning and Zoning Board, as provided within said regulations

Consistency: The subject property is not developed nor is it eligible for historic preservation.

OBJECTIVE I.10 The City shall protect natural resources and environmentally sensitive lands (including but not limited to wetlands and floodplains). For the purposes of this Comprehensive Plan "wetlands" means those areas that are inundated or saturated by surface water or groundwater at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric alluvial or possess characteristics that are associated with reducing soil conditions. The prevalent

vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.

Consistency: The subject property will be designed in accordance with the design standards of the City of Lake City and regulating agencies with jurisdiction. Wetland report has been submitted with application as well.

Policy I.10.1 The City shall protect public potable water supply wells by prohibiting

: 1. Land uses which require or involve storage, use of manufacture of regulated materials as defined by Chapter 38F-41, Florida Administrative Code, in effect upon adoption of this Objective; Code of Federal Regulations, Title 40, Part 302 and 355 and Title 49, Part 172, in effect upon adoption of this Comprehensive Plan;

2. Landfills;

3. Facilities of bulk storage, agricultural chemicals;

4. Petroleum products;

5. Hazardous toxic and medical waste;

6. Feedlots or other animal facilities;

7. Wastewater treatment plants and percolation ponds; and

8. Mines, and excavation of waterways or drainage facilities which intersect the water table, within a 300-foot radius around the water well designated by this Comprehensive Plan as a wellfield protection area.

In addition, no transportation of such regulated materials shall be allowed in the wellfield protection area, except through traffic.

Consistency: The subject property will be designed in accordance with the design standards of the City of Lake City and regulating agencies with jurisdiction. There will not be a sewage discharge area onsite. Each lot has its own sewer hookup.

Policy I.10.2 The City shall prohibit the location of any structure within a wetland, other than permitted docks, piers, or walkways, except as permitted within the wetland policy contained within the Conservation Element of this Comprehensive Plan.

Consistency: The subject property will be designed in accordance with the design standards of the City of Lake City and regulating agencies with jurisdiction.

OBJECTIVE I.11 The City shall establish a process for coordination with agencies responsible for the implementation of any regional resource planning and management plan prepared pursuant to Chapter 380, Florida Statutes, as amended.

Consistency: The subject property will be designed in accordance with the design standards of the City of Lake City and regulating agencies with jurisdiction

Policy I.11.1 The City shall continue to require that all proposed development which is subject to the provisions of any regional resource planning and management plan shall be consistent with such plan and that proposed development be reviewed for such consistency during the development review process.

Consistency: The subject property will be designed in accordance with the design standards of the City of Lake City and regulating agencies with jurisdiction

OBJECTIVE I.12 The City shall coordinate review of all proposed subdivision plats with the Water Management District for subdivisions proposed within the drainage basin of any designated priority water body to provide the Water Management District an opportunity to review such subdivision to determine if the plat is consistent with any approved management plans within that basin.

Consistency: The subject property will not be designated a subdivision.

Policy I.12.1 The City shall continue to require the developer to submit development plans for all proposed subdivision plats within the drainage basin of any designated priority water body shall be submitted to the Water Management District for review and comment as to the consistency of the proposed development with any approved management plans within such basin prior to development review by the City.

Consistency: The subject property will not be designated a subdivision.

DESCRIPTION:

COMMENCE at the Southwest corner of Lot 11, FLORIDA GATEWAY CENTER SOUTH, UNIT 1, a subdivision recorded in Plat Book 7, Pages 3 and 4, of the Public Records of Columbia County, Florida; thence South 00°04'49" East, a distance of 120.08 feet; thence South 21°07'01" East, a distance of 267.04 feet; thence South 26°36'28" East, a distance of 233.93 feet to the POINT OF BEGINNING; thence North 66°05'30" East, a distance of 749.69 feet to a point on the Westerly right-of-way line of SW Florida Gateway Drive; thence South 24°52'40" East, along said Westerly right-of-way line of SW Florida Gateway Drive, a distance of 136.78 feet; thence North 79°16'53" West, a distance of 12.67 feet; thence South 24°52'40" East, a distance of 55.15 feet; thence South 02°05'43" East, a distance of 105.42 feet; thence South 11°40'32" East, a distance of 50.60 feet; thence South 54°51'25" West, a distance of 315.50 feet; thence South 57°25'54" West, a distance of 159.43 feet; thence South 44°10'37" West, a distance of 30.71 feet; thence South 29°13'34" West, a distance of 117.44 feet; thence South 24°03'04" West, a distance of 76.67 feet; thence South 31°59'12" West, a distance of 69.69 feet; thence South 82°06'53" West, a distance of 230.24 feet; thence North 00°02'31" West, a distance of 575.50 feet to the POINT OF BEGINNING. Containing 8.50 acres, more or less.

Prepared by:
Michael H. Harrell
Abstract Trust Title, LLC
283 NW Cole Terrace
Lake City, FL 32055

Inst: 202112025294 Date: 12/14/2021 Time: 3:45PM
Page 1 of 3 B: 1454 P: 2083, James M Swisher Jr, Clerk of Court
Columbia, County, By: VC
Deputy Clerk Doc Stamp-Deed: 5950.00

4-10623

Warranty Deed

Trust to LLC

THIS WARRANTY DEED made this 10 day of December, 2021, by Daniel Crapps and Richard C. Cole, Individually and as Trustees under that certain land trust agreement dated September 11, 1986, hereinafter called the grantor, to 4 Brothers 2020 LLC, a Florida Limited Liability Company whose address is: 508 N. Florence St., Burbank, CA 91505 hereinafter called the grantee:

(Wherever used herein the terms "grantor" and "grantee" include all the parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporation)

Witnesseth: That the grantor, for and in consideration of the sum of \$10.00 and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys, and confirms unto the grantee, all that certain land situate in COLUMBIA County, Florida:

See Exhibit "A" Attached Hereto And By This Reference Made A Part Thereof.

The above described property is not, nor has it ever been the Homestead of the Grantors.

TOGETHER with all tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD, the same in fee simple forever

AND the grantor hereby covenants with said grantee that the grantor is lawfully seized of said land in fee simple; that the grantor has good right and lawful authority to sell and convey said land; that the grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to the prior year.

IN WITNESS WHEREOF, the said grantor has signed and sealed these presents the day and year first above written.

Signed, sealed and delivered in our presence:

Jennifer Powers
Witness:
Jennifer Powers
Printed Name:

Lisa Hicks
Witness:
Lisa Hicks
Printed Name:

Daniel Crapps
Daniel Crapps, Individually and as Trustee
under that certain land trust agreement dated
September 11, 1986

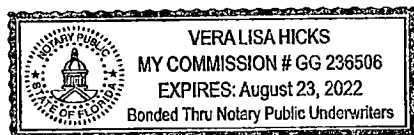
Richard C. Cole
Richard C. Cole, Individually and as Trustee
under that certain land trust agreement dated
September 11, 1986

STATE OF FLORIDA
COUNTY OF COLUMBIA

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization, this 11 day of December, 2021 by Daniel Crapps and Richard C. Cole, Individually and as Trustees under that certain land trust agreement dated September 11, 1986, who is personally known to me or who has produced _____ as identification.

(Notary Seal)

Vera Lisa Hicks
Notary Public



ATT 4-10623

Exhibit "A"

COMMENCE at the Southwest corner of Lot 11, FLORIDA GATEWAY CENTER SOUTH, UNIT 1, a subdivision recorded in Plat Book 7, Pages 3 and 4, of the Public Records of Columbia County, Florida; thence South 00°04'49" East, a distance of 120.08 feet; thence South 21°07'01" East, a distance of 267.04 feet; thence South 26°36'28" East, a distance of 233.93 feet to the POINT OF BEGINNING; thence North 66°05'30" East, a distance of 749.69 feet to a point on the Westerly right-of-way line of SW Florida Gateway Drive; thence South 24°52'40" East, along said Westerly right-of-way line of SW Florida Gateway Drive, a distance of 136.78 feet; thence North 79°16'53" West, a distance of 12.67 feet; thence South 24°52'40" East, a distance of 55.15 feet; thence South 02°05'43" East, a distance of 105.42 feet; thence South 11°40'32" East, a distance of 50.60 feet; thence South 54°51'25" West, a distance of 315.50 feet; thence South 57°25'54" West, a distance of 159.43 feet; thence South 44°10'37" West, a distance of 30.71 feet; thence South 29°13'34" West, a distance of 117.44 feet; thence South 24°03'04" West, a distance of 76.67 feet; thence South 31°05'12" West, a distance of 69.69 feet; thence South 82°06'53" West, a distance of 230.24 feet; thence North 00°02'31" West, a distance of 575.50 feet to the POINT OF BEGINNING.

The above described property is not, nor has it ever been the Homestead of the Grantors.

generated on 12/1/2022 10:01:42 AM EST

Last Update: 12/1/2022 10:01:15 AM EST

Register for eBill

The information contained herein does not constitute a title search and should not be relied on as such.

153

Date Paid	Transaction	Receipt	Item	Amount Paid
11/28/2022	PAYMENT	9921391.0001	2022	\$11,365.32

Prior Years Payment History

Prior Year Taxes Due
NO DELINQUENT TAXES



NFPS



PO BOX 3823
LAKE CITY, FL 32056

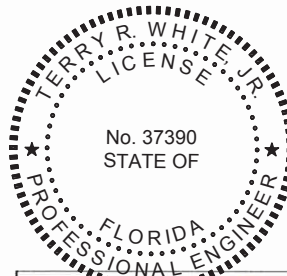


PHONE (386) 752-4675
FAX (386) 752-4674



www.nfps.net

RV PARK NORTH POND ENGINEERING REPORT LAKE CITY FLORIDA



Terry R. White, Jr., P.E.
Florida Registration No. 37390
December 1, 2022

Terry R. White, Jr., P.E., State of Florida, Professional Engineer, License No. 37390
This item has been digitally signed and sealed by Terry R. White, Jr. on the date indicated here.
Printed copies of this document are not considered signed and sealed and the signature must be
verified on any electronic copies.

Dalton Kurtz
Project Manager
December 1, 2022



PROJECT DESCRIPTION

Existing Conditions (see Figure 1)

The existing site consists of the property which totals 8.5 acres on parcel 02-4S-16-02714-014. The site has been divided into two basins, this report covers the Northeast side (referred to as the north basin/pond) The site's current status is a cattle pasture. To streamline the review process this Engineering report is for **NORTH POND**. The overall design will be referenced in this report however each pond will have its own engineering report.

Proposed Conditions (see Figure 2)

As follows are design summaries for the area impacted.

- **Pre-development North Basin**
 - Drainage Basin Area= 1.46 ac
 - Total Impervious Area=0.0 ac
 - Open Area=1.46 ac
 - Composite Curve Number= 80
 - Composite Runoff Number=.15
 - Time of Concentration=12.4 Minutes
 - Kh= 13.65
 - Kv= 6.05
 - Fillable Porosity= 25%
- **Post-development North Basin**
 - Basin Area = 1.46 acres
 - Total Impervious Area (Not including pond) = .24 acres
 - Total Semi Impervious Area=.192 acres
 - Open Area =.719 acres
 - Composite Curve Number= 89
 - Composite Runoff Number=.54
 - Time of Concentration=6.8 Minutes
 - Kh=13.65
 - Kv=Not Considered
 - Fillable Porosity=25%
 - Wet Pond = .309 acres
 - Discharge Structure = One 2' wide concrete overflow weir with an invert elevation at 162.5 feet NAVD. One 6" Bleeder with an invert elevation at 161.5 feet NAVD.
 - Top of Pond = 163.75 feet NAVD
 - Top of Permanent Pool = 160.25
 - Water Table=158.05 feet NAVD
 - Bottom of Pond = 155.05 feet NAVD
 - Maximum Stage (240hr) = 162.29 feet NAVD



Basin area was determined utilizing the proposed project layout and stormwater analysis tools in C3D 2022. Ponds V3.3 software was used to model the dry pond. See summary tables on the following pages and supporting documentation on the proceeding pages for additional information with regards to modeling.

Overall Basin Size

Basin	Pre-Condition	Post- Condition	Total Impervious	Total Semi-Imperv.
North Pond	1.46	1.46	0.24	0.192
South Pond	7.04	7.04	0.832	1.326
Total	8.5	8.5	1.072	1.518

Overall Basin Discharges

COMPARISON OF PRE Vs. POST DISCHARGE RATES TOTAL BASIN							
PRE- DEVELOPMENT	PEAK DISCHARGE (CFS)	PEAK VOLUME (CUFT)	POST- DEVELOPMENT	PEAK DISCHARGE (CFS)	PEAK VOLUME (CUFT)	POST-PRE DISCHARGE (CFS)	POST-PRE VOLUME (CUFT)
FDOT 1HR 100YR	44.62	124696	1HR 100YR	0	0	-44.62	-124696
FDOT 2HR 100YR	37.18	168306	2HR 100YR	0	0	-37.18	-168306
FDOT 4HR 100YR	20.46	217619	4HR 100YR	0	0	-20.46	-217619
FDOT8HR 100YR	22.7	283931	8HR 100YR	0.27	2802	-22.43	-281129
FDOT 24HR 100YR	7.4	416086	24HR 100YR	3.38	110211	-4.02	-305875
FDOT 72HR 100YR	5.05	555357	72HR 100YR	4.63	219820	-0.42	-335537
FDOT 168HR 100YR	3.44	643263	168HR 100YR	3.37	291968	-0.07	-351295
FDOT 240HR 100YR	4.61	759297	240HR 100YR	4.53	391818	-0.08	-367479
			2" OVER AREA	0	0	0	0

ESHGWT, Kh&Kv DETERMINATION

South basin ESHGWT, Kh & Kv values were taken from an average of the boreholes B1 & B3 from the geotechnical reports performed on January 10th, 2022 and June 16th, 2022. In designing the site, it was determined that we would need additional borings on the South side of the site however the design shifted to a two-pond site after this had been performed. The ESHGWT for the North was determined based on an average of B1&B3 ESHGWT table height while Kh & Kv were taken directly from B3 as they are the more conservative values. B2 is located in the North Pond location but did not have a percolation test performed; indicated water table is 3' below grade. It is in our sound Engineering judgement that the soil across this site is homogeneous enough to support these claims.

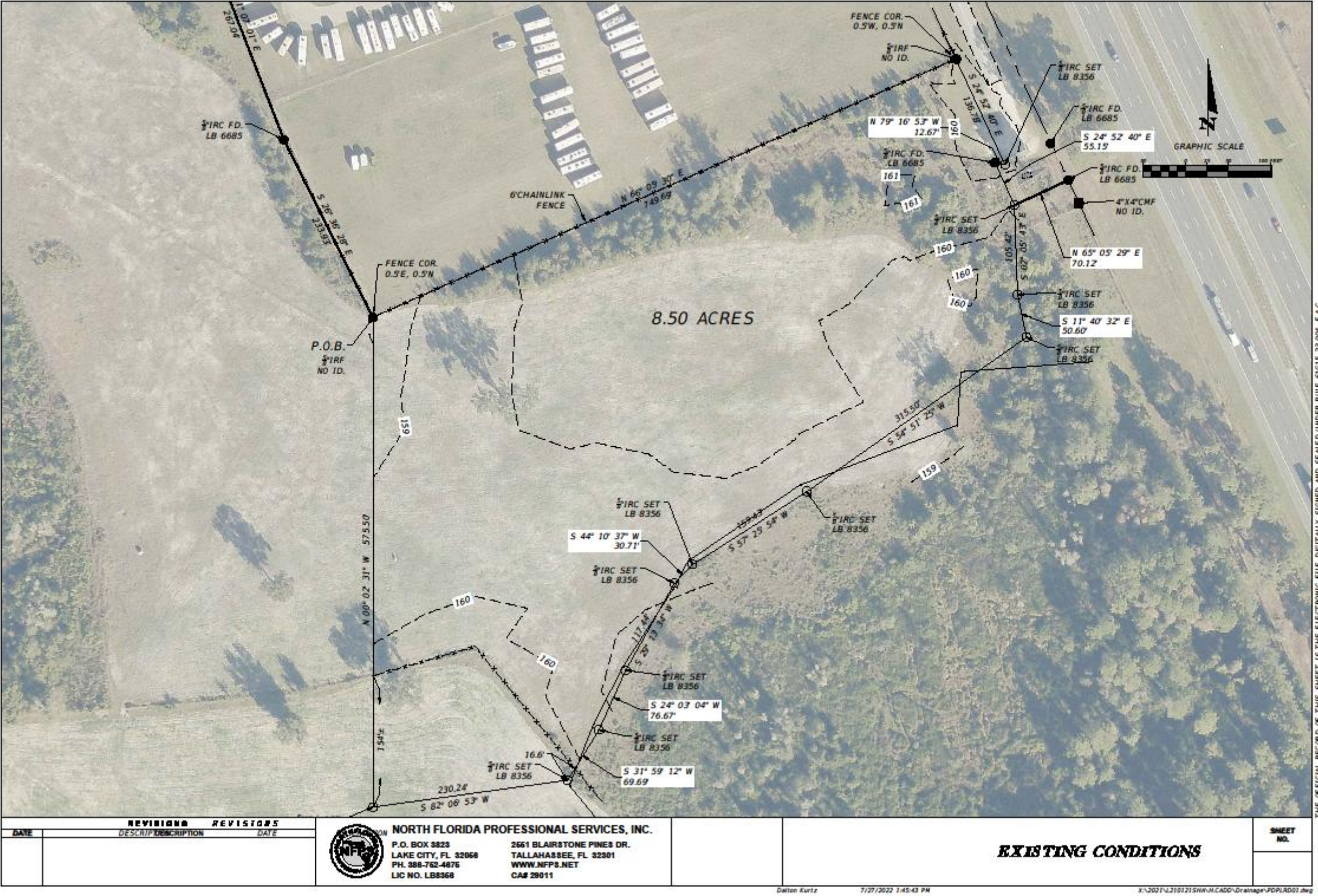


FIGURE 1

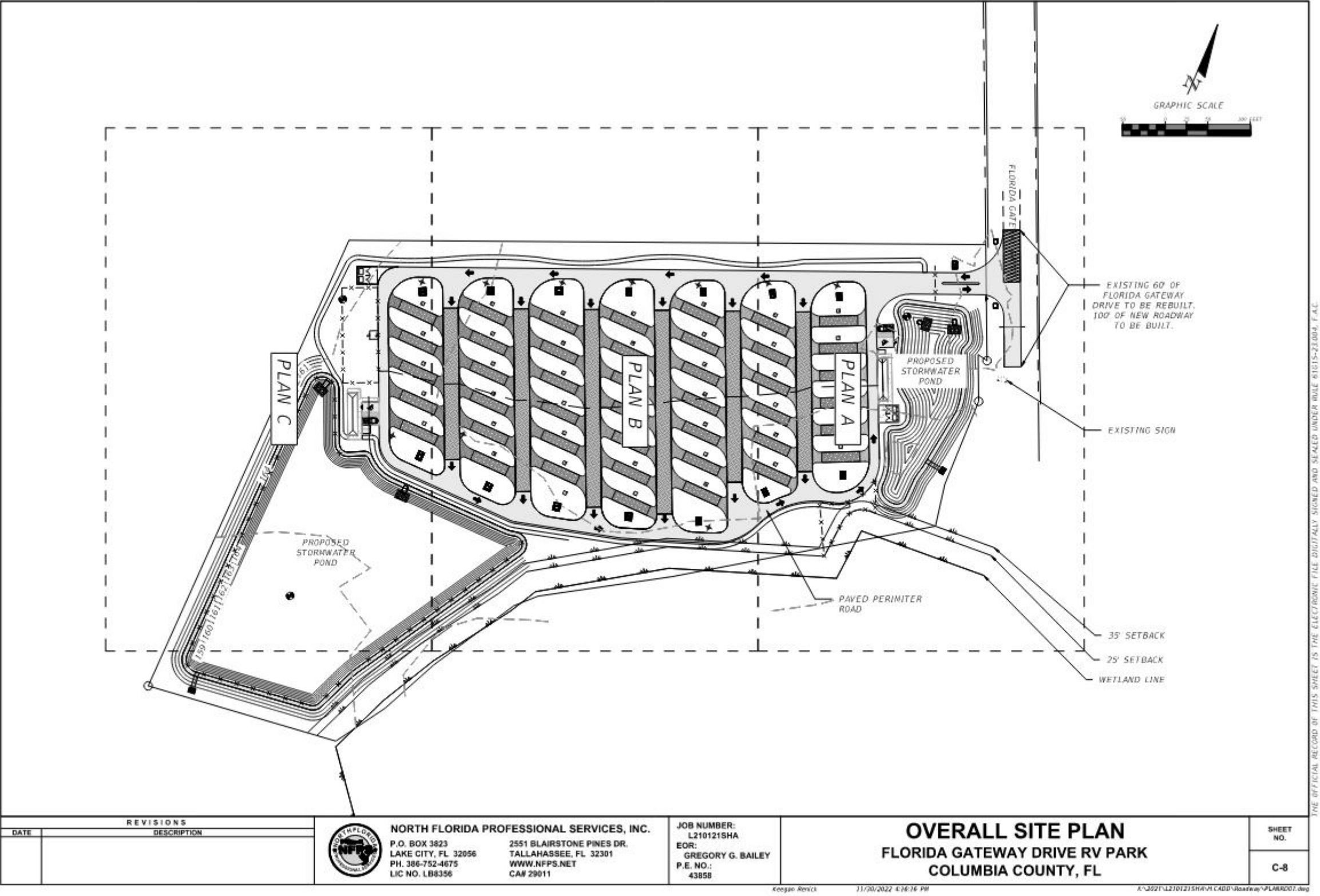


FIGURE 2



TABLE 1. PRE VS. POST DISCHARGE AND MAX STAGE/FREEBOARD

COMPARISON OF PRE Vs. POST DISCHARGE RATES						MAX STAGE & FREEBOARD				
PRE- DEVELOPMENT	PEAK DISCHARGE (CFS)	PEAK VOLUME (CUFT)	POST- DEVELOPMENT	PEAK DISCHARGE (CFS)	PEAK VOLUME (CUFT)	POST-PRE DISCHARGE (CFS)	POST-PRE VOLUME (CUFT)	MAX STAGE (FT)	FREE BOARD (FT)	TOP OF POND
FDOT 1HR 100YR	7.58	11627	1HR 100YR	0	0	-7.58	-11627	160.48	3.27	163.75
FDOT 2HR 100YR	6.33	15694	2HR 100YR	0	0	-6.33	-15694	160.98	2.77	163.75
FDOT 4HR 100YR	3.48	20292	4HR 100YR	0	0	-3.48	-20292	161.44	2.31	163.75
FDOT8HR 100YR	3.87	26475	8HR 100YR	0.27	2802	-3.6	-23673	161.83	1.92	163.75
FDOT 24HR 100YR	1.26	38799	24HR 100YR	0.46	13470	-0.8	-25329	161.99	1.76	163.75
FDOT 72HR 100YR	0.86	51785	72HR 100YR	0.65	23198	-0.21	-28587	162.22	1.53	163.75
FDOT 168HR 100YR	0.59	59982	168HR 100YR	0.54	27538	-0.05	-32444	162.07	1.68	163.75
FDOT 240HR 100YR	0.78	70802	240HR 100YR	0.7	35379	-0.08	-35423	162.29	1.46	163.75
			2" OVER AREA	0	0	0	0	159.23	4.52	163.75

DRAINAGE RETENTION AREA STAGE STORAGE		
ELEVATION	AREA (SF)	VOLUME (CF)
163.75	13498	2323
163.05	12423	2136
162.05	10811	1856
161.05	9468	1622
160.05	7855	1342
159.05	6243	1062
158.05	4631	782
157.05	3287	548
156.05	1675	268
155.05	63	0



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PROJECT CALCULATIONS AND DATA



PRE-DEVELOPED SCS RUNOFF CURVE NUMBERS

Land Use Description	Hydrologic Soil Group	Area (Acres)	Curve Number
VACANT LOT	D	1.460	80
	Composite Curve Number		80

Drainage Area (acres)	1.460
-----------------------	-------

POST-DEVELOPED SCS RUNOFF CURVE NUMBERS

Land Use Description	Hydrologic Soil Group	Area (Acres)	Curve Number
BUILDINGS	D	0.043	98
PERIMETER ROAD	D	0.197	98
POND	D	0.309	100
GRAVEL ROADS	D	0.077	91
GRAVEL RV SPACES	D	0.074	91
DIRT APPROACH PADS	D	0.041	89
GREEN/OPEN SPACES	D	0.719	80
	Composite Curve Number		89

Drainage Area (acres)	1.460
-----------------------	-------



Table T-7
SCS Runoff Curve Numbers for Selected Agricultural, Suburban, and Urban Land Use

Land Use Description	Hydrologic Soil Group			
	A	B	C	D
Cultivated Land ^a :				
Without conservation treatment	72	81	88	91
With conservation treatment	62	71	78	81
Pasture or range land:				
Poor condition	68	79	86	89
Good condition	39	61	74	80
Meadow: good condition	30	58	71	78
Wood or Forest Land:				
Thin stand, poor cover, no mulch	45	66	77	83
Good cover ^b	25	55	70	77
Open Spaces, Lawns, Parks, Golf Courses, Cemeteries:				
Good condition: grass cover on 75% or more of the area	39	61	74	80
Fair condition: grass cover on 50% to 75% of the area	49	69	79	84
Poor condition: grass cover on 50% or less of the area	68	79	86	89
Commercial and Business Areas (85% impervious)	89	92	94	95
Industrial Districts (72% impervious)	81	88	91	93
Residential ^c				
Average lot size Average % Impervious ^d				
1/8 acre or less 65	77	85	90	92
1/4 acre 38	61	75	83	87
1/3 acre 30	57	72	81	86
1/2 acre 25	54	70	80	85
1 acre 20	51	68	79	84
Paved Parking Lots, Roofs, Driveways ^e :	98	98	98	98
Streets and Roads:				
Paved with curbs and storm sewers ^e	98	98	98	98
Gravel	76	85	89	91
Dirt	72	82	87	89
Paved with open ditches	83	89	92	93
Newly graded area (no vegetation established) ^f	77	86	91	94

^a For a more detailed description of agricultural land use curve numbers, refer to Table T-8.

^b Good cover is protected from grazing and litter and brush cover soil.

^c Curve numbers are computed assuming the runoff from the house and driveway is directed toward the street with a minimum of roof water directed to lawns where additional infiltration could occur. Depends on depth and degree of permeability of underlying strata.

^d The remaining pervious areas (lawn) are considered to be in good pasture condition for these curve numbers.

^e In some warmer climates of the country, a curve number of 96 may be used.

^f Use for temporary conditions during grading and construction.

Note: These values are for Antecedent Moisture Condition II, and $I_a = 0.2S$.

Reference: USDA, SCS, TR-55 (1984).



Table T-8
SCS Runoff Curve Numbers For Agricultural Use

Land Use	Treatment or Practice	Hydrologic Condition	Hydrologic Soil Group			
			A	B	C	D
Fallow	Straight row	----	77	86	91	94
Row Crops	Straight row	Poor	72	81	88	91
	Straight row	Good	67	78	85	89
	Contoured	Poor	70	79	84	88
	Contoured	Good	65	75	82	86
	Contoured and terraced	Poor	66	74	80	82
	Contoured and terraced	Good	62	71	78	81
Small grain	Straight row	Poor	65	76	84	88
	Straight row	Good	63	75	83	87
	Contoured	Poor	63	74	82	85
	Contoured	Good	61	73	81	84
	Contoured	Good	55	69	78	83
	Contoured and terraced	Poor	61	72	79	82
Close seeded legumes ^a or rotation meadow	Contoured and terraced	Good	59	70	78	81
	Straight row	Poor	66	77	85	89
	Straight row	Good	58	72	81	85
	Contoured	Poor	64	75	83	85
	Contoured	Good	55	69	78	83
	Contoured and terraced	Poor	63	73	80	83
Pasture or range	Contoured and terraced	Good	51	67	76	80
		Poor	68	79	86	89
		Fair	49	69	79	84
		Good	39	61	74	80
	Contoured	Poor	47	67	81	88
	Contoured	Fair	25	59	75	83
Meadow	Contoured	Good	6	35	70	79
		Good	30	58	71	78
		Poor	45	66	77	83
Woods		Fair	36	60	73	79
		Good	25	55	70	77
		Good	25	55	70	77
Farmsteads		----	59	74	82	86
Road (dirt) ^b		----	72	82	87	89
(hard surface) ^b		----	74	84	90	92

^a Closed-drilled or broadcast.

^b Including right-of-way.

Note: These values are for Antecedent Moisture Condition II, and $I_s = 0.25$.

Reference: USDA, SCS, NEH-4 (1972).



Table T-9
SCS Classifications Of Vegetative Covers By Their
Hydrologic Properties

<u>Vegetative Cover</u>		<u>Hydrologic Condition</u>
Crop rotation	Poor:	Contains a high proportion of row crops, small grain, and fallow.
	Good:	Contains a high proportion of alfalfa and grasses.
Native pasture or range	Poor:	Heavily grazed or having plant cover on less range than 50% of the area.
	Fair:	Moderately grazed; 50 - 75% plant cover.
	Good:	Lightly grazed; more than 75% plant cover.
	Permanent Meadow:	100% plant cover.
Woodlands	Poor:	Heavily grazed or regularly burned so that litter, small trees, and brush are destroyed.
	Fair:	Grazed but not burned; there may be some litter.
	Good:	Protected from grazing so that litter and shrubs cover the soil.

Reference: USDA, SCS, NEH-4 (1972).

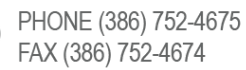
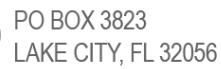




Table T-4
Runoff Coefficients For A Design Storm Return
Period Of 10 Years Or Less^a

Slope	Land Use	Sandy Soils		Clay Soils	
		Min.	Max.	Min.	Max.
Flat (0-2%)	Woodlands	0.10	0.15	0.15	0.20
	Pasture, grass, and farmland ^b	0.15	0.20	0.20	0.25
	Bare Earth	0.30	0.50	0.50	0.60
	Rooftops and pavement	0.95	0.95	0.95	0.95
	Pervious pavements ^c	0.75	0.95	0.90	0.95
	SFR: 1/2-acre lots and larger	0.30	0.35	0.35	0.45
	Smaller lots	0.35	0.45	0.40	0.50
	Duplexes	0.35	0.45	0.40	0.50
	MFR: Apartments, townhouses, and condominiums	0.45	0.60	0.50	0.70
	Commercial and Industrial	0.50	0.95	0.50	0.95
Rolling (2-7%)	Woodlands	0.15	0.20	0.20	0.25
	Pasture, grass, and farmland ^b	0.20	0.25	0.25	0.30
	Bare Earth	0.40	0.60	0.60	0.70
	Rooftops and pavement	0.95	0.95	0.95	0.95
	Pervious pavements ^c	0.80	0.95	0.90	0.95
	SFR: 1/2-acre lots and larger	0.35	0.50	0.40	0.55
	Smaller lots	0.40	0.55	0.45	0.60
	Duplexes	0.40	0.55	0.45	0.60
	MFR: Apartments, townhouses, and condominiums	0.50	0.70	0.60	0.80
	Commercial and Industrial	0.50	0.95	0.50	0.95
Steep (7%+)	Woodlands	0.20	0.25	0.25	0.30
	Pasture, grass, and farmland ^b	0.25	0.35	0.30	0.40
	Bare Earth	0.50	0.70	0.70	0.80
	Rooftops and pavement	0.95	0.95	0.95	0.95
	Pervious pavements ^c	0.85	0.95	0.90	0.95
	SFR: 1/2-acre lots and larger	0.40	0.55	0.50	0.65
	Smaller lots	0.45	0.60	0.55	0.70
	Duplexes	0.45	0.60	0.55	0.70
	MFR: Apartments, townhouses, and condominiums	0.60	0.75	0.65	0.85
	Commercial and Industrial	0.60	0.95	0.65	0.95

^a Weighted coefficient based on percentage of impervious surfaces and green areas must be selected for each site.

^b Coefficients assume good ground cover and conservation treatment.

^c Depends on depth and degree of permeability of underlying strata.

Note: SFR = Single Family Residential
MFR = Multi-Family Residential

Pre-Developed Time of Concentration

Overland Flow

$$T_t = \frac{0.007(n\ell)^{0.8}}{(P_2)^{0.5} S^{0.4}} \quad (\text{eq. 15-8})$$

where:

T_t = travel time, h

n = Manning's roughness coefficient (table 15-1)

ℓ = sheet flow length, ft

P_2 = 2-year, 24-hour rainfall, in

S = slope of land surface, ft/ft

$t_1 =$	8.3	minutes
$n =$	0.15	
$\ell =$	94	feet
$P_2 =$	4.1	inches
$S =$	0.02	ft/ft

$$\ell = \frac{100\sqrt{S}}{n} \quad (\text{eq. 15-9})$$

Shallow Channel Flow

See Figure 15-4

For slopes less than 0.005
ft/ft, use Table 15-3

$t_2 =$	4.1	minutes
$L =$	243	feet
$V =$	0.98	ft/sec
$S =$	0.02	ft/ft
$k =$	6.962	

Main Channel Flow

$$V = \frac{1.486}{n} R^{0.67} S^{0.5}$$

$t_3 =$	0.0	minutes
$L =$	0	feet
$V =$	0.00	ft/sec
$n =$	0.00	
$R =$	0.00	feet
$A =$	0.00	sq. ft.
$P =$	0.00	feet
$S =$	0.00	ft/ft
$BW =$	0.00	feet
$SS1 =$	0.00	:1
$SS2 =$	0.00	:1
$D =$	0.00	feet

Where:

V = Velocity in feet per second
Manning's n value from Table T-3
 n =
 R = Hydraulic Radius (A/P)
 A = Cross sectional flow area in square feet
 P = Wetted perimeter in feet
 S = Slope in ft/ft
Channel bottom
 BW = width
Side slope left in
 $SS1$ = x:1
 $SS2$ = Side slope right in x:1
 D = Flow depth in feet

$$T_c = t_1 + t_2 + t_3 = 12.4 \text{ minutes}$$



Table T-1
Overland Flow Manning's n Values

	<u>Value</u>	<u>Recommended Range of Values</u>
Concrete	0.011	0.010 -0.013
Asphalt	0.012	0.010 -0.015
Bare sand ^a	0.010	0.010 -0.016
Graveled surface ^a	0.012	0.012 -0.030
Bare clay-loam (eroded) ^a	0.012	0.012 -0.033
Fallow (no residue) ^b	0.05	0.006 -0.16
Chisel plow (<1/4 tons/acre residue)	0.07	0.006 -0.17
Chisel plow (1/4 - 1 tons/acre residue)	0.18	0.070 -0.34
Chisel plow (1 - 3 tons/acre residue)	0.30	0.190 -0.47
Chisel plow (>3 tons/acre residue)	0.40	0.340 -0.46
Disk/Harrow (<1/4 tons/acre residue)	0.08	0.008 -0.41
Disk/Harrow (1/4 - 1 tons/acre residue)	0.16	0.100 -0.25
Disk/Harrow (1 - 3 tons/acre residue)	0.25	0.140 -0.53
Disk/Harrow (>3 tons/acre residue)	0.30	— —
No till (<1/4 tons/acre residue)	0.04	0.030 -0.07
No till (1/4 - 1 tons/acre residue)	0.07	0.010 -0.13
No till (1 - 3 tons/acre residue)	0.30	0.160 -0.47
Plow (Fall)	0.06	0.020 -0.10
Coulter	0.10	0.050 -0.13
Range (natural)	0.13	0.010 -0.32
Range (clipped)	0.08	0.020 -0.24
Grass (bluegrass sod)	0.45	0.390 -0.63
Short grass prairie ^a	0.15	0.100 -0.20
Dense grass ^c	0.24	0.170 -0.30
Bermuda grass ^c	0.41	0.300 -0.48
Woods	0.45	— —

All values are from Engman (1983), unless noted otherwise.

^aWoolhiser (1975).

^bFallow has been idle for one year and is fairly smooth.

^cPalmer (1946). Weeping love grass, bluegrass, buffalo grass, blue gamma grass, native grass mix (OK), alfalfa, lespedeza.

Note: These values were determined specifically for overland flow conditions and are not appropriate for conventional open channel flow calculations. See the open channel handbook for open channel flow procedures.

Figure 15-4 Velocity versus slope for shallow concentrated flow

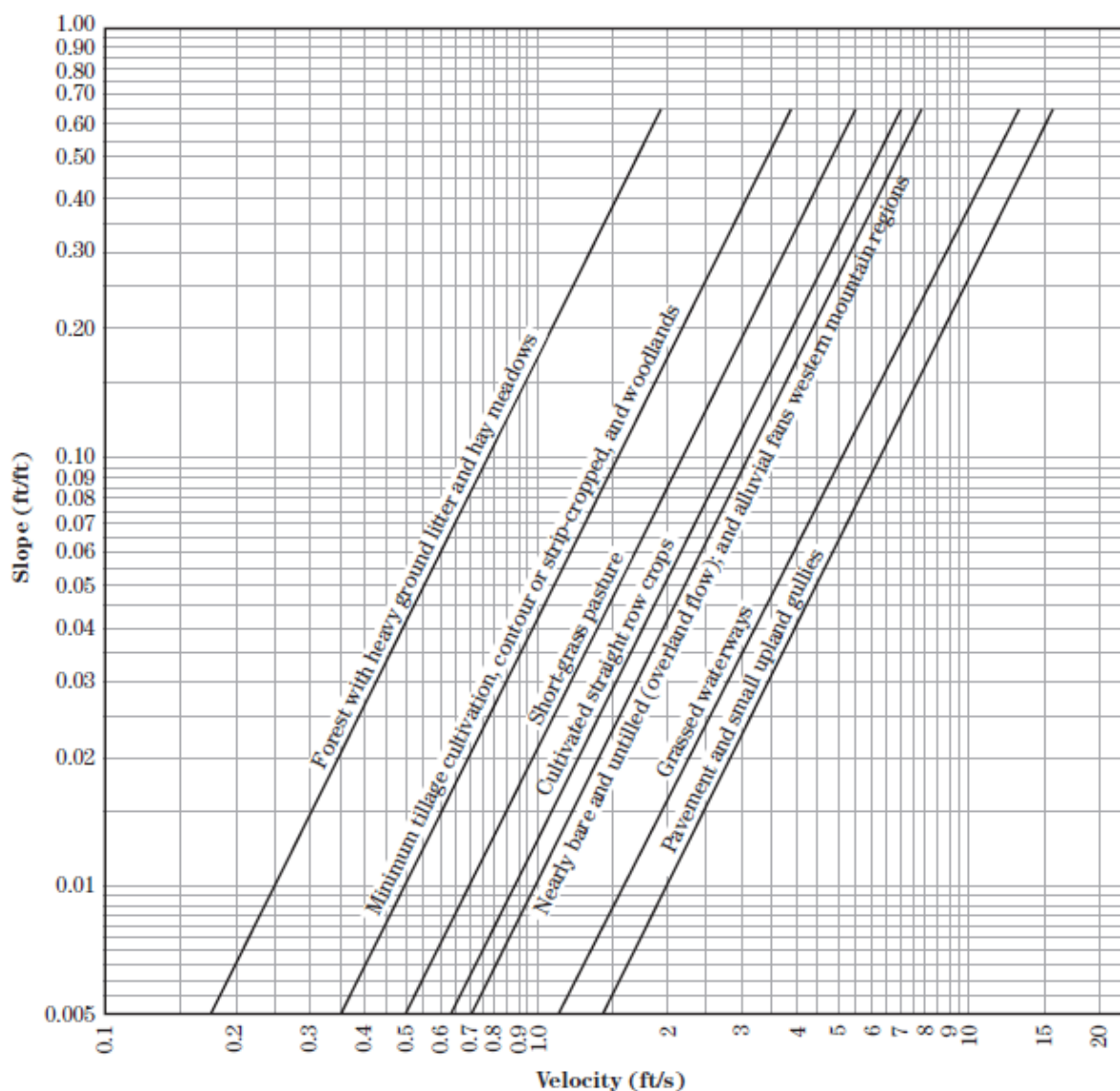


Table 15-3 Equations and assumptions developed from figure 15-4

Flow type	Depth (ft)	Manning's n	Velocity equation (ft/s)
Pavement and small upland gullies	0.2	0.025	$V = 20.328(s)^{0.5}$
Grassed waterways	0.4	0.050	$V = 16.135(s)^{0.5}$
Nearly bare and untilled (overland flow); and alluvial fans in western mountain regions	0.2	0.051	$V = 9.965(s)^{0.5}$
Cultivated straight row crops	0.2	0.058	$V = 8.762(s)^{0.5}$
Short-grass pasture	0.2	0.073	$V = 6.962(s)^{0.5}$
Minimum tillage cultivation, contour or strip-cropped, and woodlands	0.2	0.101	$V = 5.032(s)^{0.5}$
Forest with heavy ground litter and hay meadows	0.2	0.202	$V = 2.516(s)^{0.5}$



Table T-3
Recommended Manning's n Values for Artificial
Channels with Various Linings

<u>Channel Lining</u>	<u>Lining Description</u>	<u>Design Manning's n Value</u>
<u>Bare Earth or Vegetative Linings</u>		
Bare earth, fairly uniform	Clean, recently completed	0.022
Bare earth, fairly uniform	Short grass and some weeds	0.028
Dragline excavated	No vegetation	0.030
Dragline excavated	Light brush	0.040
Channels not maintained	Dense weeds to flow depth	0.100
Channels not maintained	Clear bottom, brush sides	0.080
Maintained grass or sodded ditches	Good stand, well maintained 2" - 6"	0.060*
Maintained grass or sodded ditches	Fair stand, length 12" - 24"	0.200*
<u>Rigid Linings</u>		
Concrete paved	Broomed**	0.016
Concrete paved	"Roughened" - standard	0.020
Concrete paved	Guniting	0.020
Concrete paved	Over rubble	0.023
Asphalt concrete	Smooth	0.013
Asphalt concrete	Rough	0.016

* Decrease 30% for flows > 0.7' (maximum flow depth 1.5').

** Because this is not the standard finish, it must be specified.

Post-Developed Time of Concentration

Overland Flow

$$T_t = \frac{0.007(n\ell)^{0.8}}{(P_2)^{0.5} S^{0.4}} \quad (\text{eq. 15-8})$$

where:

T_t = travel time, h

n = Manning's roughness coefficient (table 15-1)

ℓ = sheet flow length, ft

P_2 = 2-year, 24-hour rainfall, in

S = slope of land surface, ft/ft

$t_1 =$	2.5	minutes
$n =$	0.012	
$\ell =$	260	feet
$P_2 =$	4.1	inches
$S =$	0.02	ft/ft

$$\ell = \frac{100\sqrt{S}}{n} \quad (\text{eq. 15-9})$$

Shallow Channel Flow

See Figure 15-4

For slopes less than 0.005
ft/ft, use Table 15-3

$t_2 =$	4.4	minutes
$L =$	600	feet
$V =$	2.28	ft/sec
$S =$	0.02	ft/ft
$k =$	16.135	

Main Channel Flow

$$V = \frac{1.486}{n} R^{0.67} S^{0.5}$$

$t_3 =$	0.0	minutes
$L =$		feet
$V =$	#DIV/0!	ft/sec
$n =$		
$R =$	#DIV/0!	feet
$A =$	0.00	sq. ft.
$P =$	0.00	feet
$S =$		ft/ft
$BW =$		feet
$SS1 =$		:1
$SS2 =$		:1
$D =$		feet

Where:

- $V =$ Velocity in feet per second
- $n =$ Manning's n value from Table T-3
- $R =$ Hydraulic Radius (A/P)
- $A =$ Cross sectional flow area in square feet
- $P =$ Wetted perimeter in feet
- $S =$ Slope in ft/ft
- $BW =$ Channel bottom width
- $SS1 =$ Side slope left in x:1
- $SS2 =$ Side slope right in x:1
- $D =$ Flow depth in feet

$$T_c = t_1 + t_2 + t_3 = 6.8 \text{ minutes}$$



Table T-1
Overland Flow Manning's n Values

	<u>Value</u>	<u>Recommended Range of Values</u>
Concrete	0.011	0.010 -0.013
Asphalt	0.012	0.010 -0.015
Bare sand ^a	0.010	0.010 -0.016
Graveled surface ^a	0.012	0.012 -0.030
Bare clay-loam (eroded) ^a	0.012	0.012 -0.033
Fallow (no residue) ^b	0.05	0.006 -0.16
Chisel plow (<1/4 tons/acre residue)	0.07	0.006 -0.17
Chisel plow (1/4 - 1 tons/acre residue)	0.18	0.070 -0.34
Chisel plow (1 - 3 tons/acre residue)	0.30	0.190 -0.47
Chisel plow (>3 tons/acre residue)	0.40	0.340 -0.46
Disk/Harrow (<1/4 tons/acre residue)	0.08	0.008 -0.41
Disk/Harrow (1/4 - 1 tons/acre residue)	0.16	0.100 -0.25
Disk/Harrow (1 - 3 tons/acre residue)	0.25	0.140 -0.53
Disk/Harrow (>3 tons/acre residue)	0.30	— —
No till (<1/4 tons/acre residue)	0.04	0.030 -0.07
No till (1/4 - 1 tons/acre residue)	0.07	0.010 -0.13
No till (1 - 3 tons/acre residue)	0.30	0.160 -0.47
Plow (Fall)	0.06	0.020 -0.10
Coulter	0.10	0.050 -0.13
Range (natural)	0.13	0.010 -0.32
Range (clipped)	0.08	0.020 -0.24
Grass (bluegrass sod)	0.45	0.390 -0.63
Short grass prairie ^a	0.15	0.100 -0.20
Dense grass ^c	0.24	0.170 -0.30
Bermuda grass ^c	0.41	0.300 -0.48
Woods	0.45	— —

All values are from Engman (1983), unless noted otherwise.

^aWoolhiser (1975).

^bFallow has been idle for one year and is fairly smooth.

^cPalmer (1946). Weeping love grass, bluegrass, buffalo grass, blue gamma grass, native grass mix (OK), alfalfa, lespedeza.

Note: These values were determined specifically for overland flow conditions and are not appropriate for conventional open channel flow calculations. See the open channel handbook for open channel flow procedures.

Figure 15-4 Velocity versus slope for shallow concentrated flow

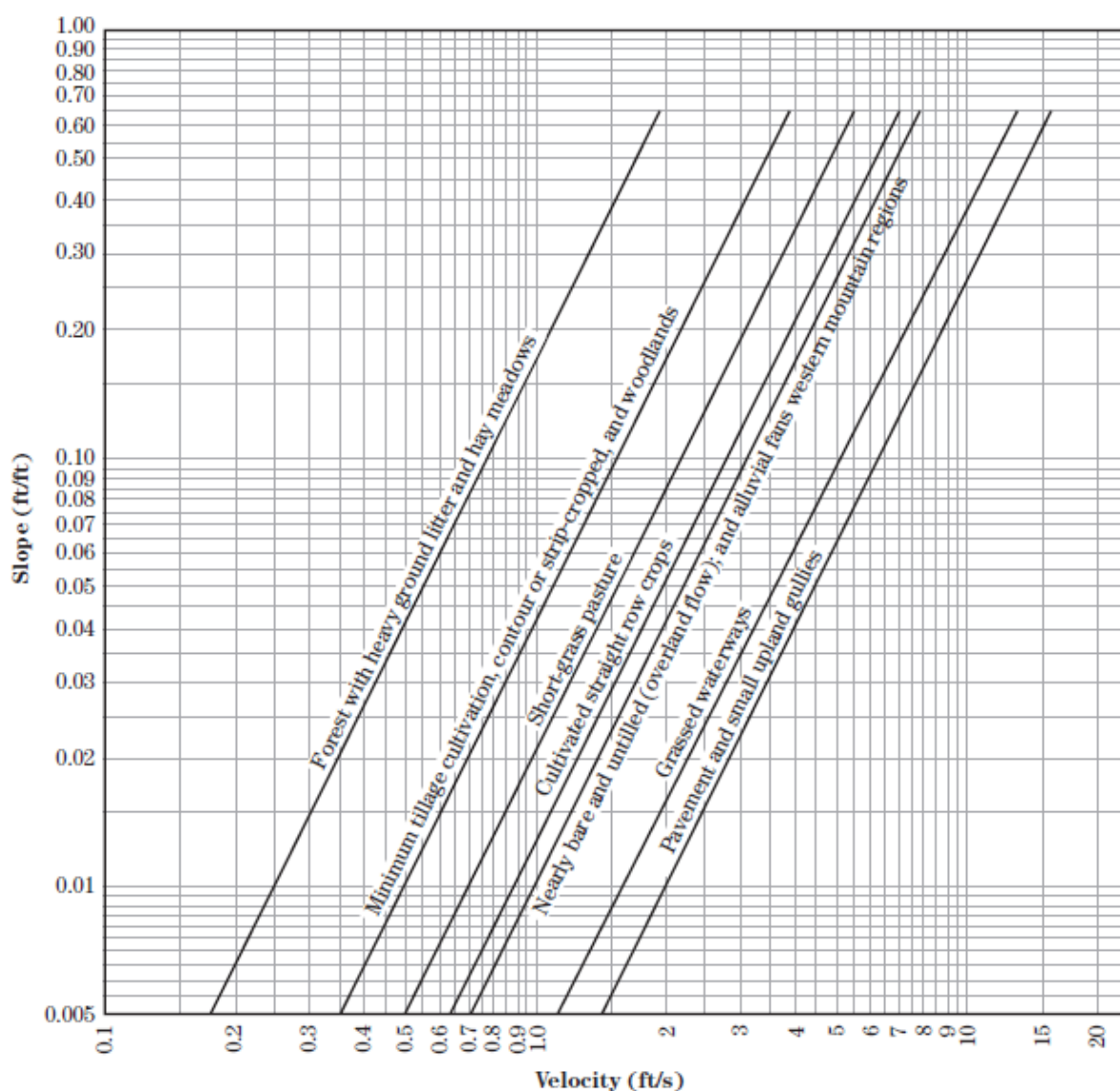


Table 15-3 Equations and assumptions developed from figure 15-4

Flow type	Depth (ft)	Manning's <i>n</i>	Velocity equation (ft/s)
Pavement and small upland gullies	0.2	0.025	$V = 20.328(s)^{0.5}$
Grassed waterways	0.4	0.050	$V = 16.135(s)^{0.5}$
Nearly bare and untilled (overland flow); and alluvial fans in western mountain regions	0.2	0.051	$V = 9.965(s)^{0.5}$
Cultivated straight row crops	0.2	0.058	$V = 8.762(s)^{0.5}$
Short-grass pasture	0.2	0.073	$V = 6.962(s)^{0.5}$
Minimum tillage cultivation, contour or strip-cropped, and woodlands	0.2	0.101	$V = 5.032(s)^{0.5}$
Forest with heavy ground litter and hay meadows	0.2	0.202	$V = 2.516(s)^{0.5}$



Table T-3
Recommended Manning's n Values for Artificial
Channels with Various Linings

<u>Channel Lining</u>	<u>Lining Description</u>	<u>Design Manning's n Value</u>
<u>Bare Earth or Vegetative Linings</u>		
Bare earth, fairly uniform	Clean, recently completed	0.022
Bare earth, fairly uniform	Short grass and some weeds	0.028
Dragline excavated	No vegetation	0.030
Dragline excavated	Light brush	0.040
Channels not maintained	Dense weeds to flow depth	0.100
Channels not maintained	Clear bottom, brush sides	0.080
Maintained grass or sodded ditches	Good stand, well maintained 2" - 6"	0.060*
Maintained grass or sodded ditches	Fair stand, length 12" - 24"	0.200*
<u>Rigid Linings</u>		
Concrete paved	Broomed**	0.016
Concrete paved	"Roughened" - standard	0.020
Concrete paved	Guniting	0.020
Concrete paved	Over rubble	0.023
Asphalt concrete	Smooth	0.013
Asphalt concrete	Rough	0.016

* Decrease 30% for flows > 0.7' (maximum flow depth 1.5').

** Because this is not the standard finish, it must be specified.



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OTHER MANNINGS “N” COEFFICIENTS USED IN DESIGN



Table 3-5 Estimates of Manning's roughness coefficient for overland flow

Source	Ground Cover	n	Range
Crawford and Linsley (1966) ^a	Smooth asphalt	0.01	
	Asphalt of concrete paving	0.014	
	Packed clay	0.03	
	Light turf	0.20	
	Dense turf	0.35	
	Dense shrubbery and forest litter	0.4	
Engman (1986) ^b	Concrete or asphalt	0.01 I	0.010-0.013
	Bare sand	0.010	0.01-0.016
	Graveled surface	0.02	0.012-0.03
	Bare clay-loam (eroded)	0.02	0.012-0.033
	Range (natural)	0.13	0.01-0.32
	Bluegrass sod	0.45	0.39-0.63
	Short grass prairie	0.15	0.10-0.20
	Bermuda grass	0.41	0.30-0.48
Yen (2001) ^c	Smooth asphalt pavement	0.012	0.010-0.015
	Smooth impervious surface	0.013	0.011-0.015
	Tar and sand pavement	0.014	0.012-0.016
	Concrete pavement	0.017	0.014-0.020
	Rough impervious surface	0.019	0.015-0.023
	Smooth bare packed soil	0.021	0.017-0.025
	Moderate bare packed soil	0.030	0.025-0.035
	Rough bare packed soil	0.038	0.032-0.045
	Gravel soil	0.032	0.025-0.045
	Mowed poor grass	0.038	0.030-0.045
	Average grass, closely clipped sod	0.050	0.040-0.060
	Pasture	0.055	0.040-0.070
	Timberland	0.090	0.060-0.120
	Dense grass	0.090	0.060-0.120
	Shrubs and bushes	0.120	0.080-0.180
	Business land use	0.022	0.014-0.035
	Semi-business land use	0.035	0.022-0.050
	Industrial land use	0.035	0.020-0.050
	Dense residential land use	0.040	0.025-0.060
	Suburban residential land use	0.055	0.030-0.080
	Parks and lawns	0.075	0.040-0.120
^a Obtained by calibration of Stanford Watershed Model.			
^b Computed by Engman (1986) by kinematic wave and storage analysis of measured rainfall-runoff data.			
^c Computed on basis of Cinematic wave analysis.			



WET POND DESIGN

PERMANENT POOL CALCULATIONS

LITTORAL ZONE ☐ Yes
☐ No

INCREASE RESIDENCE TIME BY 50% TO 21 DAYS
WITHOUT A LITTORAL ZONE

$$\text{MINIMUM PERMANENT POOL VOLUME} = DA \times C_{PST} \times \frac{WSR}{12} \times \frac{RT}{WSD}$$

where: DA = Drainage Area (ft²) => 63597.60
C_{PST} = Post-Developed Runoff Coefficient => 0.54
WSR = Wet Season Rainfall (inches) => 30
RT = Residence Time (days) => 21
WSD = Wet Season Duration (days) => 153

MINIMUM PERMANENT POOL VOLUME => 11791

PROVIDED PERMANENT POOL VOLUME => 17591

	ELEV (ft)	AREA (ft ²)
TOP OF PERMANENT POOL	160.25	5818
BOTTOM OF WET DETENTION BASIN	155.05	955

OK

BLEED-DOWN ORIFICE CALCULATIONS

- ☒ Suwannee River Water Management District
- ☐ Northwest Florida Water Management District
- ☐ St. Johns River Water Management District

- ☐ Discharge to other than OFW or active sink
- ☐ Discharge to OFW
- ☒ Discharge to active sink

WATER QUALITY REQUIREMENT:

RUNOFF FROM THE FIRST TWO
INCHES OF RAINFALL



WATER QUALITY VOLUME REQUIRED = 5727

WATER QUALITY VOLUME PROVIDED = 6836

	ELEV (ft)	AREA (ft ²)
TOP OF WATER QUALITY VOLUME	161.25	7868.00
BLEED-DOWN ORIFICE	160.25	5818

DRAWDOWN DEPTH (ft) = 1.00

ONE HALF OF WATER QUALITY VOLUME
= 3418.073349

MINIMUM FLOW RATE (60 HOURS) = 0.016 cfs

MAXIMUM FLOW RATE (48 HOURS) = 0.020 cfs

MINIMUM ORIFICE AREA = 0.0060 ft² 1.04 in. diam.

MAXIMUM ORIFICE AREA = 0.0074 ft² 1.17 in. diam.

SELECTED ORIFICE AREA = 0.0000 ft²
SELECTED ORIFICE DIAM. = inches

PERMANENT POOL VOLUMES

ELEV (ft)	AREA (ft ²)	VOL (CF)	T VOL (CF)
160.25	5818	599.41	17591.43
160.15	5720.74	589.30	16992.02
160.04	5623.48	579.20	16402.72
159.94	5526.22	569.09	15823.52
159.83	5428.96	558.99	15254.43
159.73	5331.70	548.88	14695.44
159.63	5234.44	538.78	14146.56
159.52	5137.18	528.67	13607.78
159.42	5039.92	518.57	13079.11
159.31	4942.66	508.46	12560.55
159.21	4845.40	498.36	12052.08
159.11	4748.14	488.25	11553.73

159.00	4650.88	478.15	11065.48
158.90	4553.62	468.04	10587.33

158.79	4456.36	457.94	10119.29
--------	---------	--------	----------

WATER QUALITY VOLUMES

ELEV (ft)	AREA (ft ²)	VOL (CF)	T VOL (CF)
161.25	7868	156.79	6836.15
161.23	7827.00	155.97	6679.35
161.21	7786.00	155.15	6523.38
161.19	7745.00	154.34	6368.23
161.17	7704.00	153.52	6213.89
161.15	7663.00	152.70	6060.37
161.13	7622.00	151.88	5907.68
161.11	7581.00	151.06	5755.80
161.09	7540.00	150.24	5604.74
161.07	7499.00	149.42	5454.50
161.05	7458.00	148.60	5305.08
161.03	7417.00	147.78	5156.48

161.01	7376.00	146.96	
160.99	7335.00	146.14	4861.74

160.97	7294.00	145.32	4715.59
--------	---------	--------	---------



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158.69	4359.10	447.83	9661.35
158.59	4261.84	437.73	9213.52
158.48	4164.58	427.62	8775.79

160.95	7253.00	144.51	4570.27
160.93	7212.00	143.69	4425.76
160.91	7171.00	142.87	4282.08

158.38	4067.32	417.52	8348.17
158.27	3970.06	407.41	7930.66
158.17	3872.80	397.31	7523.25
158.07	3775.54	387.20	7125.94
157.96	3678.28	377.09	6738.74
157.86	3581.02	366.99	6361.65
157.75	3483.76	356.88	5994.66
157.65	3386.50	346.78	5637.77
157.55	3289.24	336.67	5290.99
157.44	3191.98	326.57	4954.32
157.34	3094.72	316.46	4627.75
157.23	2997.46	306.36	4311.29
157.13	2900.20	296.25	4004.93
157.03	2802.94	286.15	3708.68
156.92	2705.68	276.04	3422.53
156.82	2608.42	265.94	3146.49
156.71	2511.16	255.83	2880.55
156.61	2413.90	245.72	2624.72
156.51	2316.64	235.62	2379.00
156.40	2219.38	225.51	2143.38
156.30	2122.12	215.41	1917.87
156.19	2024.86	205.30	1702.46
156.09	1927.60	195.20	1497.16
155.99	1830.34	185.09	1301.96
155.88	1733.08	174.98	1116.87
155.78	1635.82	164.88	941.89
155.67	1538.56	154.77	777.01
155.57	1441.30	144.66	622.24
155.47	1344.04	134.56	477.58
155.36	1246.78	124.45	343.02
155.26	1149.52	114.34	218.57
155.15	1052.26	104.23	104.23
155.05	955.00	0.00	0.00

160.89	7130.00	142.05	4139.21
160.87	7089.00	141.23	3997.16
160.85	7048.00	140.41	3855.93
160.83	7007.00	139.59	3715.52
160.81	6966.00	138.77	3575.93
160.79	6925.00	137.95	3437.16
160.77	6884.00	137.13	3299.21
160.75	6843.00	136.31	3162.08
160.73	6802.00	135.49	3025.77
160.71	6761.00	134.67	2890.27
160.69	6720.00	133.86	2755.60
160.67	6679.00	133.04	2621.74
160.65	6638.00	132.22	2488.70
160.63	6597.00	131.40	2356.49
160.61	6556.00	130.58	2225.09
160.59	6515.00	129.76	2094.51
160.57	6474.00	128.94	1964.75
160.55	6433.00	128.12	1835.81
160.53	6392.00	127.30	1707.69
160.51	6351.00	126.48	1580.39
160.49	6310.00	125.66	1453.90
160.47	6269.00	124.84	1328.24
160.45	6228.00	124.03	1203.39
160.43	6187.00	123.21	1079.37
160.41	6146.00	122.39	956.16
160.39	6105.00	121.57	833.77
160.37	6064.00	120.75	712.21
160.35	6023.00	119.93	591.46
160.33	5982.00	119.11	471.53
160.31	5941.00	118.29	352.42
160.29	5900.00	117.47	234.13
160.27	5859.00	116.65	116.65
160.25	5818.00	0.00	0.00



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PRE-DEVELOPMENT MODELING DATA

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Project Data

Project Name: Florida Gateway Drive RV Park North Pond
Simulation Description: Pre- Development Basin
Project Number: L210121SHA
Engineer : Dalton Kurtz
Supervising Engineer: Terry White
Date: 10-31-2022

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 158.04
Water Table Elevation, [WT] (ft datum): 158.05
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 13.65
Fillable Porosity, [n] (%): 25.00
Vertical infiltration was not considered.

Ditch Data

Ditch (or interceptor trench) parallel to length axis is inactive
Ditch (or interceptor trench) parallel to width axis is inactive

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Scenario Input Data

Scenario 1 :: FDOT 1 Hour - 1 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 1

Basin Area (acres) 1.450
Time Of Concentration (minutes) 12.4
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 4.2
Design Rainfall Duration (hours) 1.0
Shape Factor UHG 484
Rainfall Distribution FDOT 1 Hour

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

Scenario 2 :: FDOT 2 Hour - 2 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 1

Basin Area (acres) 1.450
Time Of Concentration (minutes) 12.4
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 5.1
Design Rainfall Duration (hours) 2.0
Shape Factor UHG 484
Rainfall Distribution FDOT 2 Hour

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

Scenario 3 :: FDOT 4 Hour - 4 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 1

Basin Area (acres) 1.450
Time Of Concentration (minutes) 12.4
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 6.1
Design Rainfall Duration (hours) 4.0
Shape Factor UHG 484
Rainfall Distribution FDOT 4 Hour

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

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Scenario Input Data (cont'd.)

Scenario 4 :: FDOT 8 Hour - 8 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 1

Basin Area (acres) 1.450
Time Of Concentration (minutes) 12.4
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 7.4
Design Rainfall Duration (hours) 8.0
Shape Factor UHG 484
Rainfall Distribution FDOT 8 Hour

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

Scenario 5 :: FDOT 24 Hour - 24 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 1

Basin Area (acres) 1.450
Time Of Concentration (minutes) 12.4
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 9.8
Design Rainfall Duration (hours) 24.0
Shape Factor UHG 484
Rainfall Distribution FDOT 24 Hour

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

Scenario 6 :: FDOT 72 Hour - 72 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 1

Basin Area (acres) 1.450
Time Of Concentration (minutes) 12.4
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 12.4
Design Rainfall Duration (hours) 72.0
Shape Factor UHG 484
Rainfall Distribution FDOT 72 Hour

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

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Scenario Input Data (cont'd.)

Scenario 7 :: FDOT 168 Hour - 168 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 1

Basin Area (acres) 1.450
Time Of Concentration (minutes) 12.4
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 14.0
Design Rainfall Duration (hours) 168.0
Shape Factor UHG 484
Rainfall Distribution FDOT 168 Hour

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

Scenario 8 :: FDOT 240 Hour - 240 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 1

Basin Area (acres) 1.450
Time Of Concentration (minutes) 12.4
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 16.1
Design Rainfall Duration (hours) 240.0
Shape Factor UHG 484
Rainfall Distribution FDOT 240 Hour

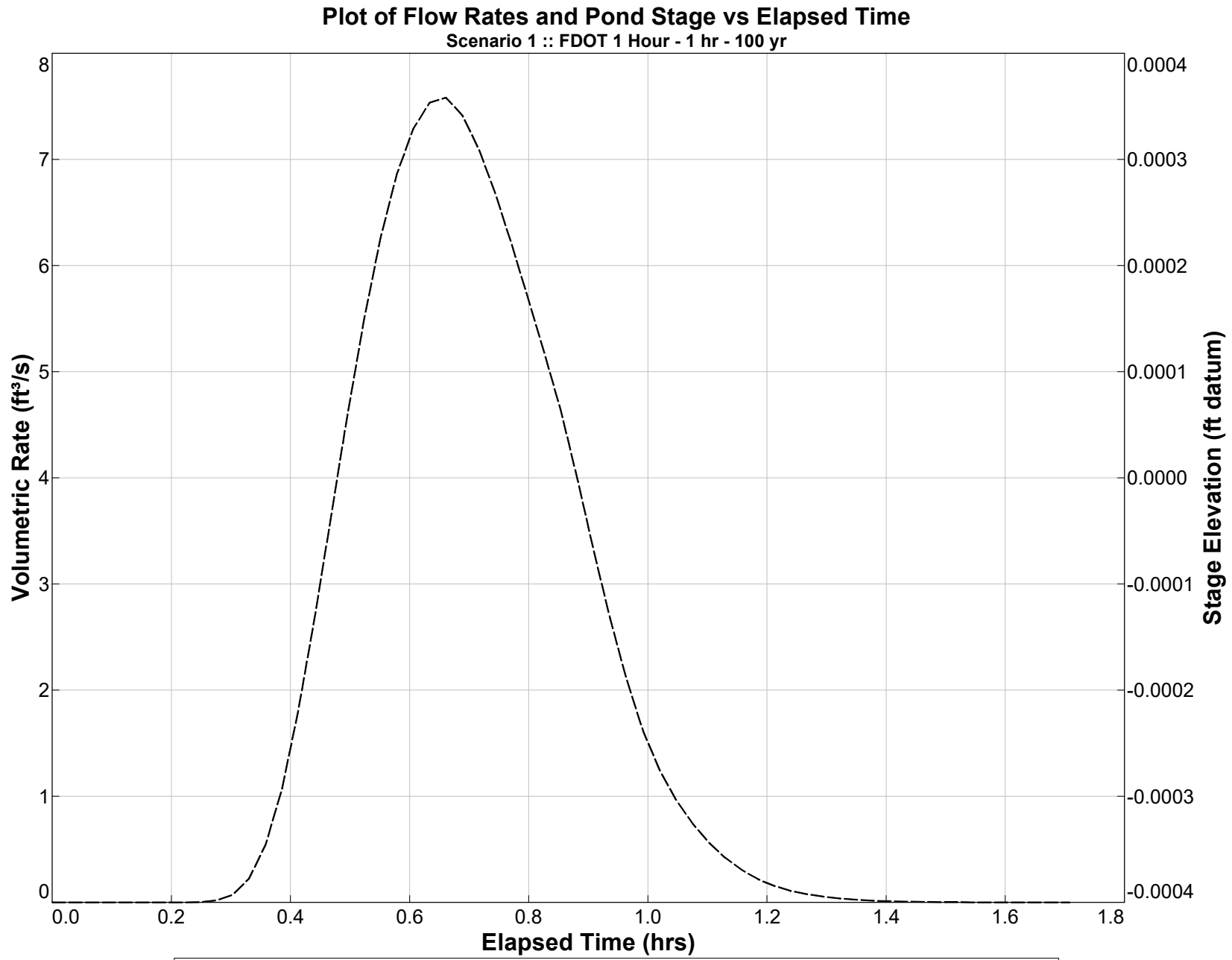
Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

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Summary of Results :: Scenario 1 :: FDOT 1 Hour - 1 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	0.661		7.5822	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1.681			11627.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1.708			11627.6
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	0.661		7.5822	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1.681			11627.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1.708			11627.6
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

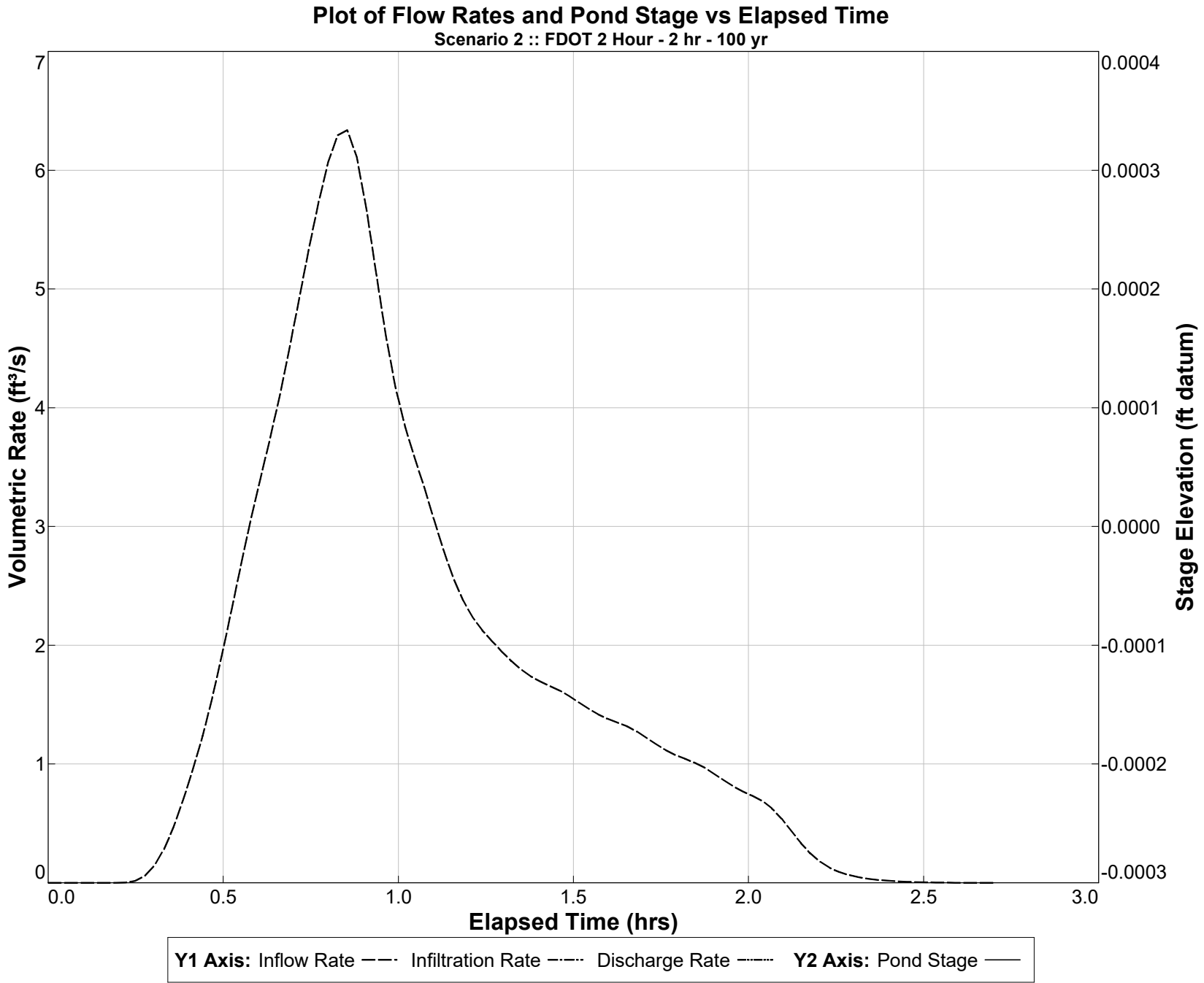


Y1 Axis: Inflow Rate --- Infiltration Rate - - - - Discharge Rate - - - - Y2 Axis: Pond Stage —

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Summary of Results :: Scenario 2 :: FDOT 2 Hour - 2 hr - 100 yr

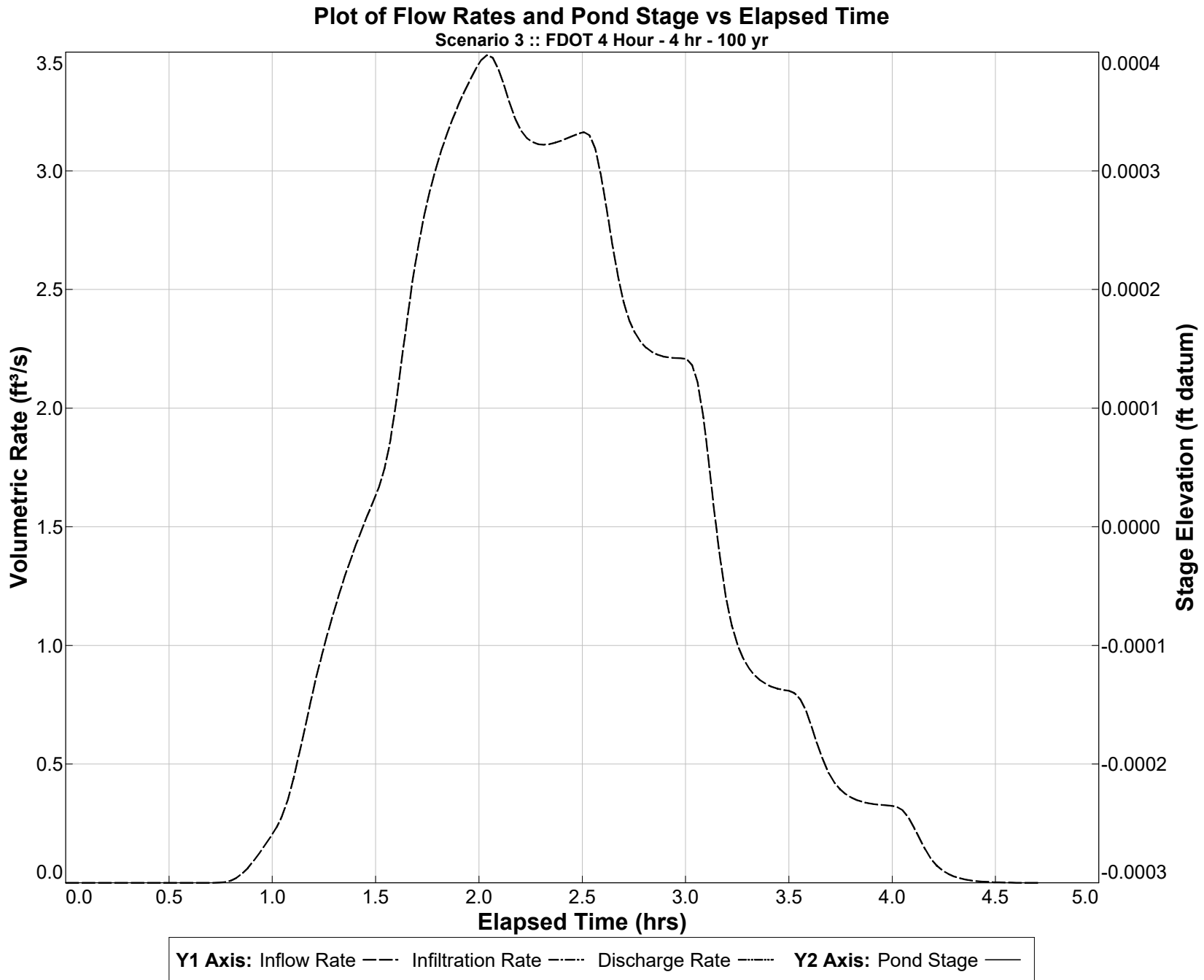
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	0.854		6.3374	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	2.673			15694.1
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	2.700			15694.1
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	0.854		6.3374	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	2.673			15694.1
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	2.700			15694.1
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 3 :: FDOT 4 Hour - 4 hr - 100 yr

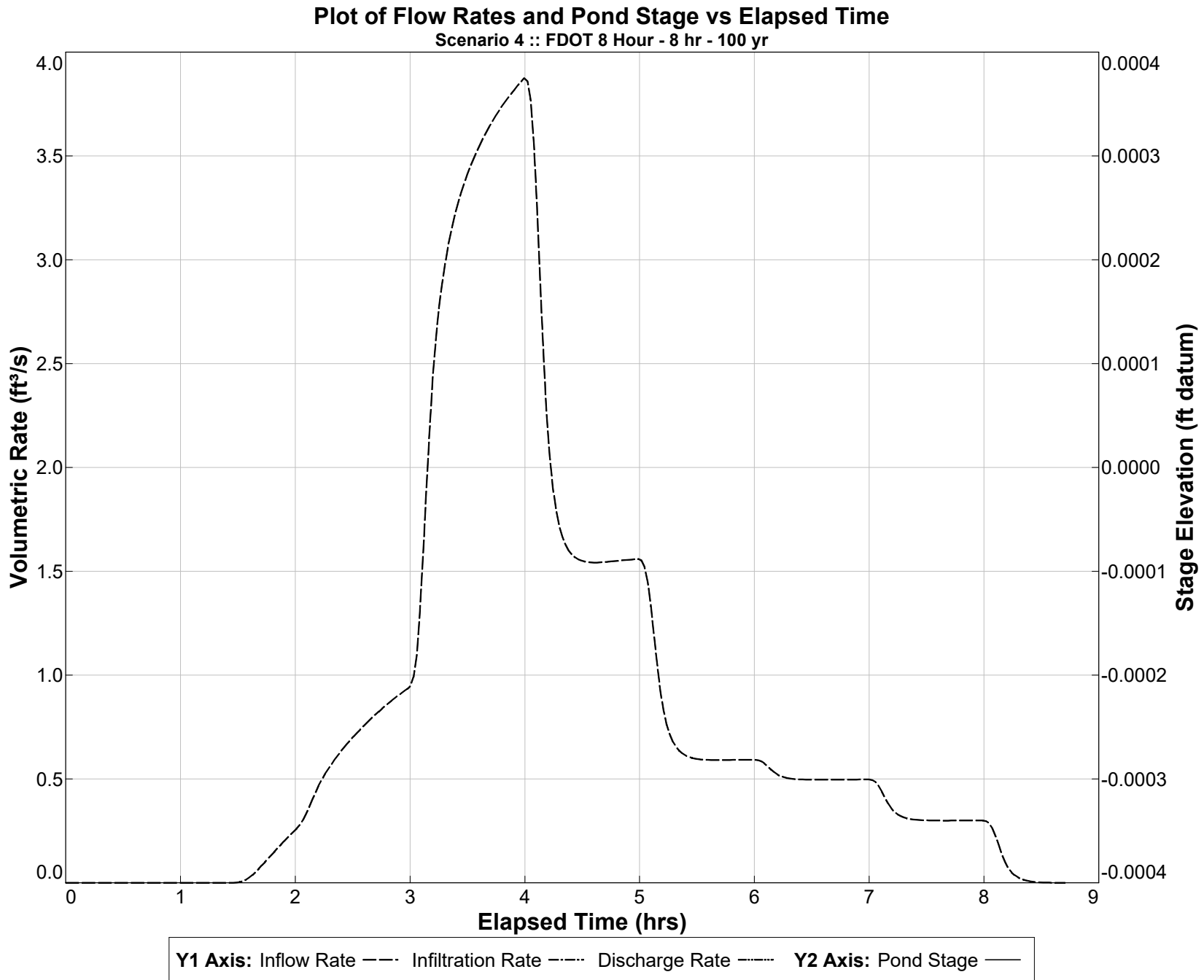
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	2.039		3.4874	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	4.684			20292.5
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	4.712			20292.5
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	2.039		3.4874	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	4.684			20292.5
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	4.712			20292.5
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 4 :: FDOT 8 Hour - 8 hr - 100 yr

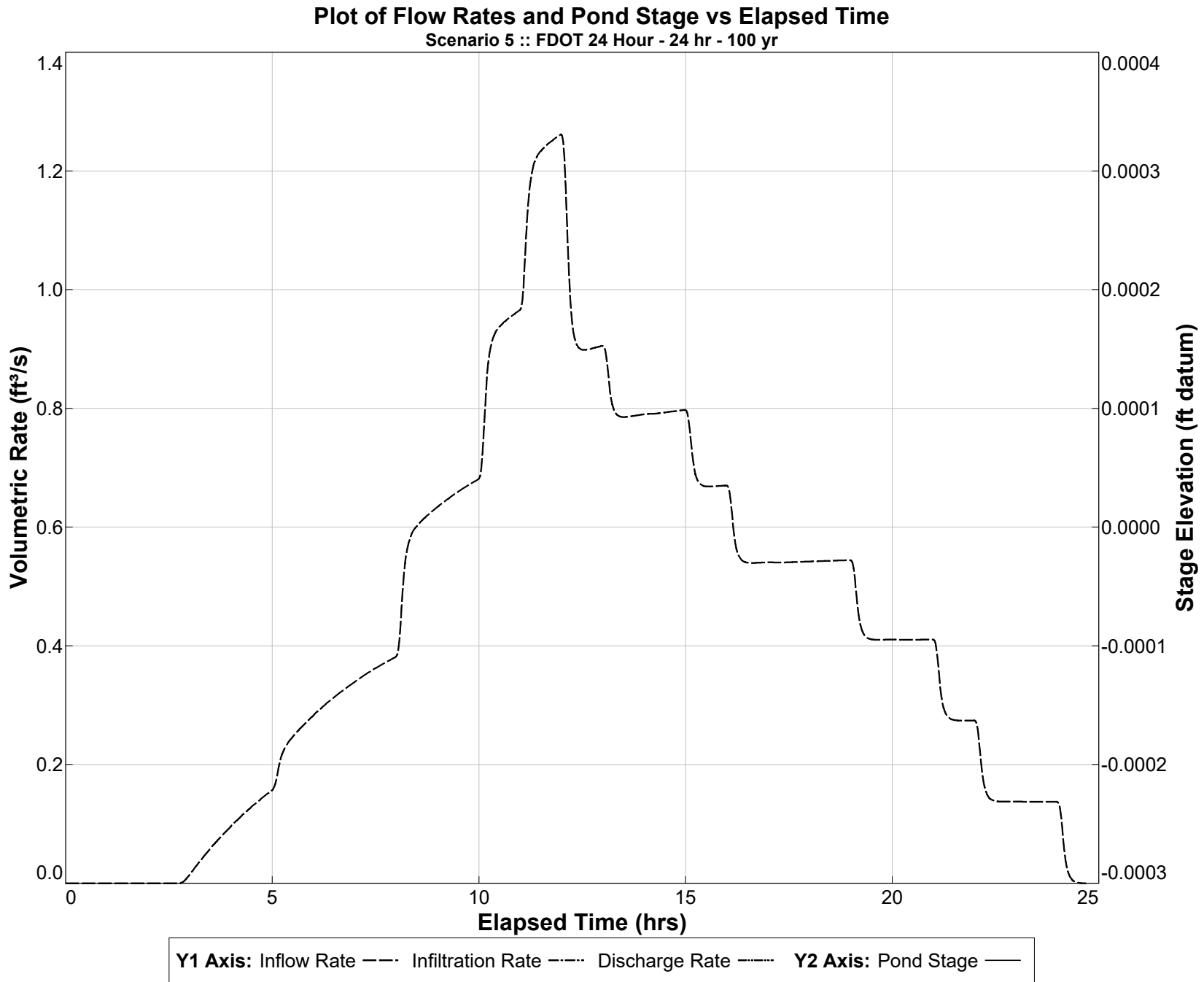
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	3.996		3.8751	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	8.680			26475.9
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	8.708			26475.9
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	3.996		3.8751	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	8.680			26475.9
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	8.708			26475.9
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 5 :: FDOT 24 Hour - 24 hr - 100 yr

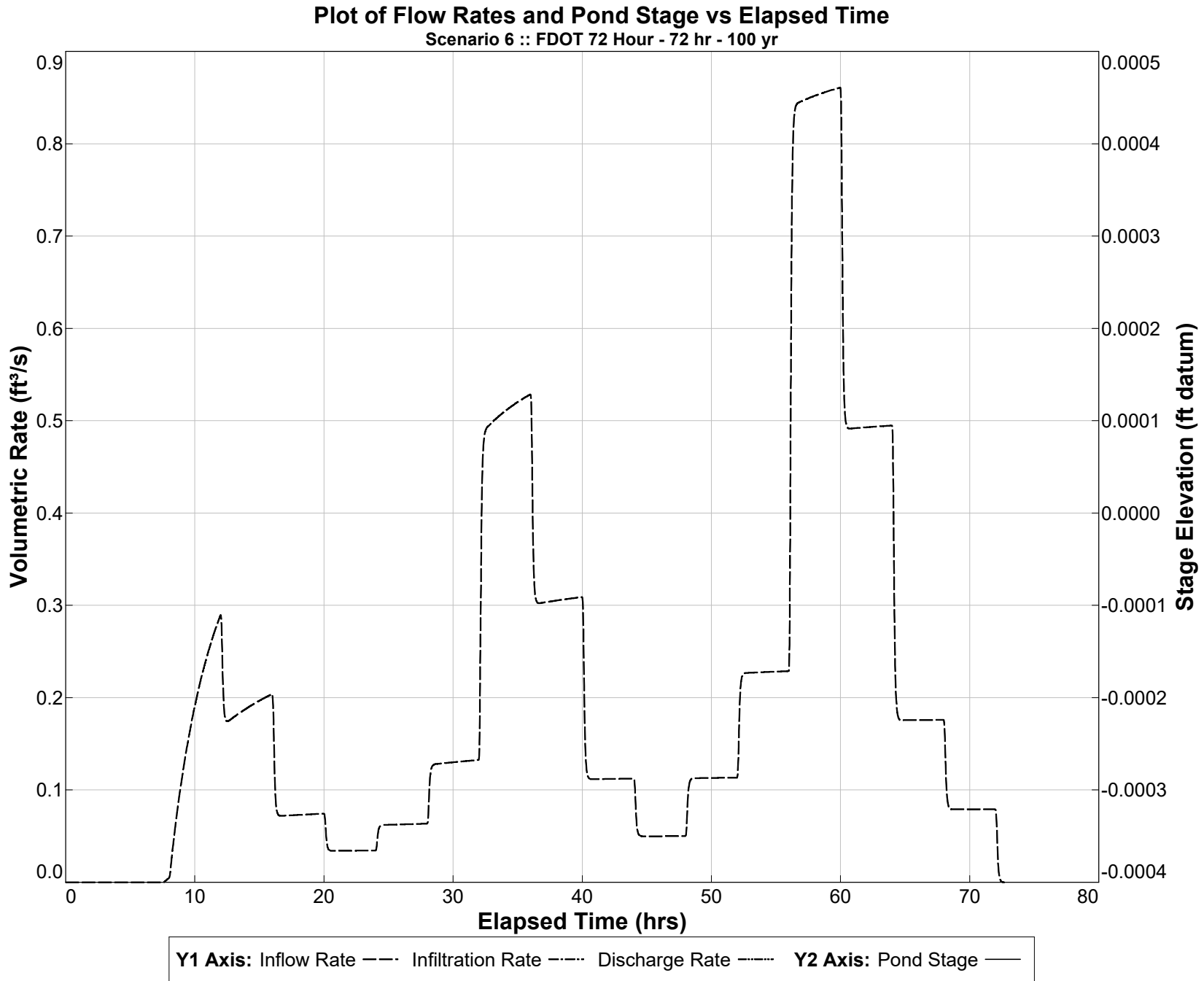
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	11.987		1.2618	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	24.662			38799.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	24.690			38799.0
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	11.987		1.2618	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	24.662			38799.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	24.690			38799.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 6 :: FDOT 72 Hour - 72 hr - 100 yr

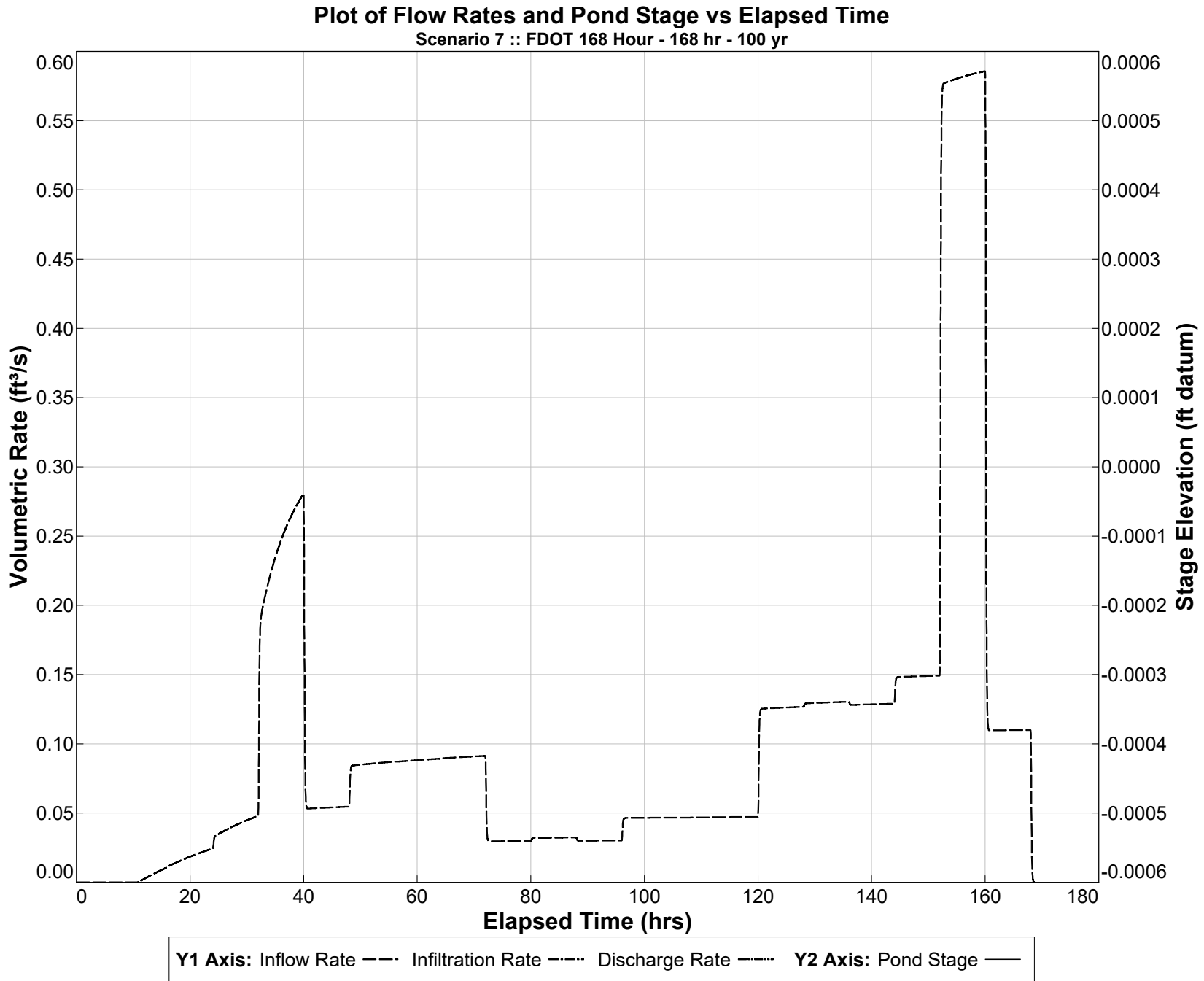
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	59.988		0.8608	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	72.664			51785.8
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	72.692			51785.8
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	59.988		0.8608	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	72.664			51785.8
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	72.692			51785.8
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 7 :: FDOT 168 Hour - 168 hr - 100 yr

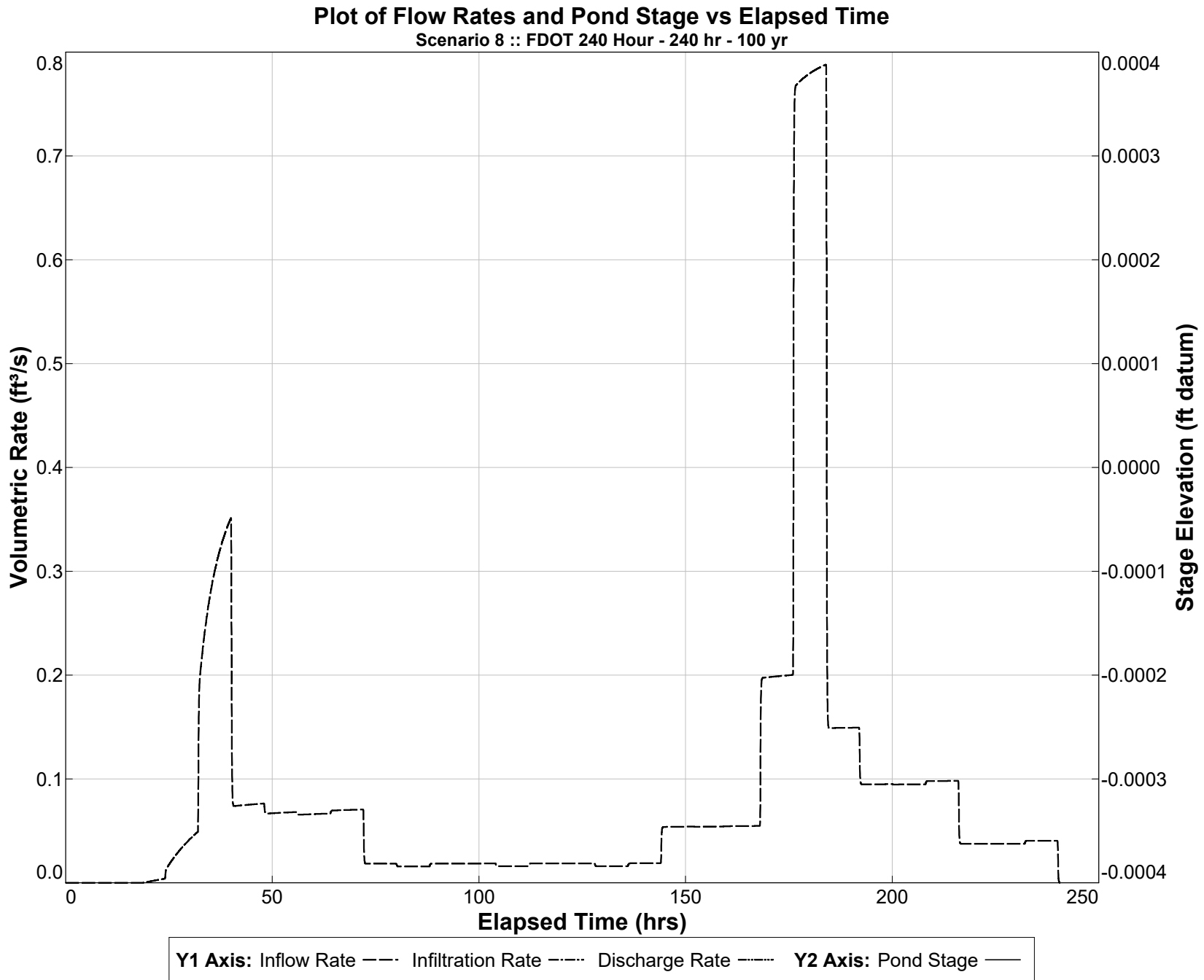
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	159.988		0.5858	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	168.668			59982.8
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	168.695			59982.8
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	159.988		0.5858	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	168.668			59982.8
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	168.695			59982.8
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 8 :: FDOT 240 Hour - 240 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	183.988		0.7881	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	240.670			70802.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	240.698			70802.6
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	183.988		0.7881	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	240.670			70802.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	240.698			70802.6
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.





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POST-DEVELOPMENT MODELING DATA

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Project Data

Project Name: RV PARK POST DEVELOPMENT NORTH BASIN
Simulation Description: Post Development Basin
Project Number: L210112SHA
Engineer : Dalton Kurtz
Supervising Engineer: Terry White
Date: 10-31-2022

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 158.04
Water Table Elevation, [WT] (ft datum): 158.05
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 13.65
Fillable Porosity, [n] (%): 25.00
Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft): 116.0
Equivalent Pond Width, [W] (ft): 116.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft ²)
155.05	63.0
163.75	13498.0

Discharge Structures

Discharge Structure #1 is active as weir

Structure Parameters

Description: 2' concrete weir
Weir elevation, (ft datum): 162.5
Weir coefficient: 3.13
Weir length, (ft): 2
Weir exponent: 1.5

Tailwater - disabled, free discharge

Discharge Structures (cont'd.)

Discharge Structure #2 is active as orifice

Structure Parameters

Description: 6" Bleeder

Orifice elevation, (ft datum):	161.75
Orifice coefficient:	4.9
Orifice area, (ft ²):	0.196
Orifice exponent:	0.5

Tailwater - disabled, free discharge

Discharge Structure #3 is inactive

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Scenario Input Data

Scenario 9 :: FDOT 1 Hour - 1 hr - 100 yr

Hydrograph Type: Inline SCS
 Modflow Routing: Routed with infiltration
 Repetitions: 1

Basin Area (acres) 1.460
 Time Of Concentration (minutes) 6.8
 DCIA (%) 0.0
 Curve Number 89
 Design Rainfall Depth (inches) 4.2
 Design Rainfall Duration (hours) 1.0
 Shape Factor UHG 484
 Rainfall Distribution FDOT 24 Hour

Initial ground water level (ft datum) 158.05 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	5.000	11.500	18.000	24.500
0.200	5.500	12.000	18.500	25.000
0.300	6.000	12.500	19.000	25.500
0.400	6.500	13.000	19.500	26.000
0.500	7.000	13.500	20.000	26.500
1.000	7.500	14.000	20.500	27.000
1.500	8.000	14.500	21.000	27.500
2.000	8.500	15.000	21.500	28.000
2.500	9.000	15.500	22.000	28.500
3.000	9.500	16.000	22.500	29.000
3.500	10.000	16.500	23.000	29.500
4.000	10.500	17.000	23.500	30.000
4.500	11.000	17.500	24.000	

Scenario 10 :: FDOT 2 Hour - 2 hr - 100 yr

Hydrograph Type: Inline SCS
 Modflow Routing: Routed with infiltration
 Repetitions: 1

Basin Area (acres) 1.460
 Time Of Concentration (minutes) 6.8
 DCIA (%) 0.0
 Curve Number 89
 Design Rainfall Depth (inches) 5.1
 Design Rainfall Duration (hours) 2.0
 Shape Factor UHG 484
 Rainfall Distribution FDOT 2 Hour

Initial ground water level (ft datum) 158.05 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	1.500	4.500	7.500	10.500
0.200	2.000	5.000	8.000	11.000
0.300	2.500	5.500	8.500	11.500
0.400	3.000	6.000	9.000	12.000
0.500	3.500	6.500	9.500	12.500
1.000	4.000	7.000	10.000	13.000

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Scenario Input Data (cont'd.)

Scenario 10 (cont'd.) :: SCS :: FDOT 2 Hour - 2 hr - 100 yr

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
13.500	17.000	20.500	24.000	27.500
14.000	17.500	21.000	24.500	28.000
14.500	18.000	21.500	25.000	28.500
15.000	18.500	22.000	25.500	29.000
15.500	19.000	22.500	26.000	29.500
16.000	19.500	23.000	26.500	30.000
16.500	20.000	23.500	27.000	

Scenario 11 :: FDOT 4 Hour - 4 hr - 100 yr

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

Basin Area (acres) 1.460
Time Of Concentration (minutes) 6.8
DCIA (%) 0.0
Curve Number 89
Design Rainfall Depth (inches) 6.1
Design Rainfall Duration (hours) 4.0
Shape Factor UHG 484
Rainfall Distribution FDOT 4 Hour

Initial ground water level (ft datum) 158.05 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	5.000	11.500	18.000	24.500
0.200	5.500	12.000	18.500	25.000
0.300	6.000	12.500	19.000	25.500
0.400	6.500	13.000	19.500	26.000
0.500	7.000	13.500	20.000	26.500
1.000	7.500	14.000	20.500	27.000
1.500	8.000	14.500	21.000	27.500
2.000	8.500	15.000	21.500	28.000
2.500	9.000	15.500	22.000	28.500
3.000	9.500	16.000	22.500	29.000
3.500	10.000	16.500	23.000	29.500
4.000	10.500	17.000	23.500	30.000
4.500	11.000	17.500	24.000	

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Scenario Input Data (cont'd.)

Scenario 12 :: FDOT 8 Hour - 8 hr - 100 yr

Hydrograph Type: Inline SCS
 Modflow Routing: Routed with infiltration
 Repetitions: 1

Basin Area (acres) 1.460
 Time Of Concentration (minutes) 6.8
 DCIA (%) 0.0
 Curve Number 89
 Design Rainfall Depth (inches) 7.4
 Design Rainfall Duration (hours) 8.0
 Shape Factor UHG 484
 Rainfall Distribution FDOT 8 Hour

Initial ground water level (ft datum) 158.05 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	5.000	11.500	18.000	24.500
0.200	5.500	12.000	18.500	25.000
0.300	6.000	12.500	19.000	25.500
0.400	6.500	13.000	19.500	26.000
0.500	7.000	13.500	20.000	26.500
1.000	7.500	14.000	20.500	27.000
1.500	8.000	14.500	21.000	27.500
2.000	8.500	15.000	21.500	28.000
2.500	9.000	15.500	22.000	28.500
3.000	9.500	16.000	22.500	29.000
3.500	10.000	16.500	23.000	29.500
4.000	10.500	17.000	23.500	30.000
4.500	11.000	17.500	24.000	

Scenario 13 :: FDOT 24 Hour - 24 hr - 100 yr

Hydrograph Type: Inline SCS
 Modflow Routing: Routed with infiltration
 Repetitions: 1

Basin Area (acres) 1.460
 Time Of Concentration (minutes) 6.8
 DCIA (%) 0.0
 Curve Number 89
 Design Rainfall Depth (inches) 9.8
 Design Rainfall Duration (hours) 24.0
 Shape Factor UHG 484
 Rainfall Distribution FDOT 24 Hour

Initial ground water level (ft datum) 158.05 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	1.500	4.500	7.500	10.500
0.200	2.000	5.000	8.000	11.000
0.300	2.500	5.500	8.500	11.500
0.400	3.000	6.000	9.000	12.000
0.500	3.500	6.500	9.500	12.500
1.000	4.000	7.000	10.000	13.000

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Scenario Input Data (cont'd.)

Scenario 13 (cont'd.) :: SCS :: FDOT 24 Hour - 24 hr - 100 yr

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
13.500	17.000	20.500	24.000	27.500
14.000	17.500	21.000	24.500	28.000
14.500	18.000	21.500	25.000	28.500
15.000	18.500	22.000	25.500	29.000
15.500	19.000	22.500	26.000	29.500
16.000	19.500	23.000	26.500	30.000
16.500	20.000	23.500	27.000	

Scenario 14 :: FDOT 72 Hour - 72 hr - 100 yr

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

Basin Area (acres) 1.460
Time Of Concentration (minutes) 6.8
DCIA (%) 0.0
Curve Number 89
Design Rainfall Depth (inches) 12.4
Design Rainfall Duration (hours) 72.0
Shape Factor UHG 484
Rainfall Distribution FDOT 72 Hour

Initial ground water level (ft datum) 158.05 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	5.000	11.500	18.000	24.500
0.200	5.500	12.000	18.500	25.000
0.300	6.000	12.500	19.000	25.500
0.400	6.500	13.000	19.500	26.000
0.500	7.000	13.500	20.000	26.500
1.000	7.500	14.000	20.500	27.000
1.500	8.000	14.500	21.000	27.500
2.000	8.500	15.000	21.500	28.000
2.500	9.000	15.500	22.000	28.500
3.000	9.500	16.000	22.500	29.000
3.500	10.000	16.500	23.000	29.500
4.000	10.500	17.000	23.500	30.000
4.500	11.000	17.500	24.000	

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Scenario Input Data (cont'd.)

Scenario 15 :: FDOT 168 Hour - 168 hr - 100 yr

Hydrograph Type: Inline SCS
 Modflow Routing: Routed with infiltration
 Repetitions: 1

Basin Area (acres) 1.460
 Time Of Concentration (minutes) 6.8
 DCIA (%) 0.0
 Curve Number 89
 Design Rainfall Depth (inches) 14.0
 Design Rainfall Duration (hours) 168.0
 Shape Factor UHG 484
 Rainfall Distribution FDOT 168 Hour

Initial ground water level (ft datum) 158.05 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	5.000	11.500	18.000	24.500
0.200	5.500	12.000	18.500	25.000
0.300	6.000	12.500	19.000	25.500
0.400	6.500	13.000	19.500	26.000
0.500	7.000	13.500	20.000	26.500
1.000	7.500	14.000	20.500	27.000
1.500	8.000	14.500	21.000	27.500
2.000	8.500	15.000	21.500	28.000
2.500	9.000	15.500	22.000	28.500
3.000	9.500	16.000	22.500	29.000
3.500	10.000	16.500	23.000	29.500
4.000	10.500	17.000	23.500	30.000
4.500	11.000	17.500	24.000	

Scenario 16 :: FDOT 240 Hour - 240 hr - 100 yr

Hydrograph Type: Inline SCS
 Modflow Routing: Routed with infiltration
 Repetitions: 1

Basin Area (acres) 1.460
 Time Of Concentration (minutes) 6.8
 DCIA (%) 0.0
 Curve Number 89
 Design Rainfall Depth (inches) 16.1
 Design Rainfall Duration (hours) 240.0
 Shape Factor UHG 484
 Rainfall Distribution FDOT 240 Hour

Initial ground water level (ft datum) 158.05 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	1.500	4.500	7.500	10.500
0.200	2.000	5.000	8.000	11.000
0.300	2.500	5.500	8.500	11.500
0.400	3.000	6.000	9.000	12.000
0.500	3.500	6.500	9.500	12.500
1.000	4.000	7.000	10.000	13.000

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Scenario Input Data (cont'd.)

Scenario 16 (cont'd.) :: SCS :: FDOT 240 Hour - 240 hr - 100 yr

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
13.500	17.000	20.500	24.000	27.500
14.000	17.500	21.000	24.500	28.000
14.500	18.000	21.500	25.000	28.500
15.000	18.500	22.000	25.500	29.000
15.500	19.000	22.500	26.000	29.500
16.000	19.500	23.000	26.500	30.000
16.500	20.000	23.500	27.000	

Scenario 17 :: 2" over drainage area

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

Treatment Volume (ft³) 6627

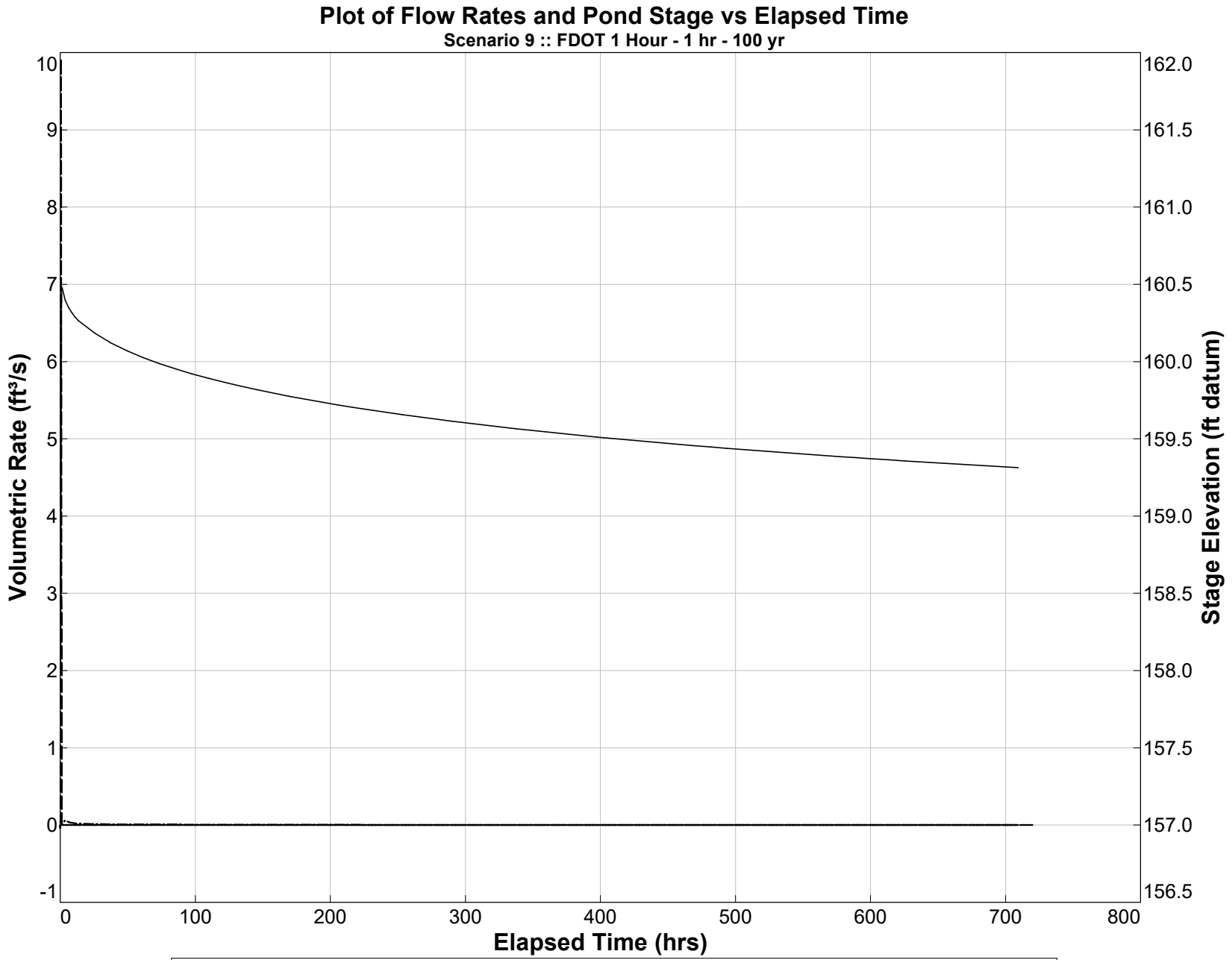
Initial ground water level (ft datum) 158.05 (default)

Time After Storm Event (days)	Time After Storm Event (days)
0.100	2.000
0.250	2.500
0.500	3.000
1.000	3.500
1.500	4.000

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Summary of Results :: Scenario 9 :: FDOT 1 Hour - 1 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	158.05		
Maximum	1.269	160.48		
Inflow				
Rate - Maximum - Positive	0.559		9.9205	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1.375			15966.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	721.390			15966.6
Infiltration				
Rate - Maximum - Positive	3.790		0.0622	
Rate - Maximum - Negative	0.015		-0.0432	
Cumulative Volume - Maximum Positive	721.390			8842.6
Cumulative Volume - Maximum Negative	0.015			-4.7
Cumulative Volume - End of Simulation	721.390			8842.6
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	721.390			0.0
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	721.390			0.0
Discharge Structure 2 - simple orifice				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	721.390			0.0
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

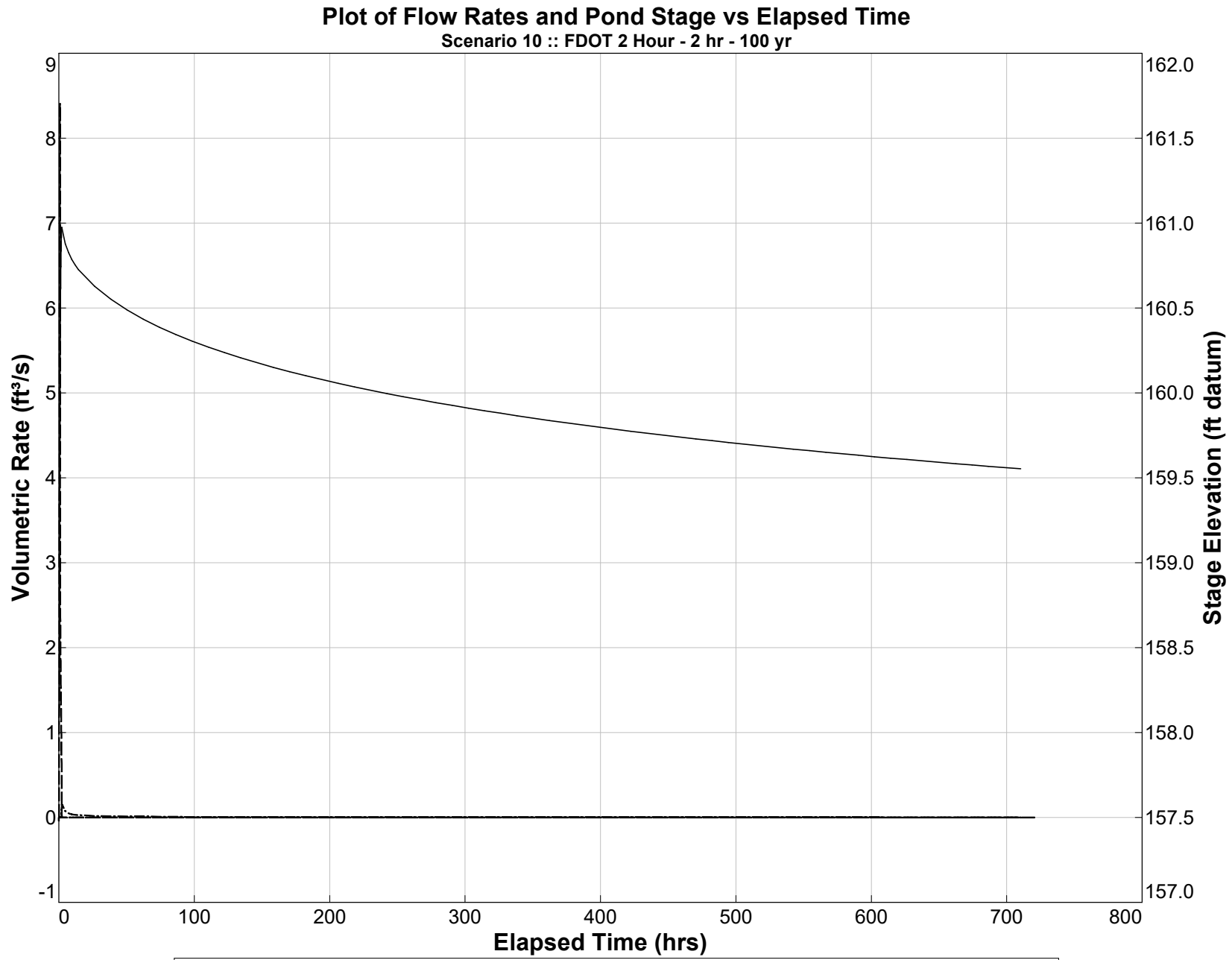


Y1 Axis: Inflow Rate — Infiltration Rate - - - Discharge Rate - - - Y2 Axis: Pond Stage —

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Summary of Results :: Scenario 10 :: FDOT 2 Hour - 2 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	158.05		
Maximum	2.131	160.98		
Inflow				
Rate - Maximum - Positive	0.801		8.4074	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	2.372			20507.9
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	722.388			20507.9
Infiltration				
Rate - Maximum - Positive	2.388		0.1509	
Rate - Maximum - Negative	0.015		-0.0432	
Cumulative Volume - Maximum Positive	722.388			11755.4
Cumulative Volume - Maximum Negative	0.015			-4.7
Cumulative Volume - End of Simulation	722.388			11755.4
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	722.388			0.0
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	722.388			0.0
Discharge Structure 2 - simple orifice				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	722.388			0.0
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

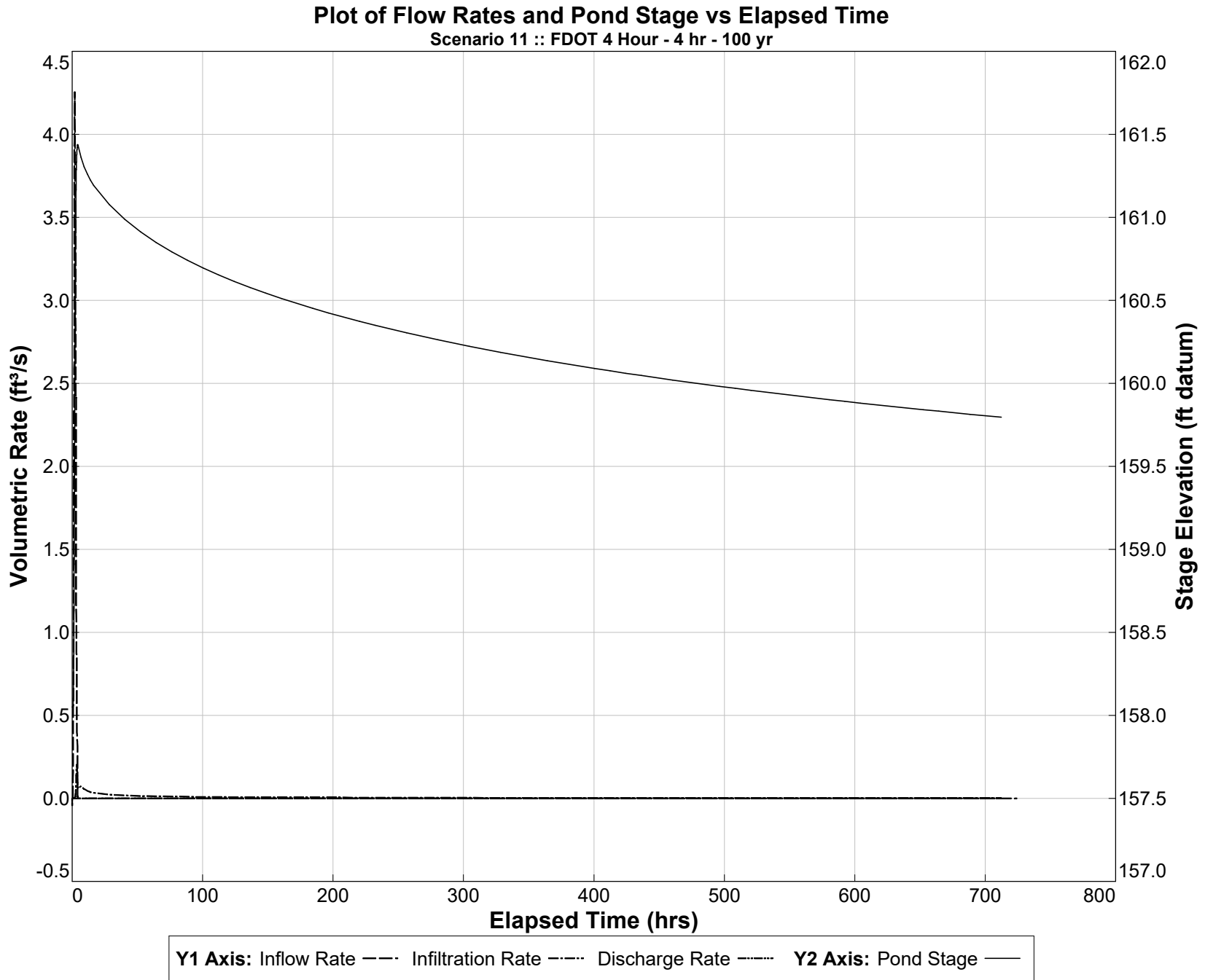


Y1 Axis: Inflow Rate —·— Infiltration Rate ····· Discharge Rate -·-·- Y2 Axis: Pond Stage —

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Summary of Results :: Scenario 11 :: FDOT 4 Hour - 4 hr - 100 yr

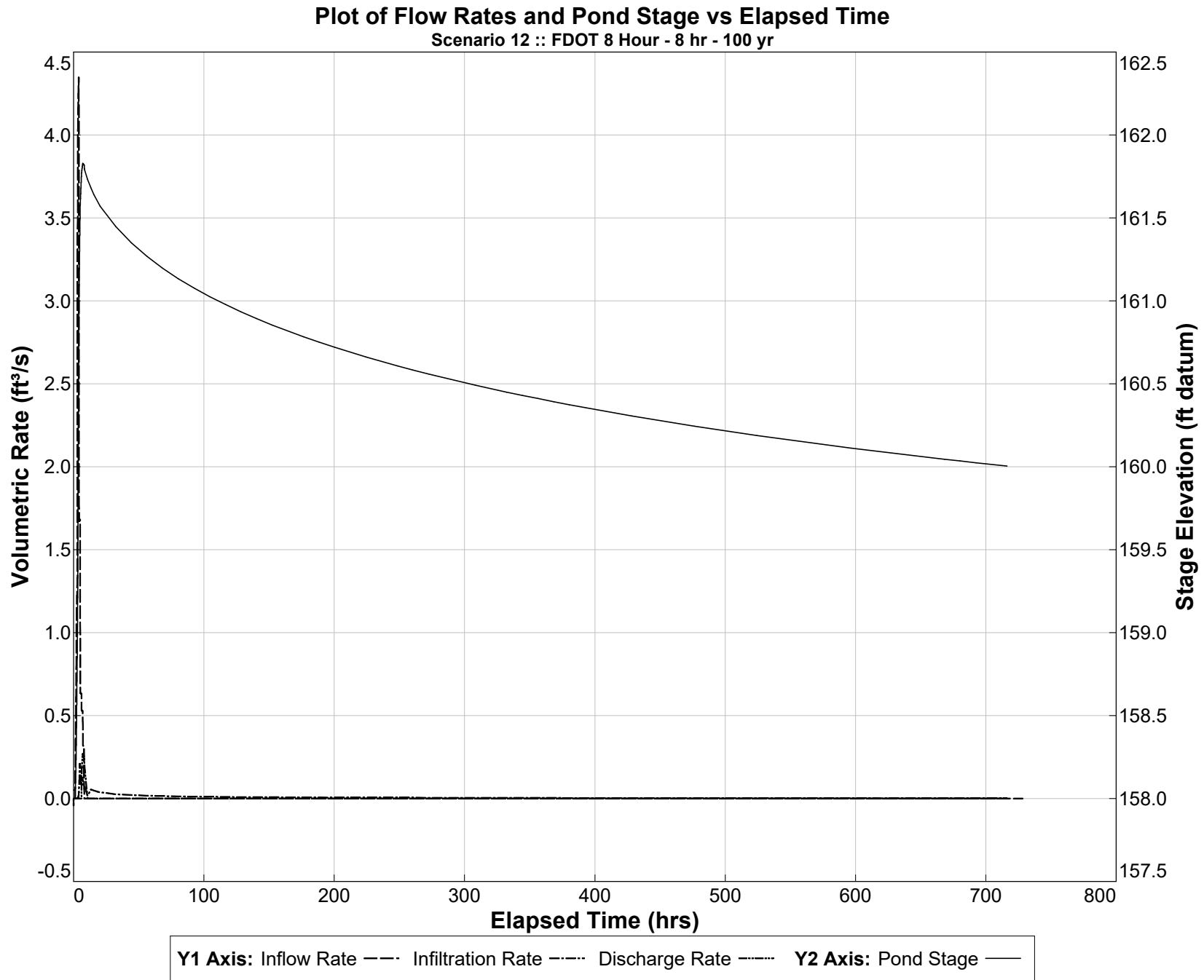
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	158.05		
Maximum	4.110	161.44		
Inflow				
Rate - Maximum - Positive	2.010		4.2551	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	4.367			25519.7
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	724.382			25519.7
Infiltration				
Rate - Maximum - Positive	3.491		0.2041	
Rate - Maximum - Negative	0.015		-0.0432	
Cumulative Volume - Maximum Positive	724.382			15030.5
Cumulative Volume - Maximum Negative	0.015			-4.7
Cumulative Volume - End of Simulation	724.382			15030.5
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	724.382			0.0
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	724.382			0.0
Discharge Structure 2 - simple orifice				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	724.382			0.0
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 12 :: FDOT 8 Hour - 8 hr - 100 yr

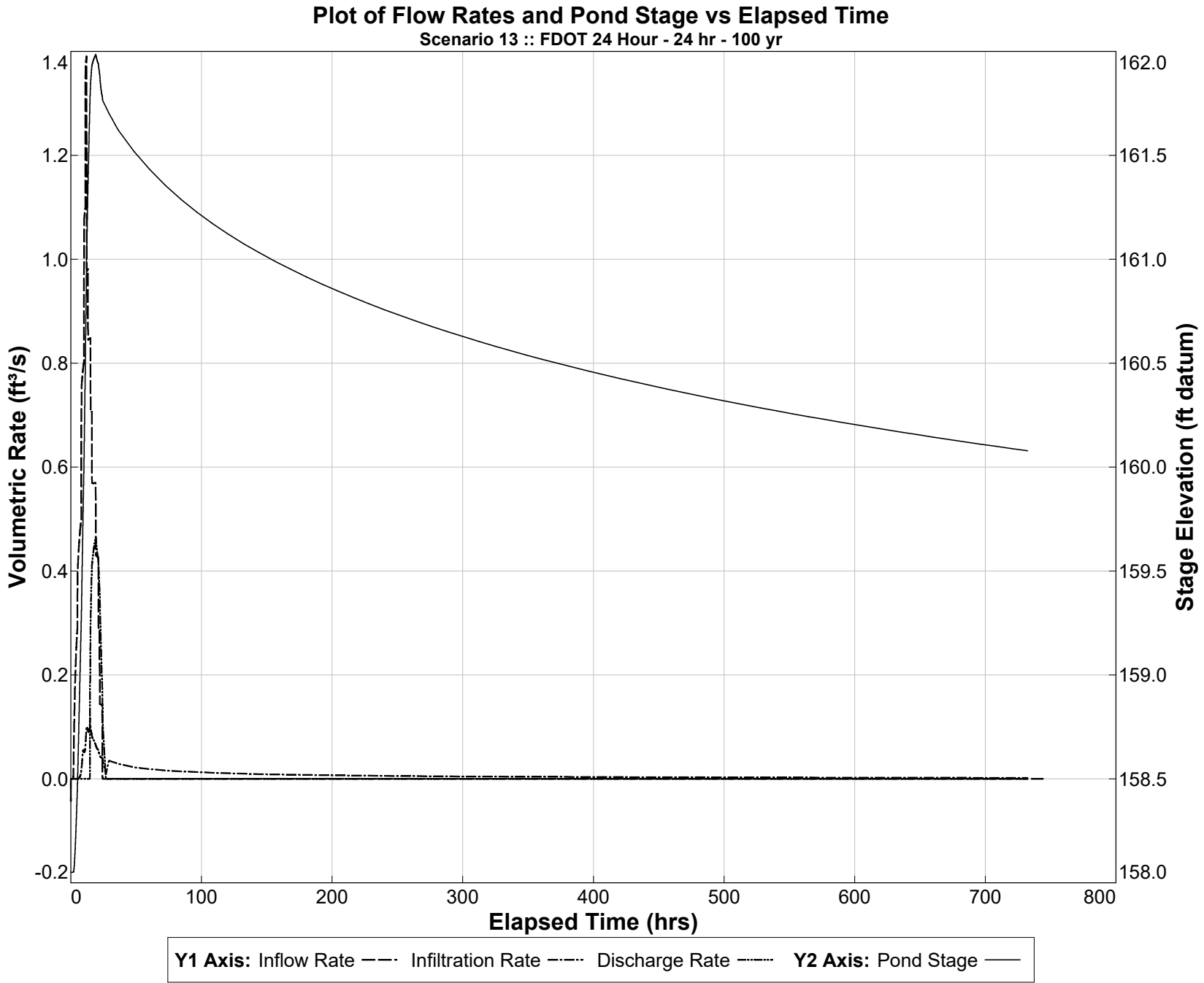
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	158.05		
Maximum	7.102	161.83		
Inflow				
Rate - Maximum - Positive	3.989		4.3478	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	8.372			32131.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	728.387			32131.0
Infiltration				
Rate - Maximum - Positive	4.851		0.2125	
Rate - Maximum - Negative	0.015		-0.0432	
Cumulative Volume - Maximum Positive	728.387			17283.7
Cumulative Volume - Maximum Negative	0.015			-4.7
Cumulative Volume - End of Simulation	728.387			17283.7
Combined Discharge				
Rate - Maximum - Positive	7.102		0.2704	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	10.787			2802.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	728.387			2802.0
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	728.387			0.0
Discharge Structure 2 - simple orifice				
Rate - Maximum - Positive	7.102		0.2704	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	10.787			2802.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	728.387			2802.0
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 13 :: FDOT 24 Hour - 24 hr - 100 yr

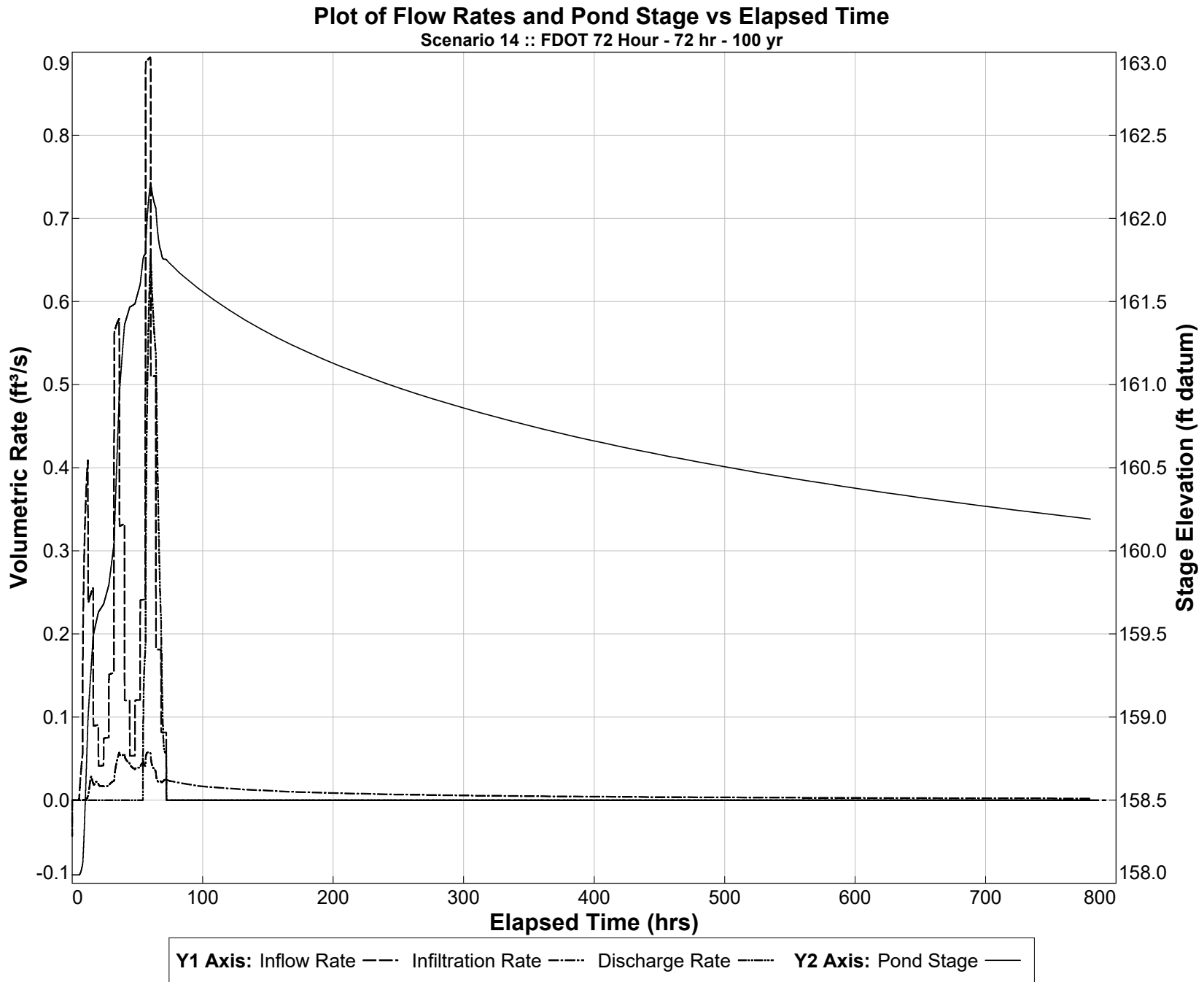
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	158.05		
Maximum	19.055	161.99		
Inflow				
Rate - Maximum - Positive	11.998		1.3908	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	24.374			45058.5
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	744.389			45058.5
Infiltration				
Rate - Maximum - Positive	14.597		0.1179	
Rate - Maximum - Negative	0.015		-0.0432	
Cumulative Volume - Maximum Positive	744.389			18965.5
Cumulative Volume - Maximum Negative	0.015			-4.7
Cumulative Volume - End of Simulation	744.389			18965.5
Combined Discharge				
Rate - Maximum - Positive	19.055		0.4656	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	26.789			13470.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	744.389			13470.0
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	744.389			0.0
Discharge Structure 2 - simple orifice				
Rate - Maximum - Positive	19.055		0.4656	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	26.789			13470.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	744.389			13470.0
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 14 :: FDOT 72 Hour - 72 hr - 100 yr

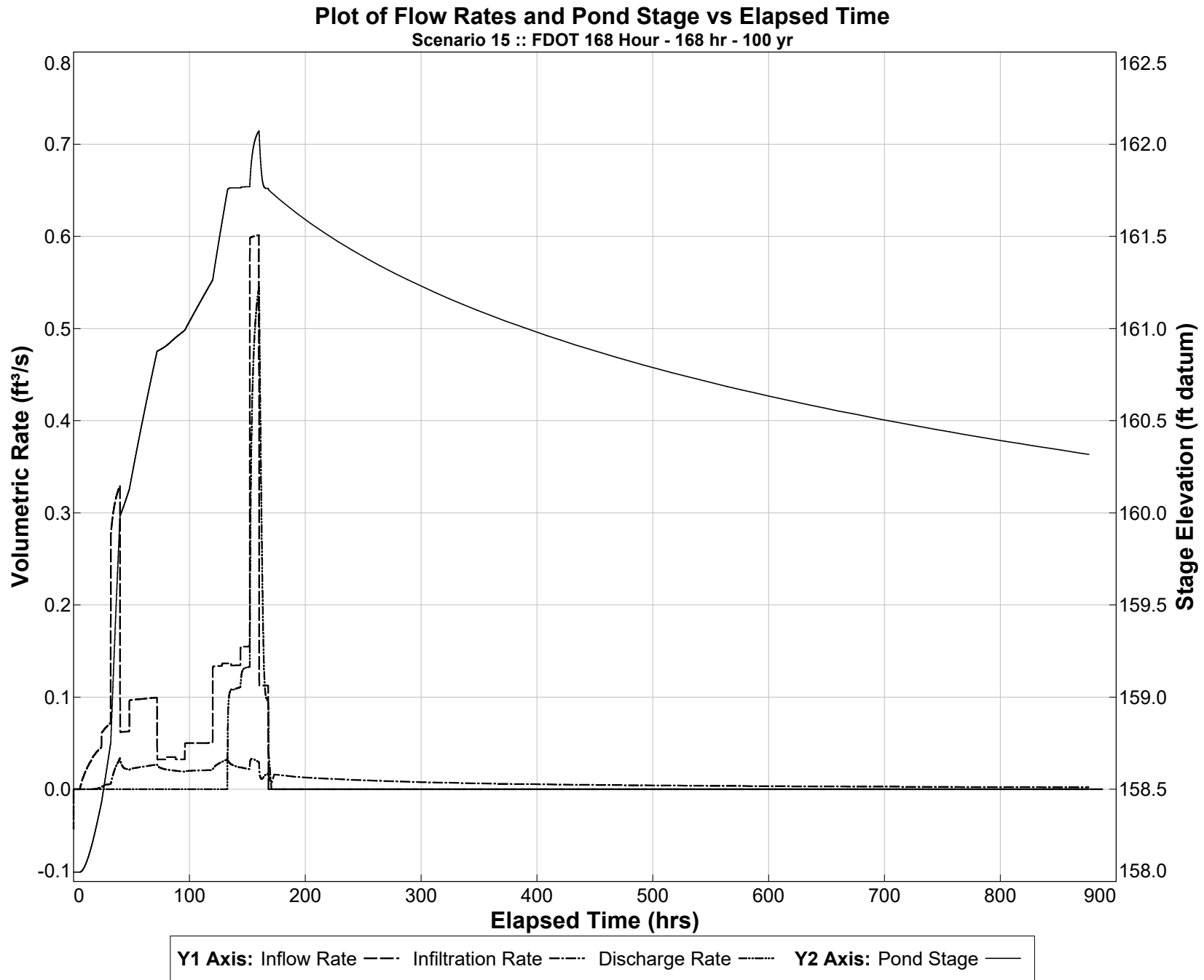
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	158.05		
Maximum	60.082	162.22		
Inflow				
Rate - Maximum - Positive	59.991		0.8939	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	72.367			58489.3
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	792.382			58489.3
Infiltration				
Rate - Maximum - Positive	58.268		0.0575	
Rate - Maximum - Negative	0.015		-0.0432	
Cumulative Volume - Maximum Positive	792.382			21783.2
Cumulative Volume - Maximum Negative	0.015			-4.7
Cumulative Volume - End of Simulation	792.382			21783.2
Combined Discharge				
Rate - Maximum - Positive	60.082		0.6554	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	72.292			23198.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	792.382			23198.6
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	792.382			0.0
Discharge Structure 2 - simple orifice				
Rate - Maximum - Positive	60.082		0.6554	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	72.292			23198.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	792.382			23198.6
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 15 :: FDOT 168 Hour - 168 hr - 100 yr

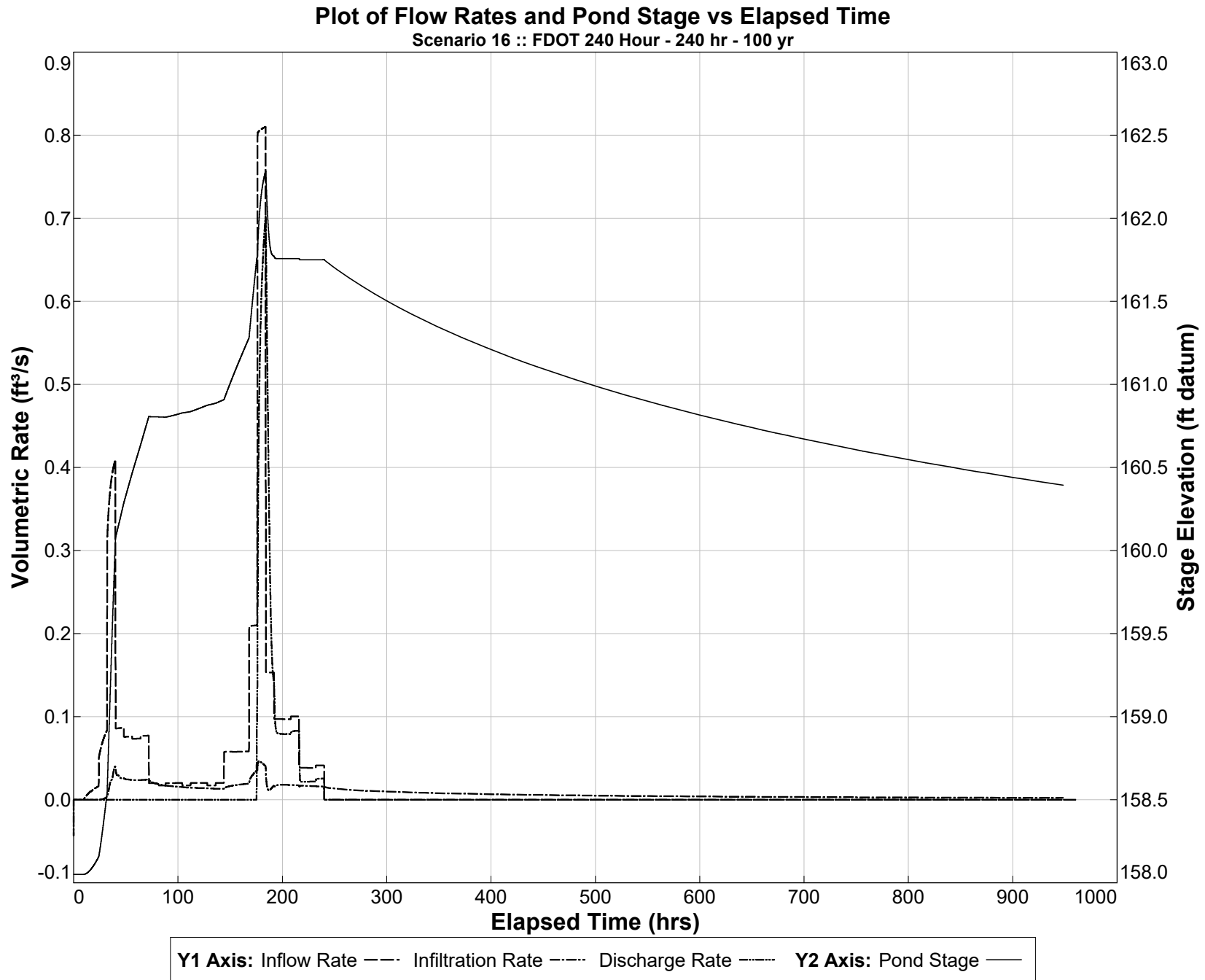
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	158.05		
Maximum	160.027	162.07		
Inflow				
Rate - Maximum - Positive	159.996		0.6014	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	168.368			66908.4
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	888.383			66908.4
Infiltration				
Rate - Maximum - Positive	132.842		0.0389	
Rate - Maximum - Negative	0.015		-0.0432	
Cumulative Volume - Maximum Positive	888.383			24842.7
Cumulative Volume - Maximum Negative	0.015			-4.7
Cumulative Volume - End of Simulation	888.383			24842.7
Combined Discharge				
Rate - Maximum - Positive	160.027		0.5448	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	170.783			27538.4
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	888.383			27538.4
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	888.383			0.0
Discharge Structure 2 - simple orifice				
Rate - Maximum - Positive	160.027		0.5448	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	170.783			27538.4
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	888.383			27538.4
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 16 :: FDOT 240 Hour - 240 hr - 100 yr

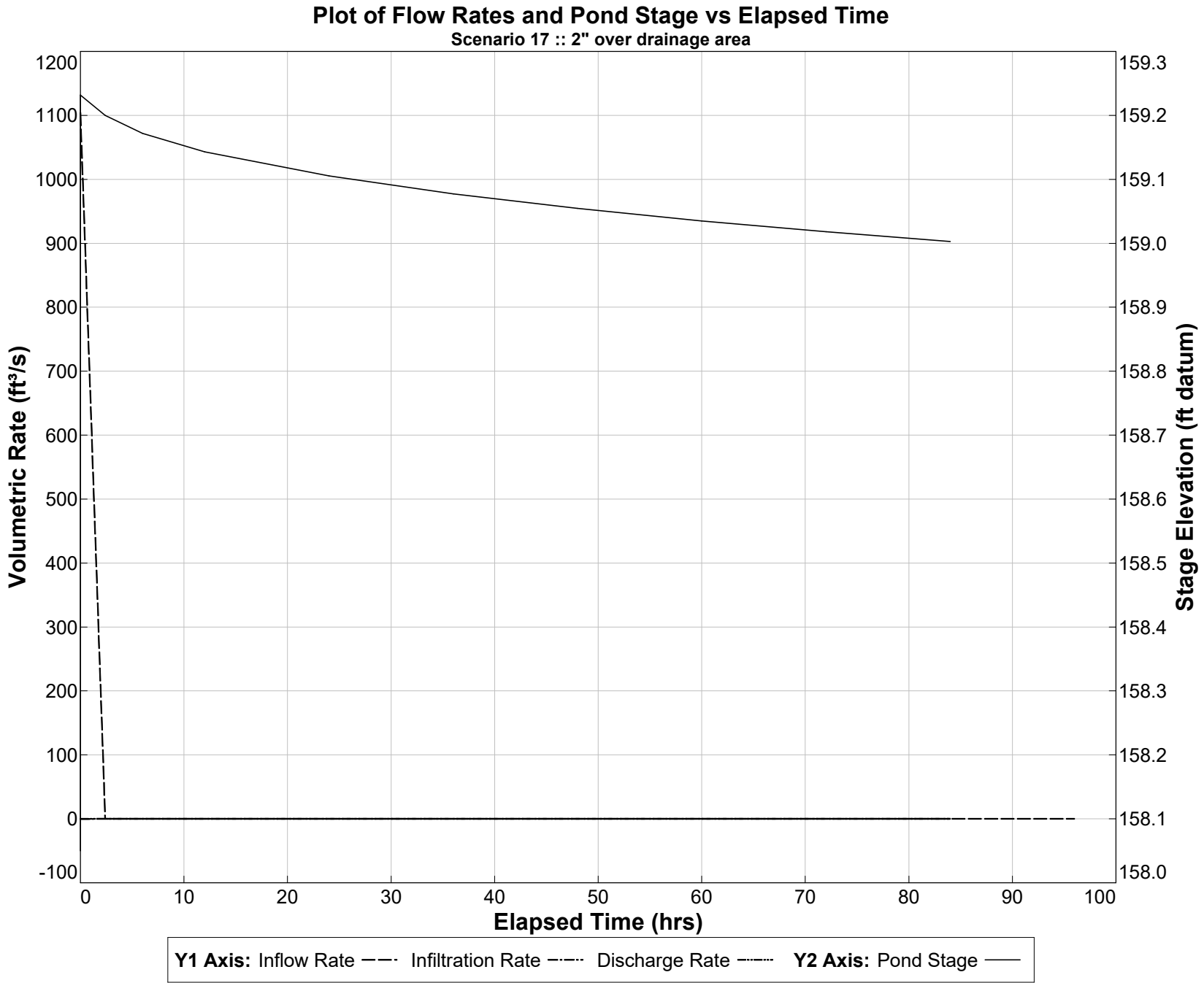
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	158.05		
Maximum	184.038	162.29		
Inflow				
Rate - Maximum - Positive	184.008		0.8101	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	240.373			77976.8
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	960.388			77976.8
Infiltration				
Rate - Maximum - Positive	177.767		0.0464	
Rate - Maximum - Negative	0.015		-0.0432	
Cumulative Volume - Maximum Positive	960.388			27447.1
Cumulative Volume - Maximum Negative	0.015			-4.7
Cumulative Volume - End of Simulation	960.388			27447.1
Combined Discharge				
Rate - Maximum - Positive	184.038		0.7027	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	240.176			35379.9
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	960.388			35379.9
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	960.388			0.0
Discharge Structure 2 - simple orifice				
Rate - Maximum - Positive	184.038		0.7027	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	240.176			35379.9
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	960.388			35379.9
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 17 :: 2" over drainage area

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	158.05		
Maximum	0.002	159.23		
Inflow				
Rate - Maximum - Positive	0.002		1104.5000	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			6627.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			6627.0
Infiltration				
Rate - Maximum - Positive	2.400		0.0200	
Rate - Maximum - Negative	0.002		-0.1692	
Cumulative Volume - Maximum Positive	96.000			1536.6
Cumulative Volume - Maximum Negative	0.002			-1.0
Cumulative Volume - End of Simulation	96.000			1536.6
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 2 - simple orifice				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	159.08		987.5
72 Hour Stage and Infiltration Volume	72.000	159.02		1357.8



Project Summary

Project Name: Florida Gateway Drive RV Park

Project Number: SPR23-04

Parcel Number: 02714-014

Project Notes

- Project type: Site Plan Review
- Future land use is: Commercial
- Zoning designation is: Commercial Highway Interchange
- Proposed use of the property: RV Park
- Land is conducive for use: Yes, with approved special exception per LDR section 4.15.5.2. Special exception was approved on 04-04-2023
- See staff review for notes from directors and city staff for their comments.

Project Summary

Project SPR23-04 is for a site plan review and has been reviewed by city staff. Application is sufficient for review. As of 04-24-2023, they have not received a permit from Suwannee River Water Management. If approved by the board, a conditional approval would be required. At this time the City has no other concerns.



DEPARTMENT OF GROWTH MANAGEMENT
205 North Marion Avenue
Lake City, Florida 32055
Telephone: (386) 719-5750
growthmanagement@lcfla.com

REVIEW REPORT TO PLANNING AND ZONING, BOARD OF ADJUSTMENT AND
HISTORICAL COMMITTEES' BY STAFF
FOR SITE PLAN REVIEW, SPECIAL EXCEPTIONS, VARIANCES, COMPREHENSIVE
PLAN AMENDMENTS/ ZONING AND CERTIFICATE OF APPROPRIATENESS

Date: 12/7/22

Request Type: Site Plan Review (SPR) ☒ Special Exception (SE) ☐ Variances (V) ☐

Comprehensive Plan Amendment/Zoning (CPA/Z) ☐ Certificate of Appropriateness (COA) ☐

Project Number: SPR23-04

Project Name: Florida Gateway Drive RV Park

Project Address: Lake City FL

Project Parcel Number: 02-4S-16-02714-014

Owner Name: 4 Brothers 2020 LLC

Owner Address: 508 N Florence St Burbank CA 91505

Owner Contact Information: telephone number 352-363-7011 e-mail ssharrah@gmail.com

Owner Agent Name: Dalton Kurtz

Owner Agent Address: 1450 SW SR 47

Owner Agent Contact Information: telephone 386-752-4675 e-mail dkurtz@nfps.net

The City of Lake City staff has reviewed the application and documents provided for the above request and have determined the following:

Growth Management – Building Department, Planning and Zoning, Code Enforcement, Permitting

Building Department: Approved ☐ Disapproved ☐ Reviewed by: _____

Comments: _____

Planning and Zoning: Approve ☒ Disapprove ☐ Reviewed by:

Comments: _____

Exemption is conducive with approved special exception per LDR
section 4.15.5.2

Business License: Approve ☒ Disapprove ☐ Reviewed by:

Comments:

Code Enforcement: Approve ☒ Disapprove ☐ Reviewed by:

Comments:

Permitting: Approve ☒ Disapprove ☐ Reviewed by:

Comments:

Utilities – Water, Sewer, Gas, Water Distribution/Collections, Customer Service

Water Department: Approved ☒ Disapproved ☐ Reviewed by: 

Comments: Proper backflow device required upon meter set.

Sewer Department: Approved ☒ Disapproved ☐ Reviewed by: 

Comments: none

Gas Department: Approved ☒ Disapproved ☐ Reviewed by: 

Comments: _____

Water Distribution/Collection: Approved ☒ Disapproved ☐ Reviewed by: 

Comments: Extend force main and water main, city's responsibility will end at the curve, the remaining utilities will become private plumbing, the lift station will be private unless built to city standards, 8" schedule has to be constructed to city standard or it will not be accepted.

The Distribution & Collections Department must be on site Department must be on site to inspect. A 48-hour notification must be given, call 386-758-5492 to schedule.

Customer Service: Approved ☒ Disapproved ☐ Reviewed by: 

Comments: A tap application is required to access water, sanitary sewer and natural gas services.

The tap fees, impact fees and utility deposits will be calculated upon approval of the tap application.

Public Safety – Public Works, Fire Department, Police Department

Public Works: Approved ☒ Disapproved ☐ Reviewed by: Steve Brown

Comments: _____

Fire Department: Approve ☐ Disapprove ☐ Reviewed by: _____

Comments: _____

Police Department: Approve ☐ Disapprove ☐ Reviewed by: _____

Comments: _____

Please provide separate pages for comments that will not fit in provided spaces and please label the pages for your department and for the project.

Angelo, Robert

From: Butler, Gerald
Sent: Monday, December 12, 2022 8:18 AM
To: Angelo, Robert
Subject: FW: Site plan review for FL Gateway Drive RV Park

No concerns

Gerald Butler
Chief of Police
Lake City Police Department
225 NW Main Blvd.
Lake City, FL 32055
386-758-5438

From: Lee, Michael <LeeM@lcfla.com>
Sent: Monday, December 12, 2022 5:58 AM
To: Butler, Gerald <ButlerG@lcfla.com>
Subject: RE: Site plan review for FL Gateway Drive RV Park

No concerns

From: Butler, Gerald <ButlerG@lcfla.com>
Sent: Thursday, December 8, 2022 10:15 AM
To: Lee, Michael <LeeM@lcfla.com>
Subject: FW: Site plan review for FL Gateway Drive RV Park

Sgt,
See attached

Gerald Butler
Chief of Police
Lake City Police Department
225 NW Main Blvd.
Lake City, FL 32055
386-758-5438

From: Angelo, Robert <AngeloR@lcfla.com>
Sent: Thursday, December 8, 2022 9:41 AM
To: Butler, Gerald <ButlerG@lcfla.com>; Lee, Michael <LeeM@lcfla.com>; Tuell, Susan <TuellS@lcfla.com>
Subject: Site plan review for FL Gateway Drive RV Park

To Whom it May Concern

We have had a lot of site plans come in. We will have 4 that we need staff reviews for by Thursday at the New Development Meeting on 12/15. This will be the last meeting till after New Year's. I will also be sending 2 rezoning staff

reviews. I want to make sure everyone has plenty of time to review. Attached is the site plan for FL Gateway Drive RV Park located on parcel 02714-014. The site plan is too large to send by email. Below is a link for the site plan.

<https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:eb90e2fe-71e9-3529-af53-d64e2c372123>

Thank You

Robert Angelo

City of Lake City

Growth Management

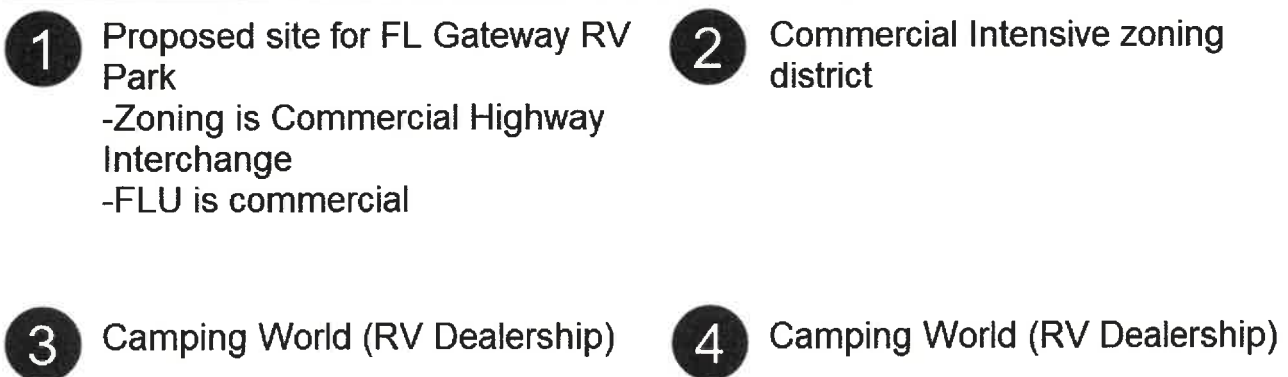
growthmanagement@lcfla.com

386-719-5820



PLEASE NOTE: Florida has a very broad public records law. Most written communications to or from City officials regarding City business are public records available to the public and media upon request. Your email communications may be subject to public disclosure.

Site Plan Review

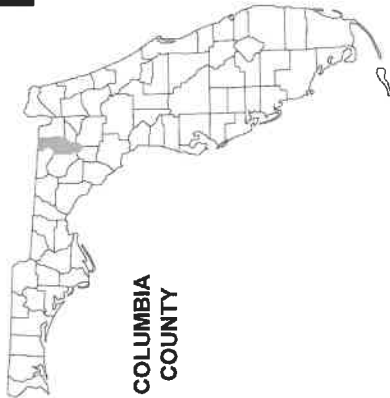


The screenshot displays the P&Z/HPA Web AppBuilder interface. At the top, a navigation bar includes a search icon, a dropdown menu, and a search bar. The main map area shows a property with various zones labeled "ZONEA". A detailed parcel information pop-up is visible, providing the following details:

- Parcel:** 02714-014
- Parcel 02714-014** is owned by **4 BROTHERS 2020 LLC**. This parcel is **8.62** acres and is in Tax District . This information was last edited on **2/2/2023**.
- [Columbia Property Appraiser](#)
- [Zoom to](#)

The bottom of the interface features a toolbar with zoom in (+), zoom out (-), home, and location icons. A scale bar indicates 300ft, and the coordinates -82.685 30.173 Degrees are displayed.

FLORIDA GATEWAY DRIVE RV PARK LAKE CITY, FL



COLUMBIA
COUNTY

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PROJECT LOCATION

PLANS PREPARED FOR:
4 BROTHERS 2020
7717 SW COUNTY RD 796
LAKE BUTLER, FL 32054
386-365-7483

ATTACHMENTS

SURVEY

S-1

REVISIONS

DATE

DESCRIPTION



NORTH FLORIDA PROFESSIONAL SERVICES, INC.
P.O. BOX 3123
LAKE CITY, FL 32066
PH. 386-722-4875
LIC. NO. LB6356

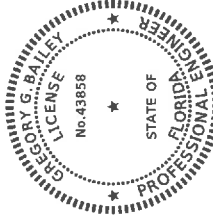
JOB NUMBER:
L-1101215HA
FOR: GREGORY G. BAILEY
P.E. NO.: 43168

COVER SHEET

SHEET NO.

C-1

DATE: 2/20/2023 10:02:27 AM
DRAWN BY: Dorian Kutz
PROJECT: 2102151215HA
FILE: 2102151215HA-001.dwg



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY GREGORY G. BAILEY ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

NORTH FLORIDA PROFESSIONAL SERVICES, INC.
P.O. BOX 3823
LAKE CITY, FL 32056
PH. 386-762-4675
WWW.NFPS.NET
GREGORY G. BAILEY, P.E., NO. 43858

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

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SWMF SOUTH - SWMF SOUTH DETAIL	C-23-C-24
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MISC. DETAILS	C-43-C-44
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REVISIONS

DATE	DESCRIPTION
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NORTH FLORIDA PROFESSIONAL SERVICES, INC.
P.O. BOX 3823
LAKE CITY, FL 32056
PH. 386-762-4675
LIC NO. LB8336

2851 BLAIRSTONE PINES DR.
TALLAHASSEE, FL 32301
WWW.NFPS.NET
CAN 28011

JOB NUMBER:
L3101218HA
EOR:
GREGORY G. BAILEY
P.E. NO.:
43858

SIGNATURE SHEET
FLORIDA GATEWAY DRIVE RV PARK
LAKE CITY, FL

SHEET NO.

C-2

Dillon Kurtz

2/20/2023 10:02:28 AM

X:\2021\21075158A-21 CAD\DWG\Reservado\DWG\SS001.dwg

GENERAL NOTES		REVISIONS		NORTH FLORIDA PROFESSIONAL SERVICES, INC.		JOB NUMBER: L1101218HA EOR: GREGORY G. BAILEY P.E. NO.: 43883		GENERAL NOTES FLORIDA GATEWAY DRIVE RV PARK LAKE CITY, FL		SHEET NO. C-3	
1. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE JOB SITE TO ENSURE THAT ALL NEW WORK WILL FIT IN THE MANNER INTENDED ON THE PLANS. SHOULD ANY CONDITIONS EXIST THAT ARE CONTRARY TO THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE CITY OF LAKE CITY, FLORIDA (DEPARTMENT OF GROWTH MANAGEMENT) OF SUCH DIFFERENCES IMMEDIATELY AND PRIOR TO PROCEEDING WITH THE WORK.											
2. THE CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION SITE IN A SECURE MANNER. ALL OPEN TRENCHES AND EXCAVATED AREAS SHALL BE PROTECTED FROM ACCESS BY THE GENERAL PUBLIC.											
3. TOPOGRAPHIC INFORMATION SHOWN WAS OBTAINED FROM A TOPOGRAPHIC SURVEY PREPARED BY NORTH FLORIDA PROFESSIONAL SERVICES, INC., FLORIDA CERTIFICATE NO. LB8356.											
4. ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE CONTRACTOR SHOULD NOTIFY THE ENGINEER.											
5. THE SITE IS LOCATED IN SECTION 02, TOWNSHIP 4 SOUTH, RANGE 16 EAST, COLUMBIA COUNTY, FLORIDA.											
6. THE CONTRACTOR SHALL IMPLEMENT ALL COMPONENTS OF THEIR EROSION AND SEDIMENTATION CONTROL PLAN PRIOR TO ANY EARTH DISTURBING ACTIVITIES. ALL CONTRACTOR VEHICLES SHALL BE PROTECTED BY BARRIERS AND CHAINS. ALL AREAS ESTABLISHED, THE ENTIRE PROJECT AREA IS STABILIZED AND THE OWNER HAS ACCEPTED OPERATION AND MAINTENANCE.											
7. THE STORMWATER BASIN AND SWMF IS DESIGNED IN ACCORDANCE WITH SRWMD APPLICANT HANDBOOK VOLUME II AND 62-330 F.A.C.											
8. ALL SLOPES OF THE STORMWATER BASIN SHALL BE GRASSED. ALL SLOPES STEEPER THAN 3:1 SHALL BE STAPLED SOD.											
9. ALL DISTURBED AREAS NOT SODDED SHALL BE SEEDDED WITH A MIXTURE OF LONG-TERM VEGETATION AND QUICK GROWING SHORT-TERM VEGETATION FOR THE FOLLOWING CONDITIONS. FOR THE MONTHS FROM SEPTEMBER THROUGH MARCH, THE MIX SHALL CONSIST OF 70 POUNDS PER ACRE OF LONG-TERM SEED AND 20 POUNDS PER ACRE OF WINTER RYE. FOR THE MONTHS OF APRIL THROUGH AUGUST, THE MIX SHALL CONSIST OF 70 PER ACRE OF LONG-TERM SEED AND 20 POUNDS PER ACRE OF MILLET.											
10. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. CONTRACTOR SHALL PROTECT ALL UTILITIES WITHIN THE PROJECT AREAS.											
11. ALL SITE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF LAKE CITY LAND DEVELOPMENT REGULATIONS.											
12. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER CONTRACTORS WITHIN PROJECT AREA.											
13. CONTRACTOR SHALL PROVIDE ACTUAL INVERT ELEVATIONS ON ALL DRAINAGE STRUCTURES, INCLUDING CULVERTS, PRIOR TO PLACING ANY BASE MATERIAL. DEVIATIONS FROM THE PLANS SHALL BE APPROVED BY THE ENGINEER BEFORE CONTINUING WORK.											
14. IF UNSUITABLE MATERIAL IS ENCOUNTERED DURING GRADING, CONTRACTOR SHALL REMOVE UNSUITABLE MATERIAL TO A DEPTH OF 24" BELOW FINISHED GRADE WITHIN THE CONSTRUCTION LIMITS.											
15. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION.											
16. THE CONTRACTOR SHALL SUBMIT A NOTICE OF CONSTRUCTION COMMENCEMENT TO THE WATER MANAGEMENT DISTRICT AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.											
17. NO WORK SHALL BE PERFORMED ON SATURDAY OR SUNDAY WITHOUT WRITTEN NOTIFICATION TO THE CITY AND CITY ENGINEER.											
18. THE CONTRACTOR SHALL SUBMIT A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM NOTICE OF INTENT ALONG WITH SUPPORTING DOCUMENTATION TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AT LEAST 48 HOURS PRIOR TO											
BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMIT FEES.											
19. ALL UTILITY AND/OR DRAINAGE STRUCTURES SHALL BE PRECAST UNLESS APPROVED BY THE ENGINEER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PROCUREMENT.											

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

2/20/2023 10:02:29 AM
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3-2021\1210171\SWA\114\CA00\HeronForce\SRWMD.dwg

1. ALL UTILITY CONSTRUCTION SHALL MEET THE CITY OF LAKE CITY WATER AND WASTEWATER UTILITY STANDARDS.

1. ALL UTILITY CONSTRUCTION SHALL MEET THE CITY OF LAKE CITY WATER AND WASTEWATER UTILITY STANDARDS.
2. THE CONTRACTOR SHALL MAINTAIN EXISTING WATER MAINS IN SERVICE DURING CONSTRUCTION. IN THE EVENT INTERRUPTIONS TO SERVICE ARE REQUIRED DURING CONSTRUCTION, SUCH INSTANCES SHALL BE MINIMIZED.
3. ALL NEW OR RELOCATED WATER MAINS THAT SERVE FIRE HYDRANTS AND ALL FIRE HYDRANT LEADS SHALL BE NO SMALLER THAN SIX INCHES IN DIAMETER. AUXILIARY VALVES SHALL BE PROVIDED ON ALL HYDRANT LEADS.
4. SUFFICIENT VALVES SHALL BE PROVIDED IN NEW AND RELOCATED WATER MAINS SO THAT THE SYSTEMS CAN BE MAINTAINED WITHOUT THE NEED FOR SHUTTING OFF AREAS. VALVES SHALL BE PLACED IN MORE THAN 800-FOOT INTERVALS IN URBAN AREAS, DISTRICTS) AND AT NO MORE THAN ONE-BLOCK OR 800-FOOT INTERVALS IN OTHER DISTRICTS).
5. IF THERE ARE ANY NEW OR RELOCATED WATER MAINS THAT CROSS UNDER ANY SURFACE WATER, A MINIMUM COVER OF TWO FEET SHALL BE PROVIDED OVER THE WATER MAINS. IF THERE ARE ANY NEW OR RELOCATED WATER MAINS THAT CROSS UNDER MAINS THAT ARE 15 FEET IN WIDTH, THE FOLLOWING FEATURES SHALL BE PROVIDED: (A) FLEXIBLE WATER TIGHT JOINTS FOR THE WATER MAIN PIPE AT THE CROSSING, (B) EACH SIDE ACCESSIBLE VALVES LOCATED IN A MANHOLE, AND (C) PERMANENT TAPS ON EACH SIDE OF THE VALVE WITHIN THE MANHOLE TO ALLOW FOR SAMPLING AND INSERTION OF A SMALL METER TO DETERMINE LEAKAGE.
6. PROPER BACKFLOW PREVENTION ASSEMBLIES/DEVICES SHALL BE PROVIDED IN ACCORDANCE WITH RULE 62-553.367, F.A.C., AND THE AWWA'S MANUAL M14, RECOMMENDED PRACTICE FOR BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL.
7. THIS PROJECT SHALL NOT INCLUDE ANY INTERCONNECTION BETWEEN PREVIOUSLY SEPARATE PUBLIC WATER SYSTEMS THAT HAVE SEPARATE WATER SUPPLY SOURCES. (A SPECIFIC CONSTRUCTION PERMIT IS REQUIRED FOR SUCH AN INTERCONNECTION.)
8. ALL NEW RELOCATED WATER LATERALS THAT CROSS ANY SANITARY SEWERS, STORM SEWERS, FORCE MAINS, OR RECLAIMED WATER LINES SHALL CROSS ABOVE SUCH PIPELINES.
9. COPPER TRACER WIRE SHALL BE PLACED ON ALL POTABLE WATER LINES AND WATER LATERALS. TRACER WIRE SHALL BE CONTINUOUS WITH NO INTERRUPTIONS.
10. LOCATOR BALLS SHALL BE PROVIDED AT END OF ALL WATER AND SANITARY SEWER LATERALS. THE LOCATOR BALLS SHALL BE SECURED TO THE LATERALS WITH A PLASTIC TIE STRAP.
11. WATER AND SANITARY SEWER LATERALS SHALL BE LEFT UNCOVERED UNTIL INSPECTED BY THE ENGINEER OR THE ENGINEER'S INSPECTOR.
12. CONTRACTOR SHALL PROVIDE TEMPORARY STAKES (2" BY 2" WOODEN STAKES) AT THE END OF EACH LATERAL. EACH STAKE SHALL INDICATE EITHER WATER OR SANITARY SEWER LATERAL. CONTRACTOR SHALL MAINTAIN THE STAKES UNTIL AN AS-BUILT SURVEY OF WATER AND SANITARY SEWER MAINS AND LATERALS ARE COMPLETE AND APPROVED BY THE ENGINEER.
13. NEGATING MECHANICAL JOINT RESTRAINTS OR SERIES 1390 UNI-FLANGE BLOCK BUTTER RESTRAINT DEVICES SHALL BE USED WITH MANUFACTURERS' RECOMMENDATIONS. ALL RESTRAINED JOINTING MUST BE LEFT OPEN UNTIL VIEWED BY THE CITY INSPECTOR.
14. FOR SANITARY SEWER PERFORM HYDROSTATIC TEST. ALLOWABLE LEAKAGE IS A MAXIMUM OF 50 GPM PER INCH OF NOMINAL PIPE SIZE PER 100 LINE FEET FOR A 24-HOUR PERIOD. OPTION: TEST DUCTILE-IRON PIPING ACCORDING TO AWWA C600. SELECT "HYDROSTATIC TESTING". USE TEST PRESSURE OF AT LEAST 10 PSI. FOR SANITARY SEWERAGE, PERFORM AIR TEST ACCORDING TO UNI-B-6.
15. FOR SANITARY SEWERAGE ALIGNMENT: EACH SECTION OF THE COMPLETED SEWER SHALL BE INSPECTED FOR PROPER ALIGNMENT. THE SECTION OF THE SEWER SYSTEM THAT "TURNS" FROM MANHOLE TO MANHOLE OR FROM ONE SECTION OF THE SEWER SYSTEM TO ANOTHER DOES NOT DISPLAY TRUE, CONCENTRIC ALIGNMENT, SHALL BE INSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.
16. CLEAN AND DISINFECT WATER DISTRIBUTION PIPING SYSTEMS AND PARTS OF EXISTING SYSTEMS THAT HAVE BEEN ALTERED, EXTENDED OR REPAIRED BEFORE USE. USE PURCHASER'S STANDARD DISINFECTION PROCEDURE. THE DISINFECTION PROCEDURE SHALL BE THE DISINFECTION PROCEDURE DESCRIBED IN AWWA C651.

117. PVC GRAVITY FLOW SEWER PIPE AND FITTINGS 15 INCH AND SMALLER IN DIAMETER SHALL BE SDR35 PIPE WITH BELL AND SPIGOT GASKET JOINT THAT COMPLIES WITH THE REQUIREMENTS OF ASTM D3034.

118. ALL PIPE, PIPE FITTINGS, PIPE JOINT PACKING AND JOINTING MATERIALS, VALVES, FIFTHYDRANTS, AND METERS INSTALLED UNDER THIS PROJECT SHALL CONFORM TO APPLICABLE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS

19. ALL PUBLIC WATER SYSTEM COMPONENTS, EXCLUDING FIRE HYDRANTS, THAT WILL BE INSTALLED UNDER THIS PROJECT AND THAT WILL COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF INTERNATIONAL STANDARD 61 AS ADOPTED IN RULE 662-555.335, F.A.C., OR OTHER APPLICABLE STANDARDS, REGULATIONS, OR REQUIREMENTS REFERENCED IN PARAGRAPH 662- 555.320(3)(b), F.A.C.

20. ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT SHALL CONTAIN NO MORE THAN 8.0% LEAD, AND ANY SOLDER OR FLUX USED IN THIS PROJECT WILL CONTAIN NO MORE THAN 0.2% LEAD.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1

27. ALL WATER PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT SHALL BE CONFORMING TO THE REQUIREMENTS OF SECTION 05050-01.1, F.A.C., USING SUBPARAGRAPH 62-555.32(2)(B) 3. A.P.C. SHALL HAVE CONTINUOUS BLUE AS A PREDOMINANT COLOR. UNDERGROUND PLASTIC PIPE SHALL BE SOLID-WALL BLUE PIPE. IT WILL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN, OR WILL BE WHITE OR BLACK PIPE WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL; AND UNDERGROUND METAL OR CONCRETE PIPE SHALL HAVE BLUE STRIPES APPLIED TO THE EXTERIOR SURFACE OF THE PIPE. ABOVE-GROUND PLASTIC PIPE SHALL HAVE CONTINUOUS BLUE W/WHITE PIPE STRIPED DURING MANUFACTURING OF THE PIPE.

STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS APPLIED TO STRIPE DURING INSTALLATION OF PIPE, THE TAPE OR PAINT SHALL BE USED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE FOR PIPE WITH AN INTERNAL DIAMETER OF 24 INCHES OR LESS, AND ALONG THE TOP OF THE PIPE FOR PIPE ABOVEGROUND PIPE SHALL BE PAINTED BLUE OR WHITE, AND THE TOP OF THE PIPE ABOVEGROUND PIPE SHALL BE PAINTED BLUE OR WHITE. THE TAPE OR PAINT SHALL BE COLOR-CODED OR MARKED (E.G. UNDERGROUND PIPE).

22. SUFFICIENT VALVES SHALL BE PROVIDED ON NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT SO THAT INCONVENIENCE AND SANITARY HAZARDS WILL BE MINIMIZED DURING REPAIRS.

23. ALL FIRE HYDRANTS THAT WILL BE INSTALLED UNDER THIS PROJECT AND THAT WILL HAVE UNPULVED UNDERGROUND DRAINS SHALL BE LOCATED AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED CONVEYING WATER REGULATED UNDER PART III OF CHAPTER 62-510, F.A.C., OR VACUUM-TYPE SANITARY SEWER, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-510, F.A.C., OR VACUUM-TYPE SANITARY SEWER, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-510, F.A.C.; AND AT LEAST FIVE FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL" SYSTEM.

24. NEW OR ALTERED CHAMBERS, PITS, OR MANHOLES THAT CONTAIN VALVES, BLOW-OFFS, METERS, OR OTHER SUCH WATER DISTRIBUTION SYSTEM APPURTENANCES AND THAT ARE INCLUDED IN THIS PROJECT WILL NOT BE CONNECTED DIRECTLY TO ANY SANITARY OR STORM SEWER, AND BLOW-OFFS OR AIR RELIEF VALVES INSTALLED UNDER THIS PROJECT SHALL NOT BE CONNECTED DIRECTLY TO ANY SANITARY OR STORM SEWER.

25. NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE ANWA STANDARDS OR IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDED PROCEDURES.

26. A CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED IN TRENCHES FOR UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT. BACKFILL MATERIAL WILL BE TAMPED IN LAYERS AROUND UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT AND THE TRENCHES SHALL BE FILLED WITH A MINIMUM OF 12 INCHES OF 3/4" MAXIMUM SIZE STONES (AS DESCRIBED IN APPLICABLE AWWA STANDARDS) OR MANUFACTURERS' RECOMMENDED INSTALLATION PROCEDURES) FOUND IN TRENCHES WILL BE REMOVED FOR A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT.

27. ALL WATER MAIN TEES, BENDS, PLUGS, AND HYDRANTS INSTALLED UNDER THIS PROJECT SHALL BE PROVIDED WITH RESTRAINED JOINTS TO PREVENT MOVEMENT

28. NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL BE CONSTRUCTED OF ASBESTOS-CEMENT OR POLYVINYL CHLORIDE PIPE SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH ANMA STANDARD G603 OR G605, RESPECTIVELY, AS INCORPORATED INTO RULE 62-555.330, P.A.C. AND ALL OTHER NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH ANMA STANDARD G600 AS INCORPORATED INTO RULE 62-555.330.

9. NEW OR ALTERED WATER MAINS, INCLUDING FIRE HYDRANT LEADS AND INCLUDING SERVICE LINES THAT WILL BE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER, SHALL BE DISINFECTED AND BACTERIOLOGICALLY EVALUATED IN ACCORDANCE WITH RULE 62-555.340, F.A.C.

100. NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL BE INSTALLED IN AREAS WHERE THERE ARE KNOWN AGGRESSIVE SOIL CONDITIONS SHALL BE PROTECTED THROUGH USE OF CORROSION-RESISTANT WATER MAIN MATERIALS, THROUGH ENCASING OF THE WATER MAINS IN POLYETHYLENE, OR THROUGH PROVISION OF CATHODIC PROTECTION.

31. NEW OR RELOCATED UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER, STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

32. NEW OR RELOCATED, UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT SHALL HAVE A HORIZONTAL DISTANCE OF AT LEAST SIX AND TEN FEET IS PREFERRED BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY-TYPE SANITARY SEWER, EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

333. THE HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS MAY BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST TWELVE INCHES ABOVE THE TOP OF THE SEWER.

334. A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM."

35. NEW OR RELOCATED, UNDERGROUND WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE THE OTHER PIPELINE, NEW OR RELOCATED. UNDERGROUND WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER, OR STORMWATER PIPELINE SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE THE OTHER PIPELINE.

36. AT THE UTILITY CROSSINGS DESCRIBED ABOVE, SEPARATION DISTANCE SHALL NOT APPLY WHERE A WATER SERVICE PIPE CROSSES A SEWER PIPE, PROVIDED THE WATER SERVICE PIPE IS SLEEVED TO AT LEAST FIVE FEET HORIZONTALLY FROM THE SEWER PIPE CENTERLINE ON BOTH SIDES OF SUCH CROSSINGS WITH PIPE MATERIAL LISTED IN FLORIDA BUILDING CODE SECTION 603.2.

37. NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ABOVE SURFACE WATER SHALL BE ADEQUATELY SUPPORTED AND ANCHORED, PROTECTED FROM DAMAGE AND FREEZING, AND ACCESSIBLE FOR REPAIR OR REPLACEMENT.

NEW OR ALTERED MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS UNDER WATER MAIN COURSES GREATER THAN 10 FEET IN WIDTH SHALL HAVE FLEXIBLE OR RESTRAINED, WATER TIGHT JOINTS AND WILL BE ISOLATED AT BOTH ENDS OF THE WATER CROSSING SO THE UNDERMAIN CAN BE ISOLATED FOR TESTING PURPOSES. THE ISOLATION VALVE CLOSING AND TAPING SHALL BE PROVIDED ON EACH SIDE OF THE ISOLATION VALVE. THE ISOLATION VALVE CLOSING AND TAPING WILL NOT BE SUBJECT TO FLOODING. THE ISOLATION VALVE CLOSEST TO THE WATER SUPPLY SOURCE WILL BE IN A MANHOLE, AND PERMANENT TAPS WILL BE PROVIDED ON EACH SIDE OF THE ISOLATION VALVE WITHIN THE MANHOLE TO ALLOW FOR INSERTION OF A SAMPLING OR WATER FROM THE UNDERMAIN MAIN. THE UNDERMAIN MAIN ALSO ALLOW FOR

39. CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY MEETING THE REQUIREMENTS OF CHAPTER 61G17 F.A.C. FOR THE POTABLE WATER MAIN EXTENSION AND THE SANITARY SEWER MAIN EXTENSIONS. INCLUDE HORIZONTAL AND VERTICAL DIMENSIONAL DATA 50 FEET OR MORE IN LENGTH, INCLUDING ALL CHANGES TO THE ORIGINAL DESIGN. PROVIDE SUFFICIENT DATA TO BE USED TO RECONSTRUCT THE EXISTING AND PROPOSED LINES. ALL DATA MUST BE PROVIDED IN ACCORDANCE WITH THE PLANS. A COPY OF THE AS-BUILT SURVEY (ON PAPER AND DIGITAL AUTOCAD FORMAT) MUST BE SUBMITTED TO THE CITY OF JAKE CITY, FLORIDA (DEPARTMENT OF GROWTH MANAGEMENT) AND THE ENGINEER.

40. CONTRACTOR SHALL PROVIDE POTABLE WATER TEST REPORTS IN ACCORDANCE WITH FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS AFTER DISINFECTION OF THE SYSTEM.

WATER & SEWER NOTES
FLORIDA GATEWAY DRIVE RV PARK
LAKE CITY, FL

SHEET NO.	C-4
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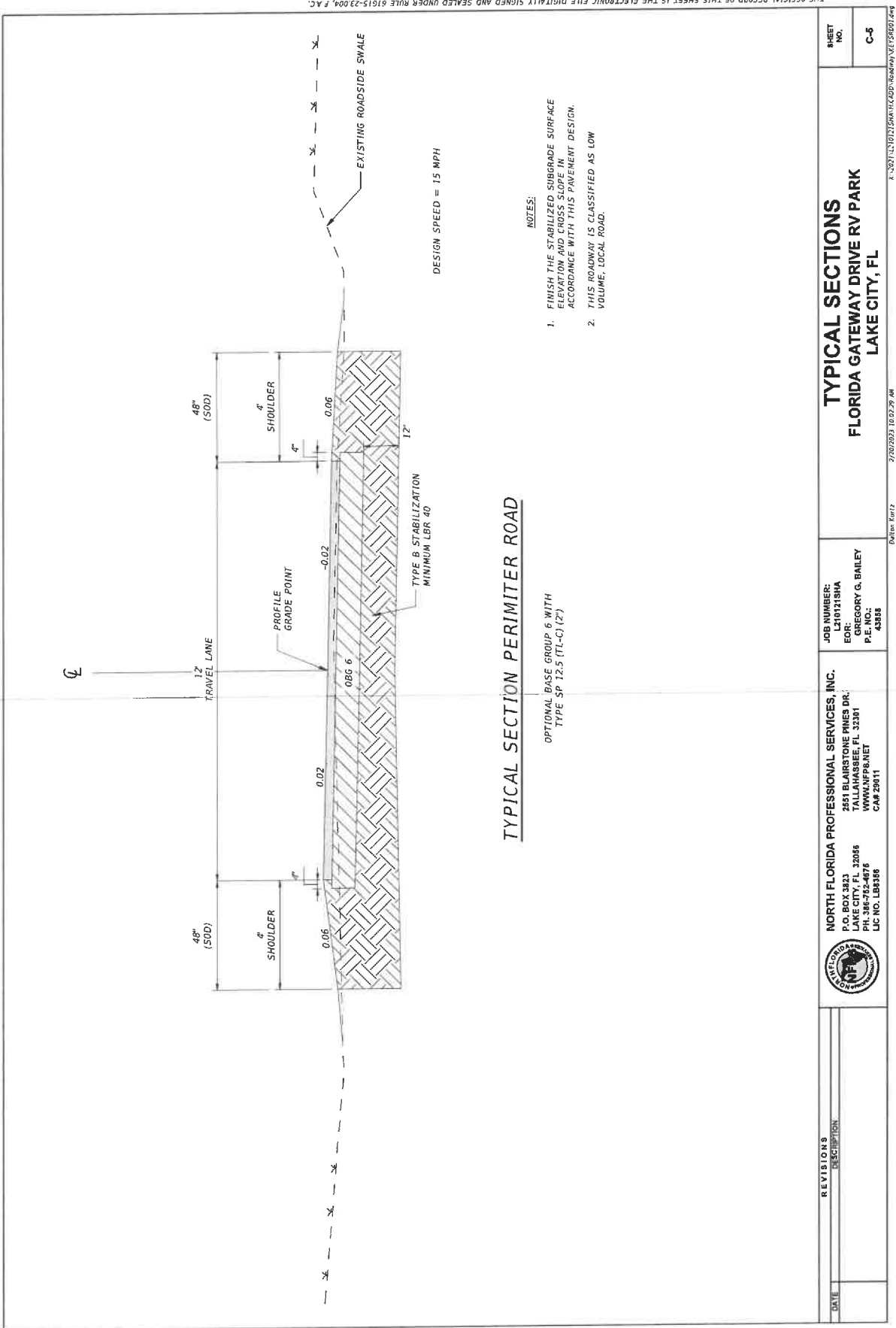
Dalton Kuritz

JOB NUMBER:
L2101218HA
EOR:
GREGORY G. BAILEY
P.E. NO.:
A1858

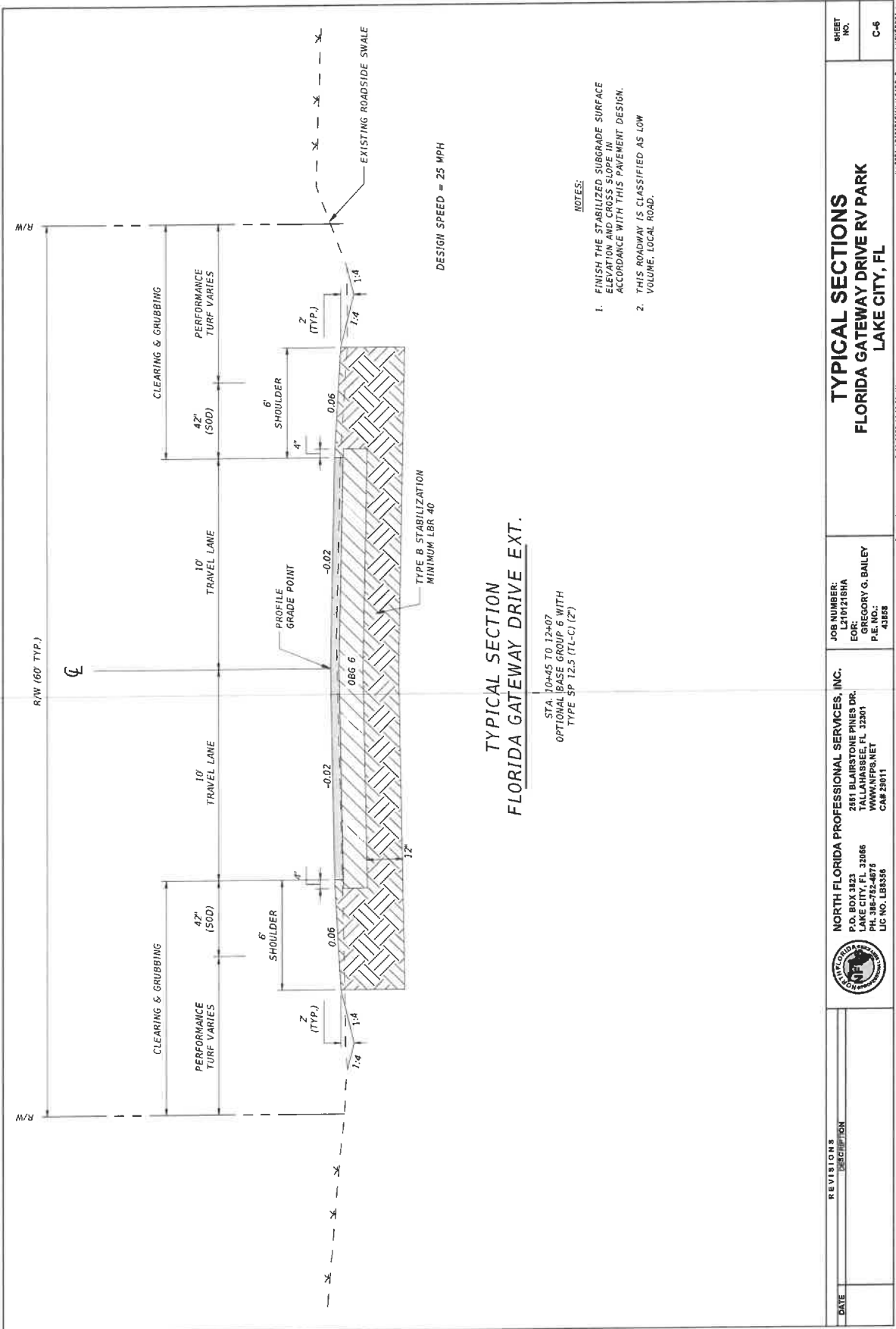
NORTH FLORIDA PROFESSIONAL SERVICES, INC.
2551 BLAIRSTONE PINES DR.;
TALLAHASSEE, FL 32301
WWW.NFPS.NET
P.O. BOX 3823
LAKE CITY, FL 32086
PH. 386-752-4875
LIC NO. 184356
CA# 29011

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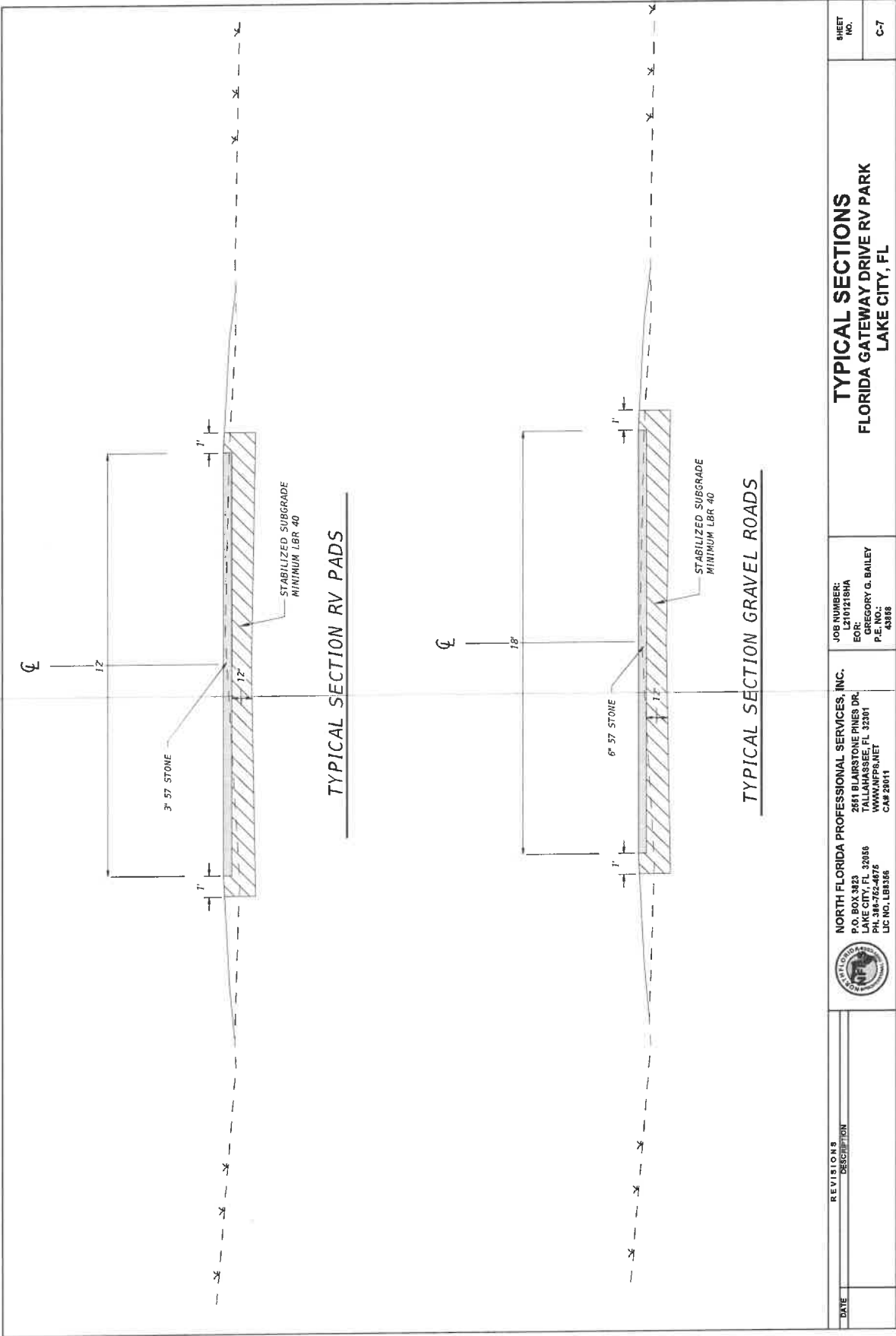
TYPICAL SECTION
FLORIDA GATEWAY DRIVE EXT.

STA. 10+45 TO 12+07
OPTIONAL BASE GROUP 6 WITH
TYPE SP 12.5 (TL-C) (Z)

- NOTES:
1. FINISH THE STABILIZED SUBGRADE SURFACE ELEVATION AND CROSS SLOPE IN ACCORDANCE WITH THIS PAYMENT DESIGN.
 2. THIS ROADWAY IS CLASSIFIED AS LOW VOLUME, LOCAL ROAD.

REVISIONS		TYPICAL SECTIONS		SHEET NO.
DATE	DESCRIPTION	FLORIDA GATEWAY DRIVE RV PARK LAKE CITY, FL		C-6
NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 1823 LAKE CITY, FL 32066 PH. 386-752-4875 LIC. NO. LB5355		JOB NUMBER: L31012181A EOR: GREGORY G. BAILEY P.E. NO.: 43858		
2581 BLAIRSTONE PINES DR. TALLAHASSEE, FL 32301 WWW.NFPS.NET CAN# 28011		2/20/2023 10:02:29 AM		
		Dallas Kutz		

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REVISIONS		DATE	DESCRIPTION
NO.	DESCRIPTION		
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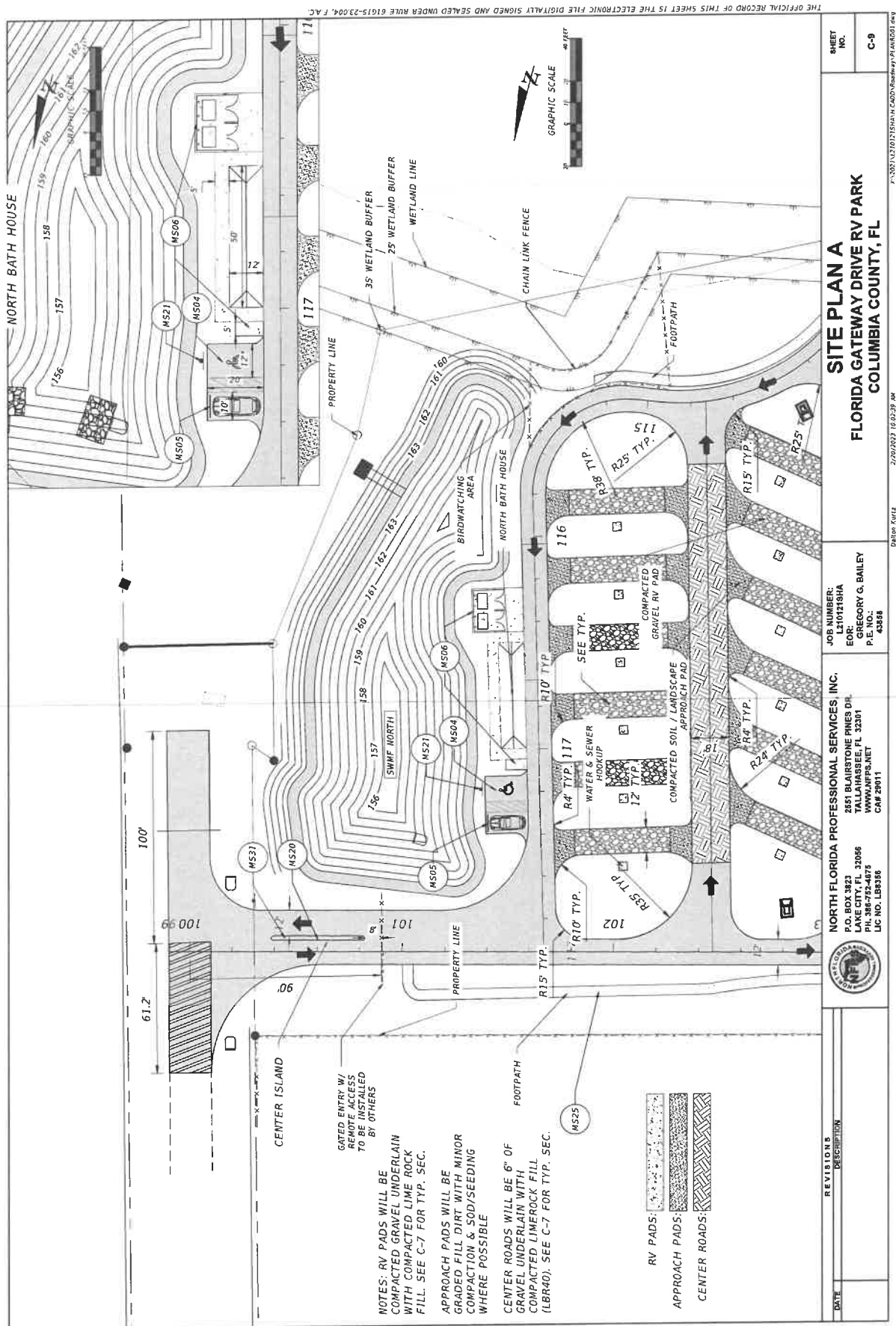
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FLORIDA GATEWAY DRIVE RV PARK
LAKE CITY, FL

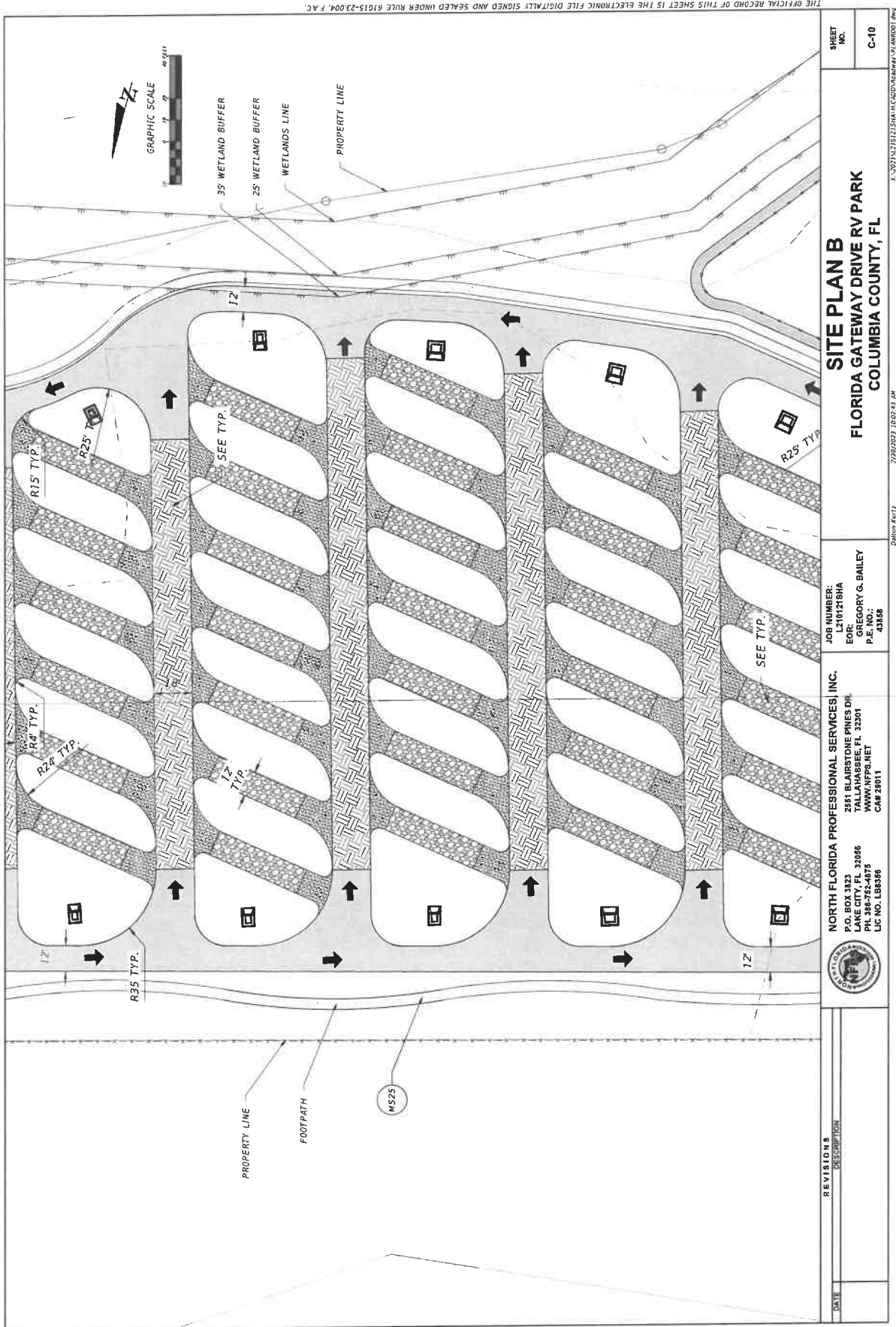
JOB NUMBER:
L21012181A
EOR:
GREGORY G. BAILEY
P.E. NO.:
43888

NORTH FLORIDA PROFESSIONAL SERVICES, INC.
P.O. BOX 3423
LAKE CITY, FL 32056
PH. 386-762-4875
LIC NO. LB3356
2811 BLAIRSTONE PINES DR.
TALLAHASSEE, FL 32301
WWW.NFPS.NET
CA# 28011



DATE





SHEET NO. C-10

SITE PLAN B
FLORIDA GATEWAY DRIVE RV PARK
COLUMBIA COUNTY, FL

JOB NUMBER: L24121SHA
 EOR: GREGORY G. BAILEY
 P.E. NO.: 43858

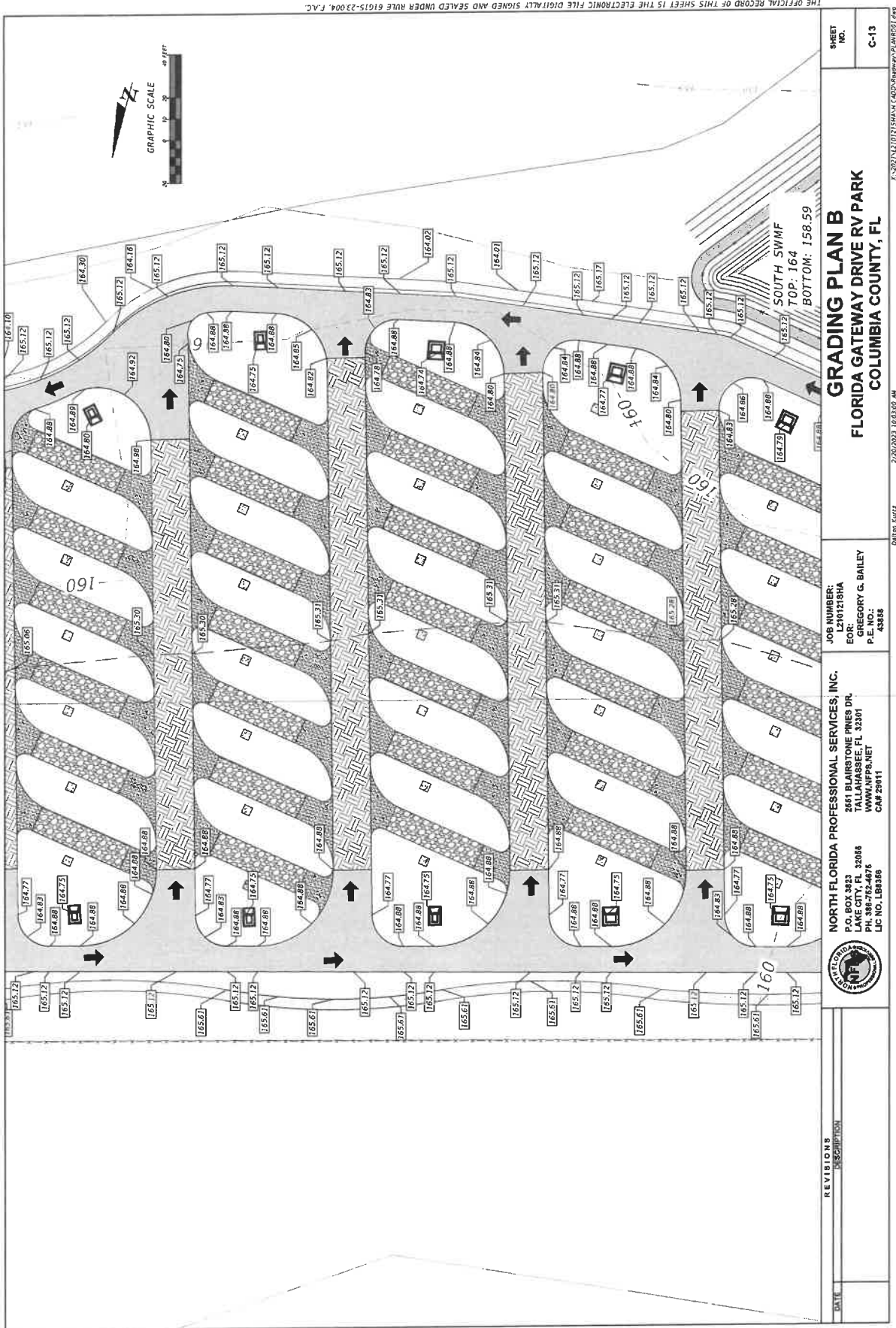
NORTH FLORIDA PROFESSIONAL SERVICES, INC.
 2551 BLARSTONE PINES DR.
 LAKE CITY, FL 32866
 PH 386-782-4075
 WWW.NFPS.NET
 LC NO. 188556

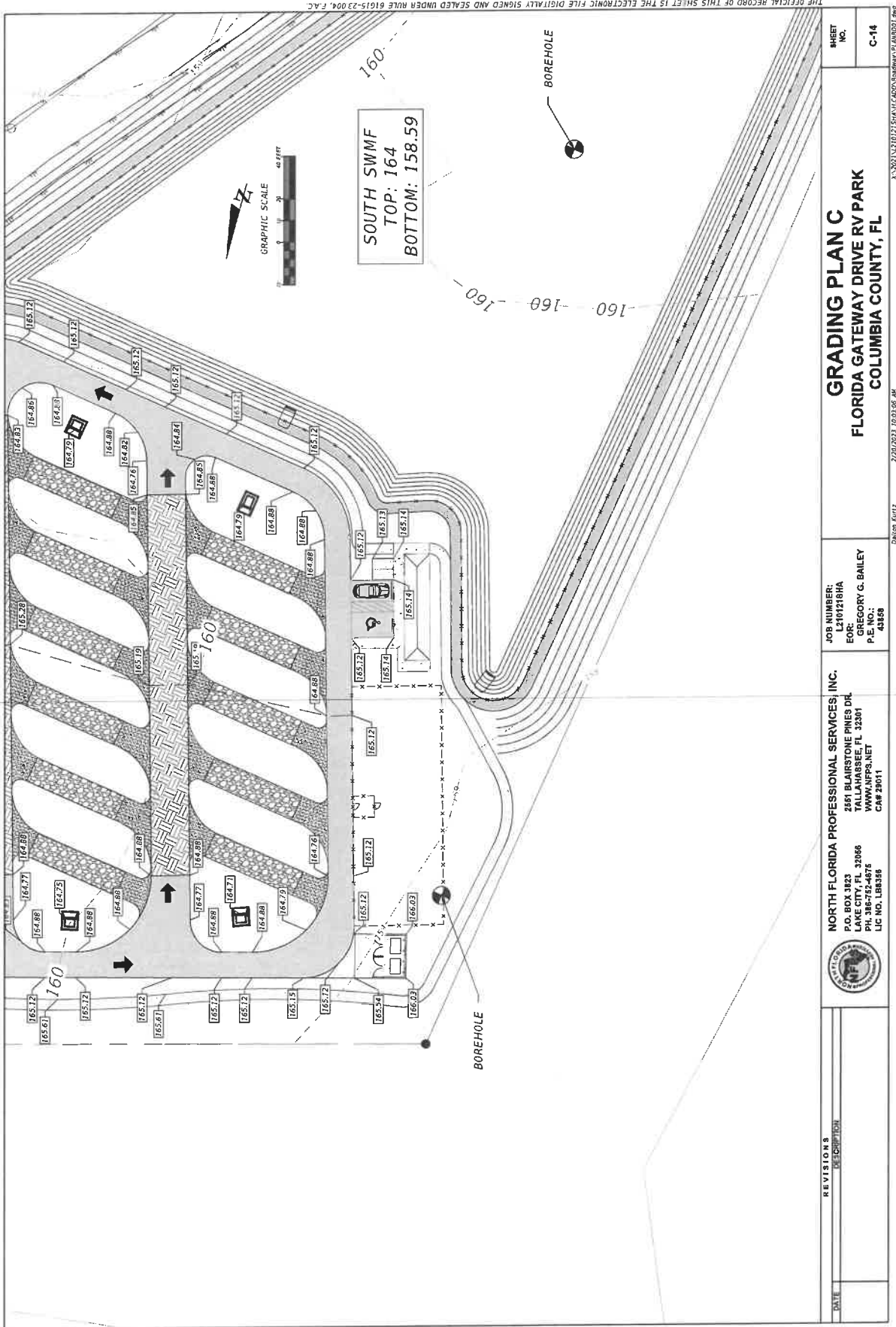


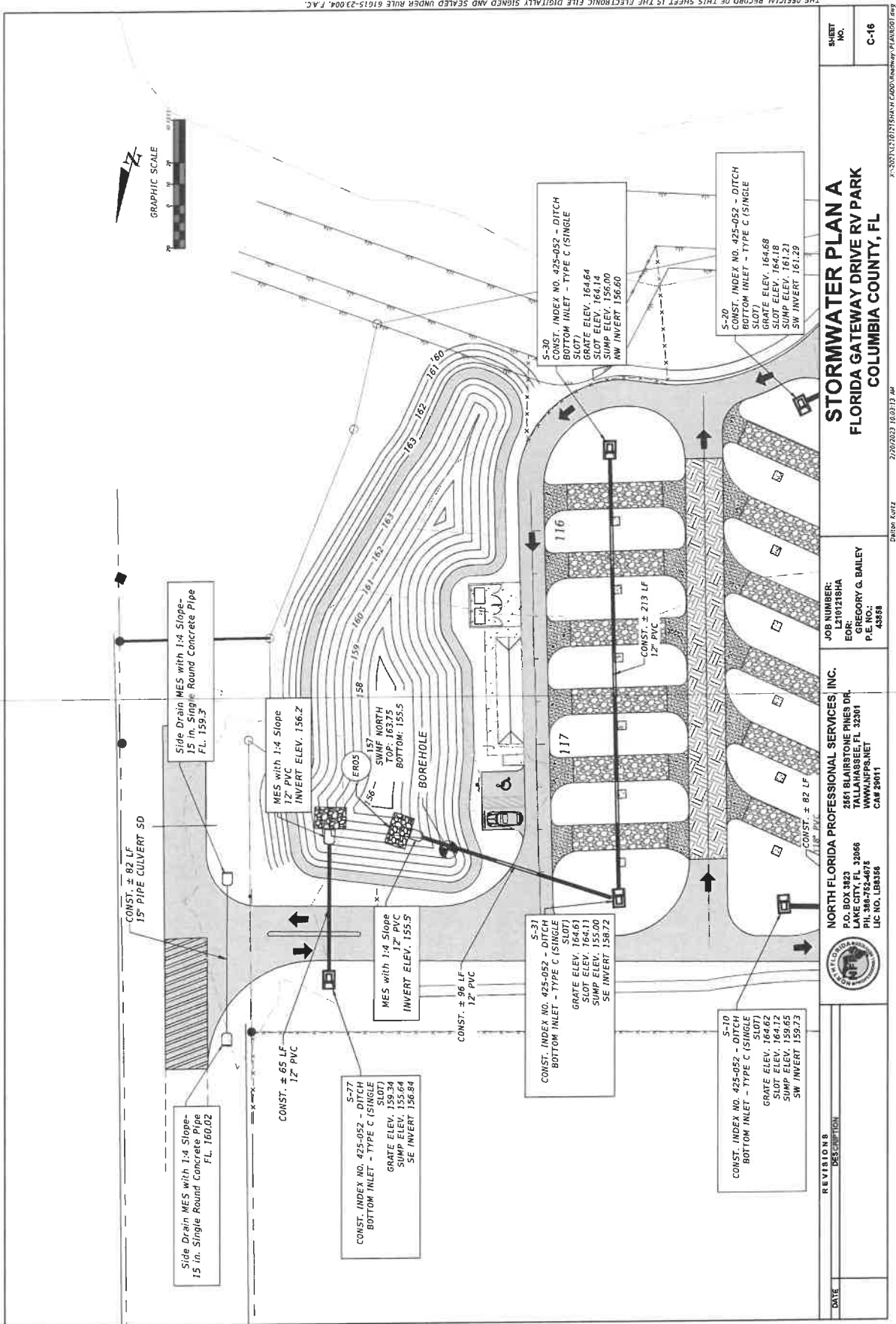
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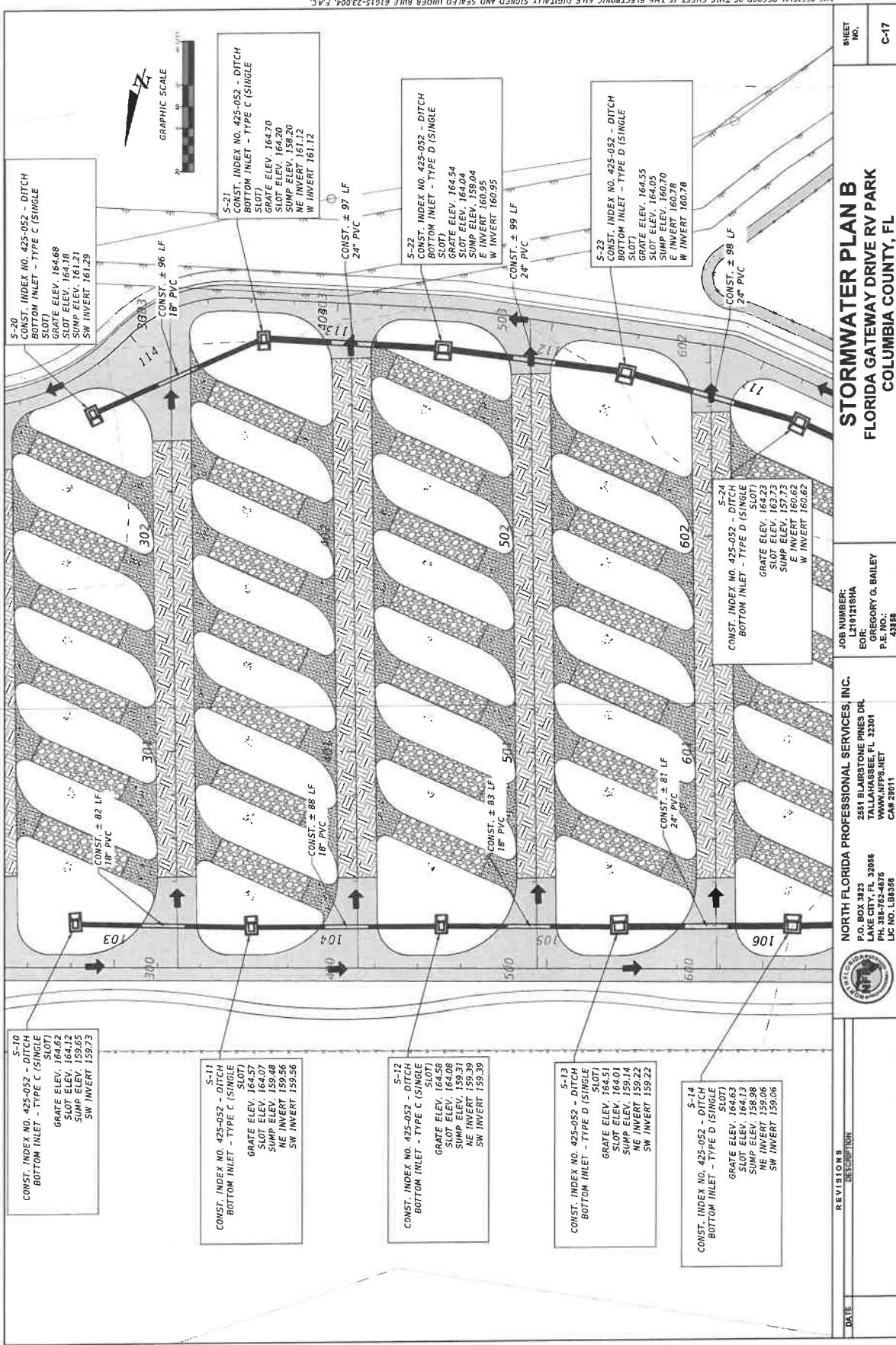
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 Dalton Ruffe

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GRATE ELEV. 164.63
 SLOT ELEV. 164.13
 SUMP ELEV. 158.98
 NE INVERT 159.06
 SW INVERT 159.06

S-14
 CONST. INDEX NO. 425-052 - DITCH
 BOTTOM INLET - TYPE D (SINGLE
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 SLOT ELEV. 164.21
 SUMP ELEV. 158.82
 NE INVERT 158.90
 S INVERT 158.90

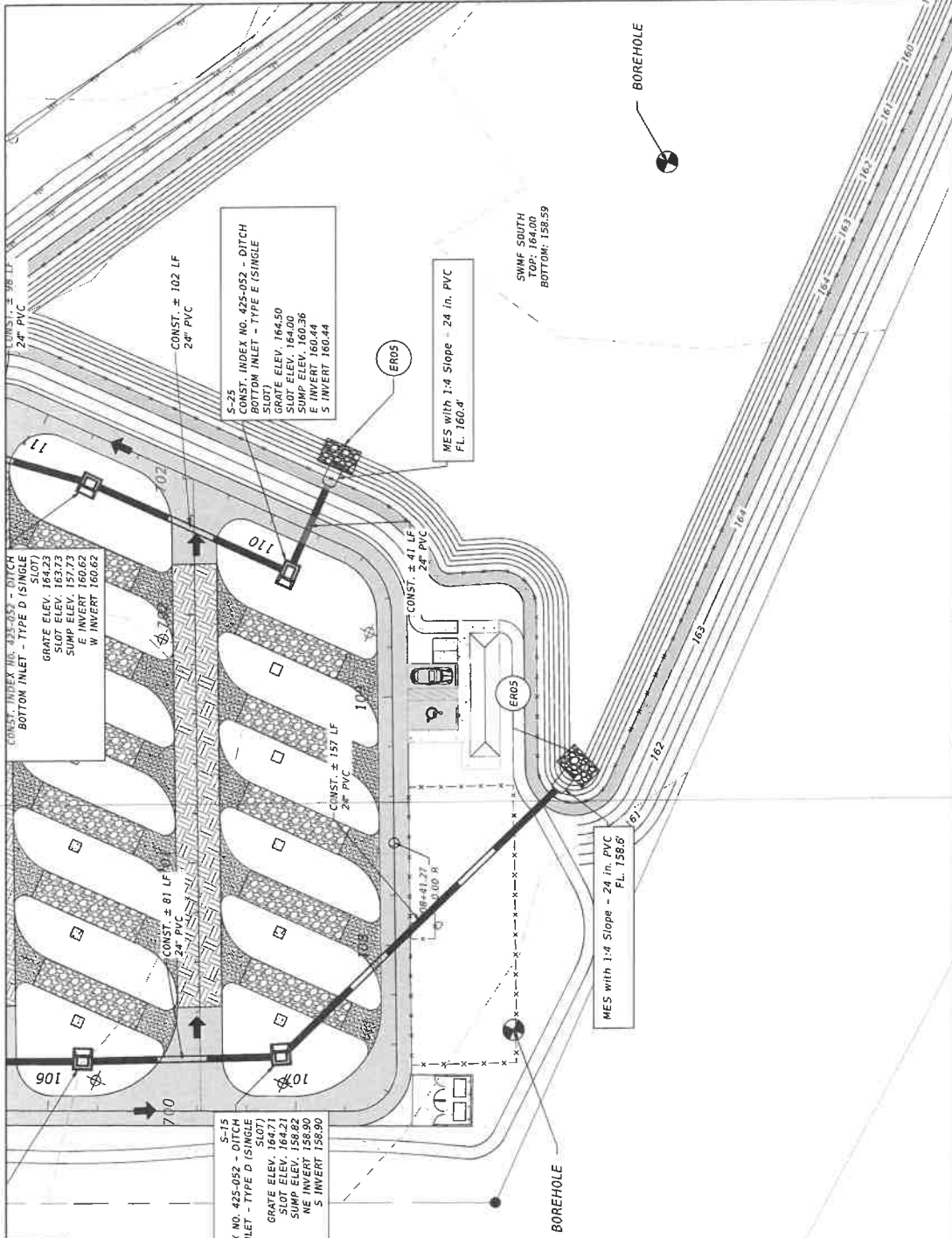
CONST. INDEX NO. 425-052 - DITCH
 BOTTOM INLET - TYPE D (SINGLE
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 SLOT ELEV. 163.73
 SUMP ELEV. 160.02
 W INVERT 160.62

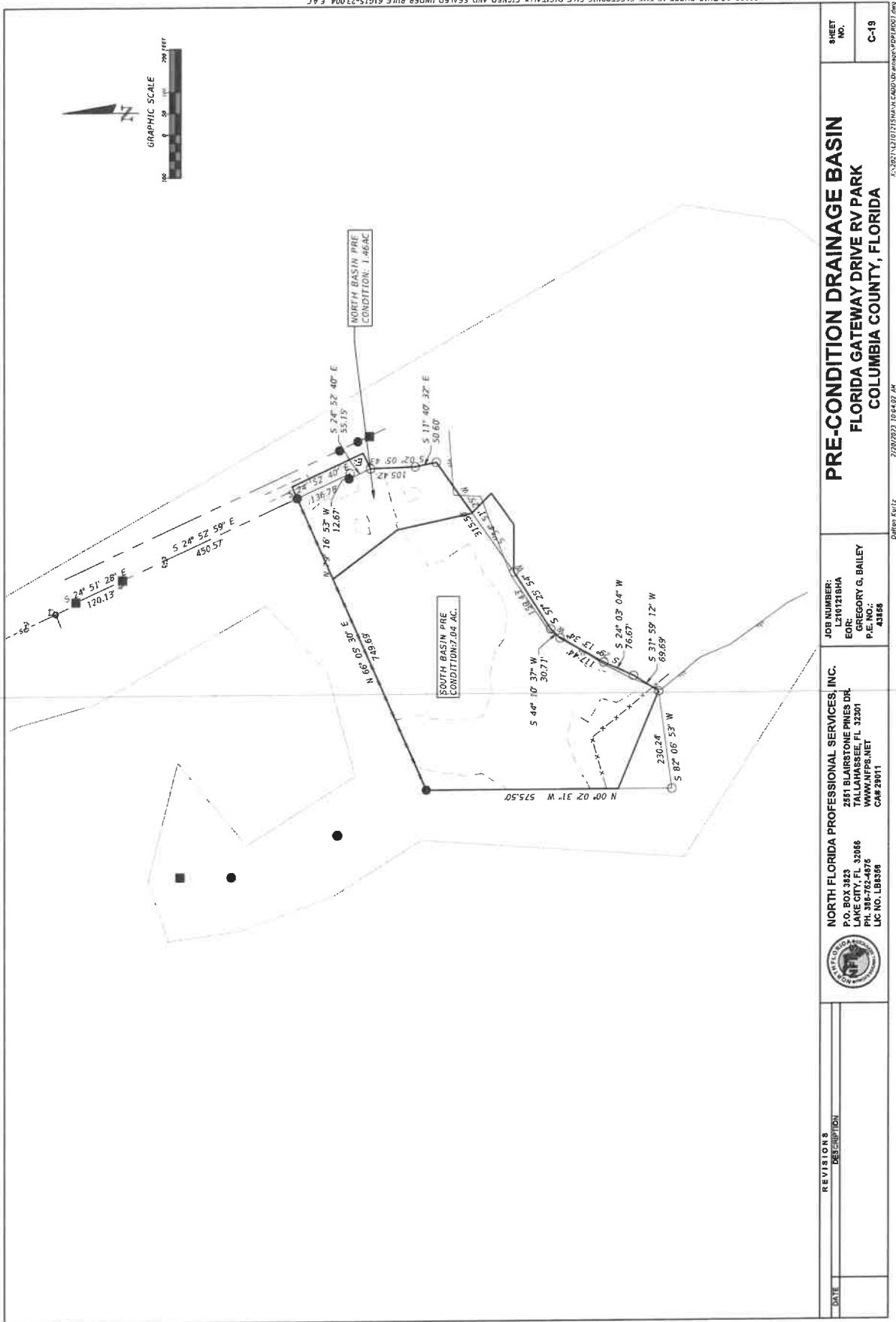
S-25
 CONST. INDEX NO. 425-052 - DITCH
 BOTTOM INLET - TYPE E (SINGLE
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 SLOT ELEV. 164.00
 SUMP ELEV. 160.36
 E INVERT 160.44
 S INVERT 160.44

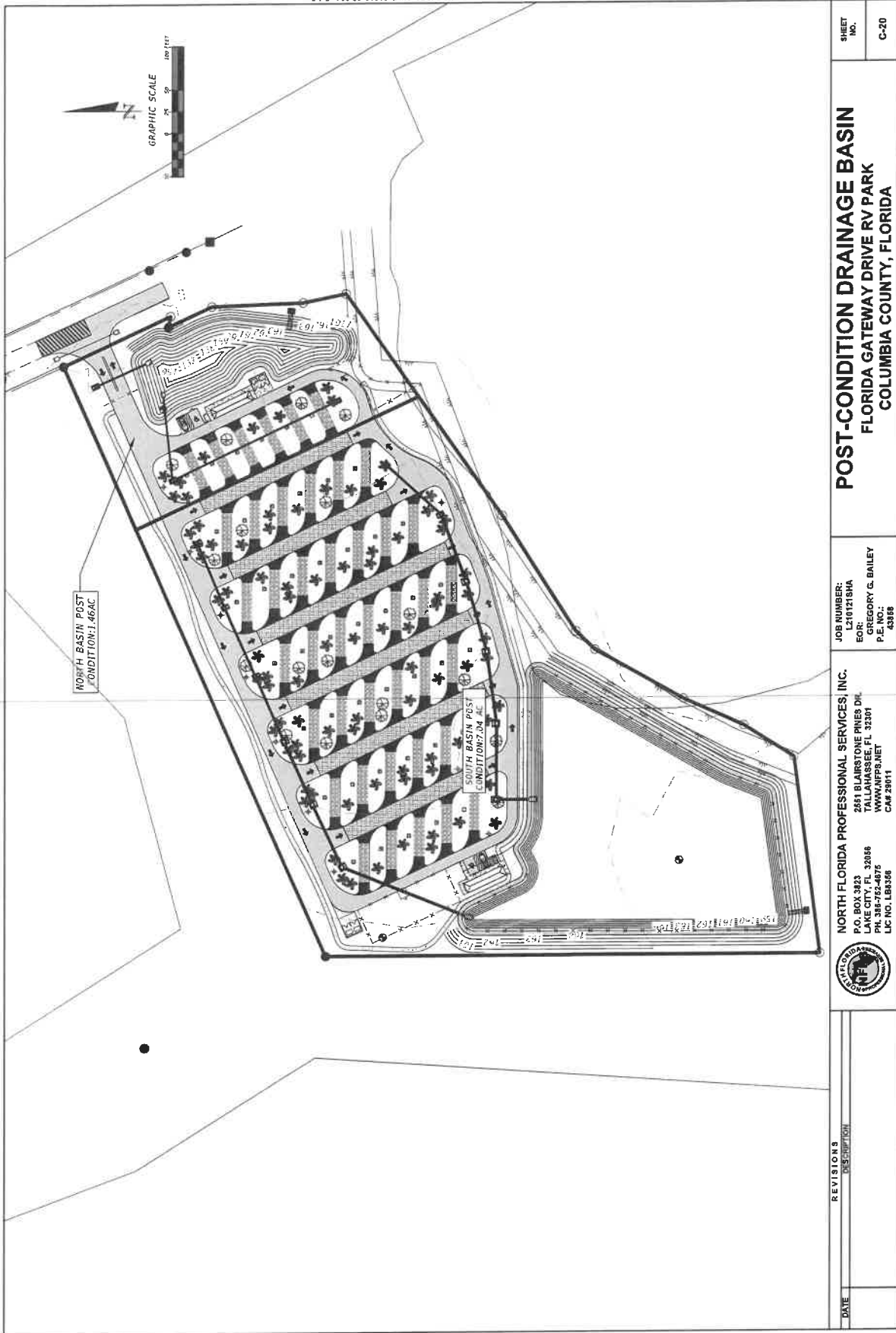
MES with 1:4 Slope - 24 in. PVC
 FL. 160.4

MES with 1:4 Slope - 24 in. PVC
 FL. 158.6

SUMP SOUTH
 TOP: 164.00
 BOTTOM: 158.59





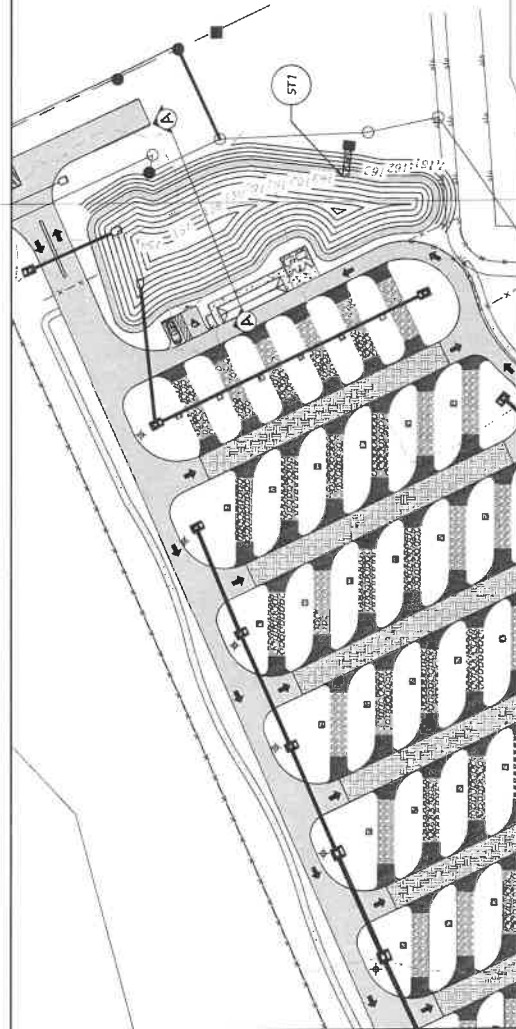


CRITICAL EVENT: 100 YR- 8 HR
MAX STAGE: 162.63 FT. NAVD



BOTTOM OF POND ELEV.: 155.05

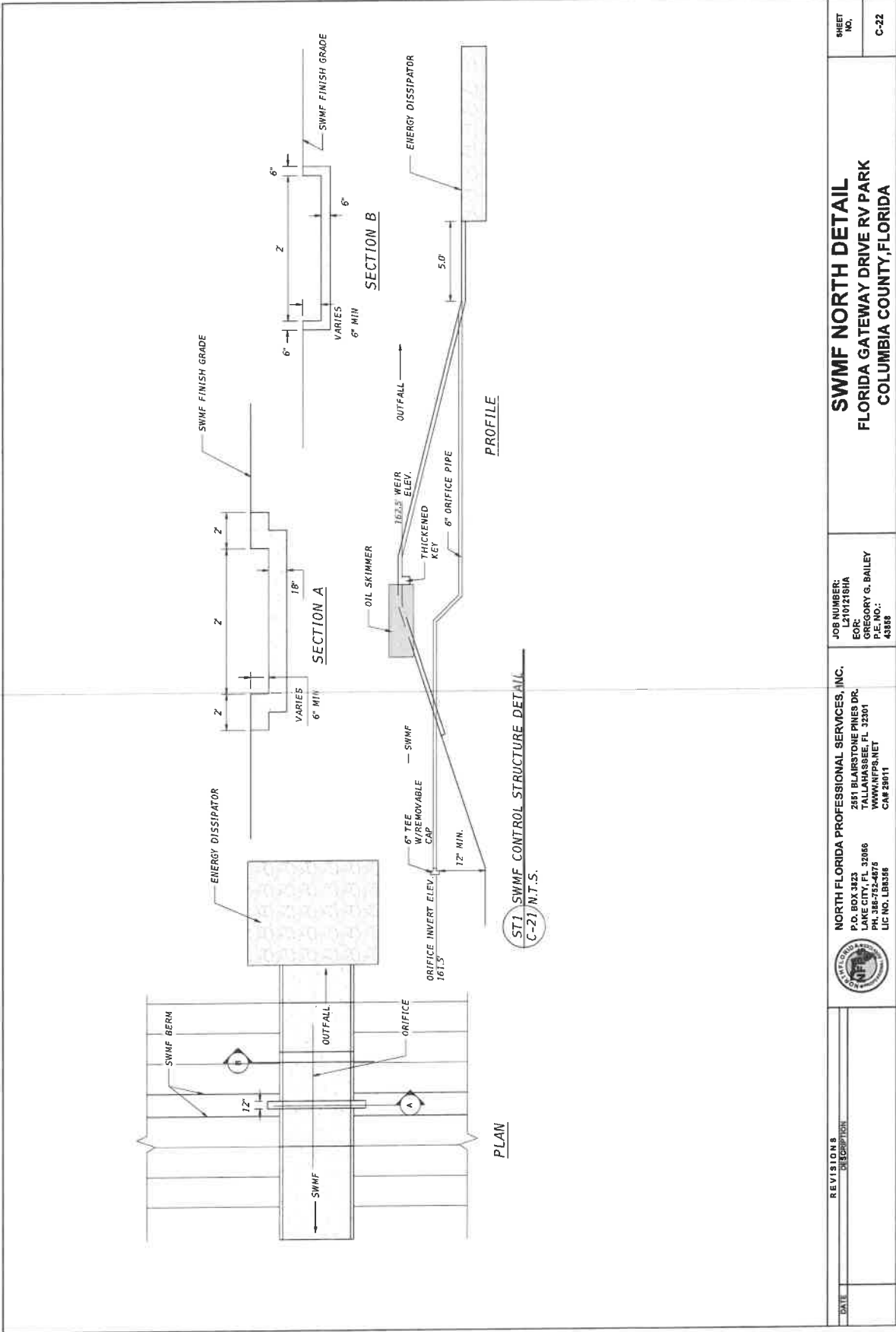
SECTION A-A SWMF DETAIL



REVISIONS DATE DESCRIPTION		JOB NUMBER: L310121SHA EDR: GREGORY G. BAILEY P.E. NO.: 43588		SHEET NO. C-31	
NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 3823 LAKE CITY, FL 32056 PH: 386-752-4676 LIC. NO. LB0356					
SWMF NORTH FLORIDA GATEWAY DRIVE RV PARK COLUMBIA COUNTY, FLORIDA					
2/29/2023 10:34:08 AM D:\new_kortz					

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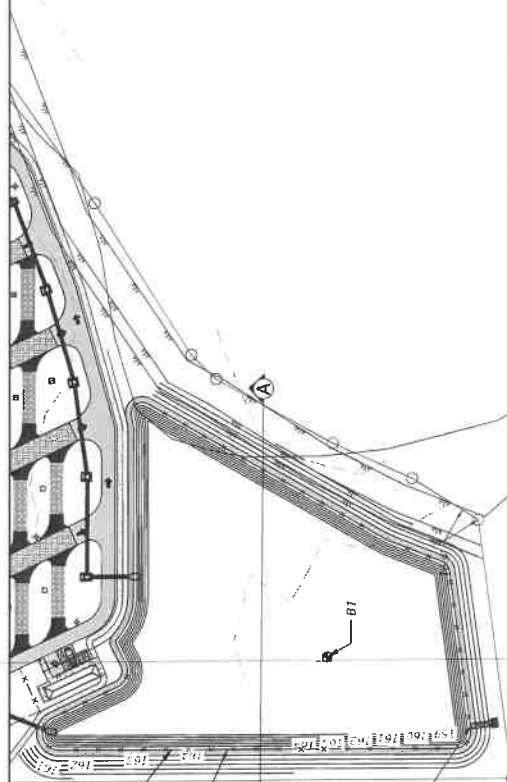
DATE		REVISIONS	DESCRIPTION	JOB NUMBER: L31012161A	EOR: GREGORY G. BAILEY	P.E. NO.: 43988	SHEET NO.	C-22
				NORTH FLORIDA PROFESSIONAL SERVICES, INC. 2851 BLAIRSTONE PINES DR. TALLAHASSEE, FL 32301 WWW.NFPS.NET LIC NO. LB8358 CAN# 26011				
				SWMF NORTH DETAIL FLORIDA GATEWAY DRIVE RV PARK COLUMBIA COUNTY, FLORIDA				

CRITICAL EVENT: 100 YR - 72 HR
MAX STAGE: 162.93 NAVD



SECTION A-A SWMF DETAIL

CONST. ± 1199 LF
OF 6' CHAIN LINK FENCE



DATE	REVISIONS	DESCRIPTION



NORTH FLORIDA PROFESSIONAL SERVICES, INC.
P.O. BOX 3823
LAKE CITY, FL 32086
PH. 386-782-4876
LIC NO. LBB356

JOB NUMBER:
E-16121618A
FOR:
GREGORY G. BAILEY
P.E. NO.:
43358

SWMF SOUTH
FLORIDA GATEWAY DRIVE RV PARK
COLUMBIA COUNTY, FLORIDA

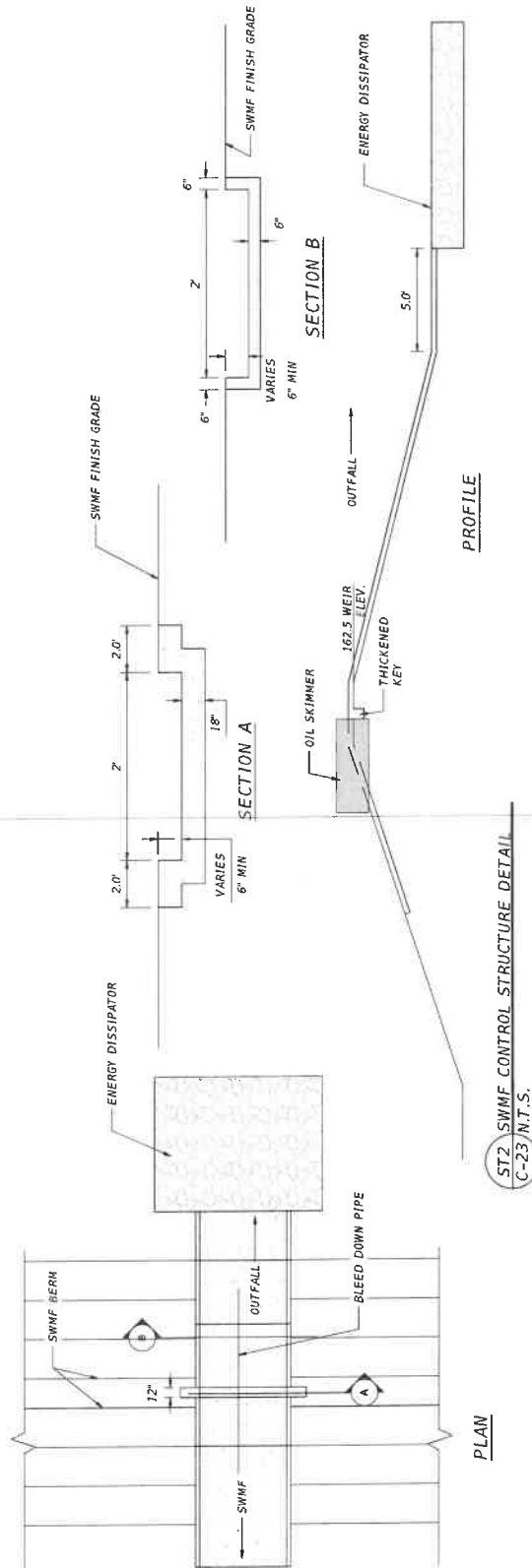
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NO.
C-23

Dalton Kurtz
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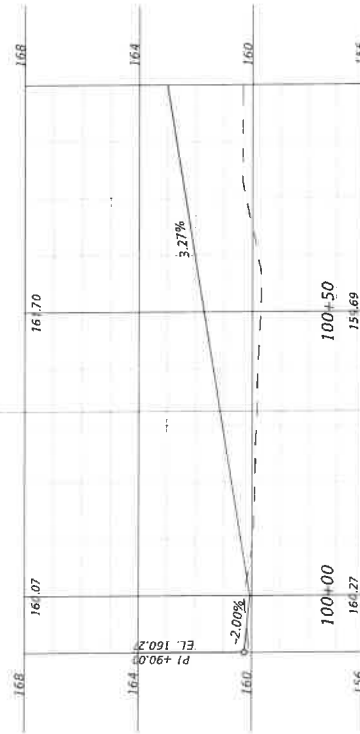
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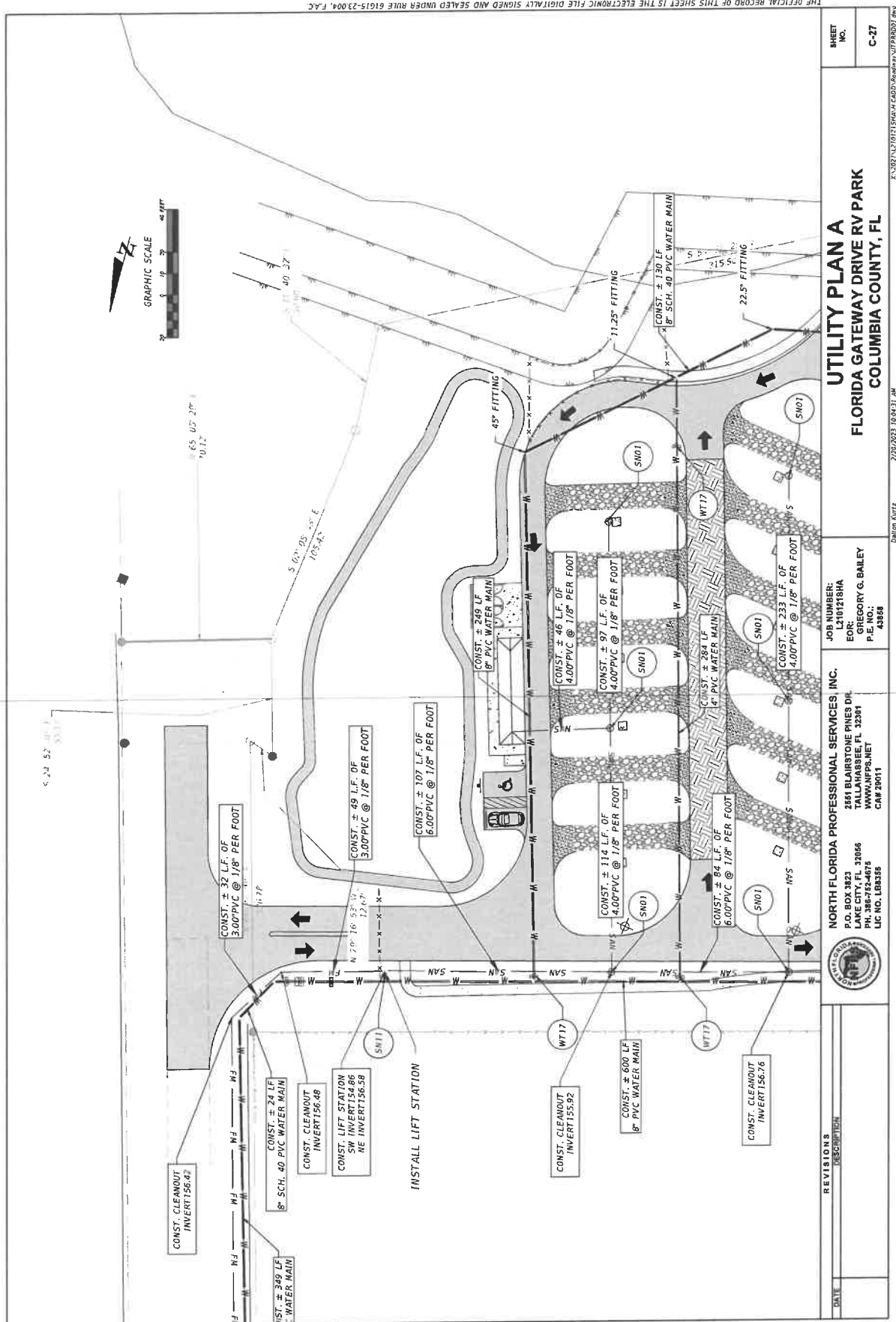
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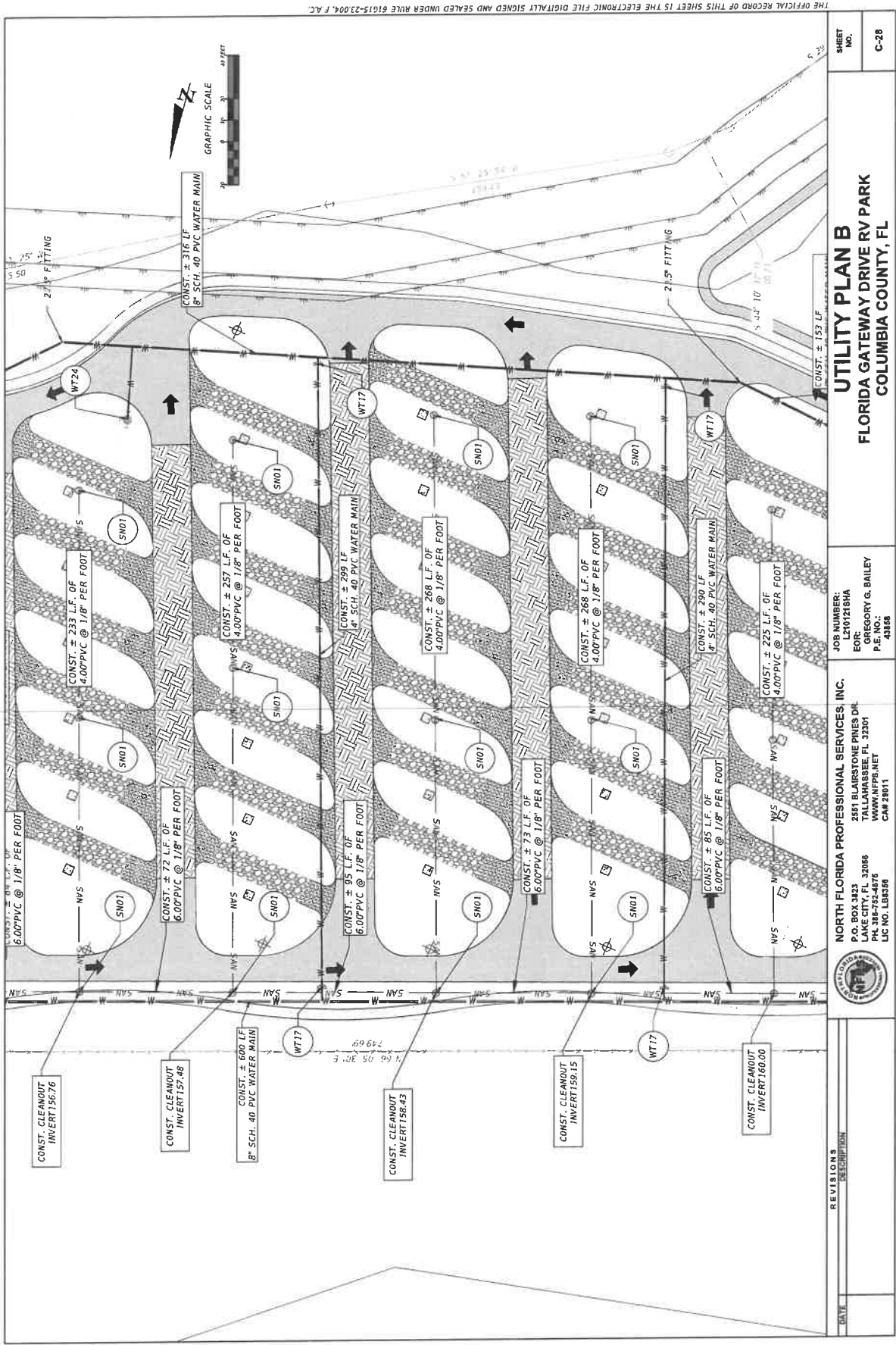


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DATE	REVISIONS DISCUSSION	 NORTH FLORIDA PROFESSIONAL SERVICES, INC. 2657 BLAIRSTONE PINES DR. LAKE CITY, FL 32066 TALLAHASSEE, FL 32301 WWW.NFPS.NET P.H. 384-732-4678 C.A# 25011 L.C. NO. 128316	JOB NUMBER: L210121818A EOR: CREGORY G. BAILEY P.E. NO.: 43868	DRIVEWAY CONNECTION PLAN FLORIDA GATEWAY DRIVE RV PARK LAKE CITY, FL	SHEET NO.
					C-25





REVISIONS

DATE	DESCRIPTION

NORTH FLORIDA PROFESSIONAL SERVICES, INC.
 P.O. BOX 3823
 LAKE CITY, FL 32086
 PH 386-782-4876
 WWW.NFPS.NET
 LIC NO. LB4556

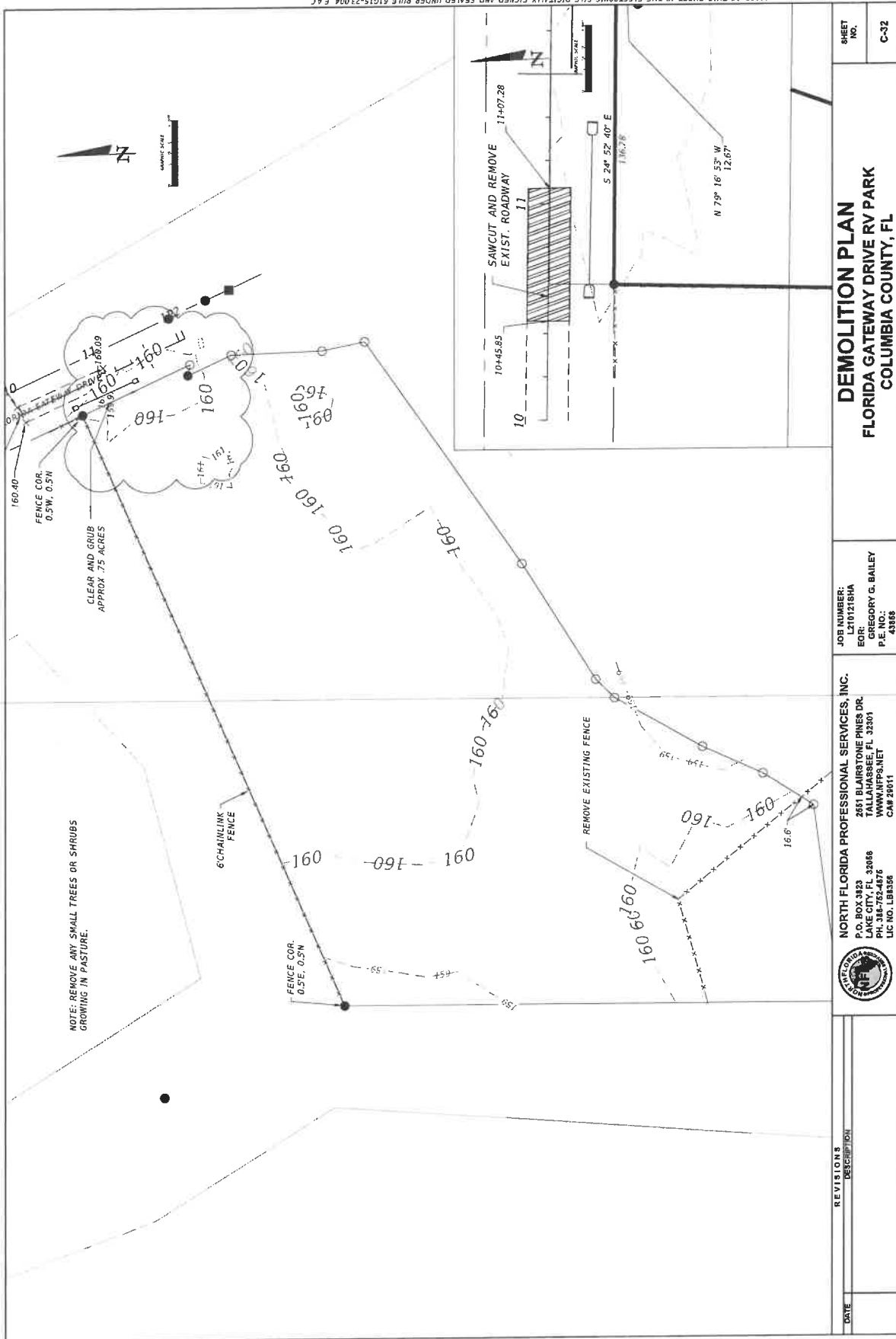
JOB NUMBER:
 L20171818A
 FOR
 GREGORY G. BAILEY
 P.E. NO.:
 43388

UTILITY PLAN B
FLORIDA GATEWAY DRIVE RV PARK
COLUMBIA COUNTY, FL

SHEET
 NO.
C-28

2/20/2023 8:04:34 AM
 Dalton Kurtz
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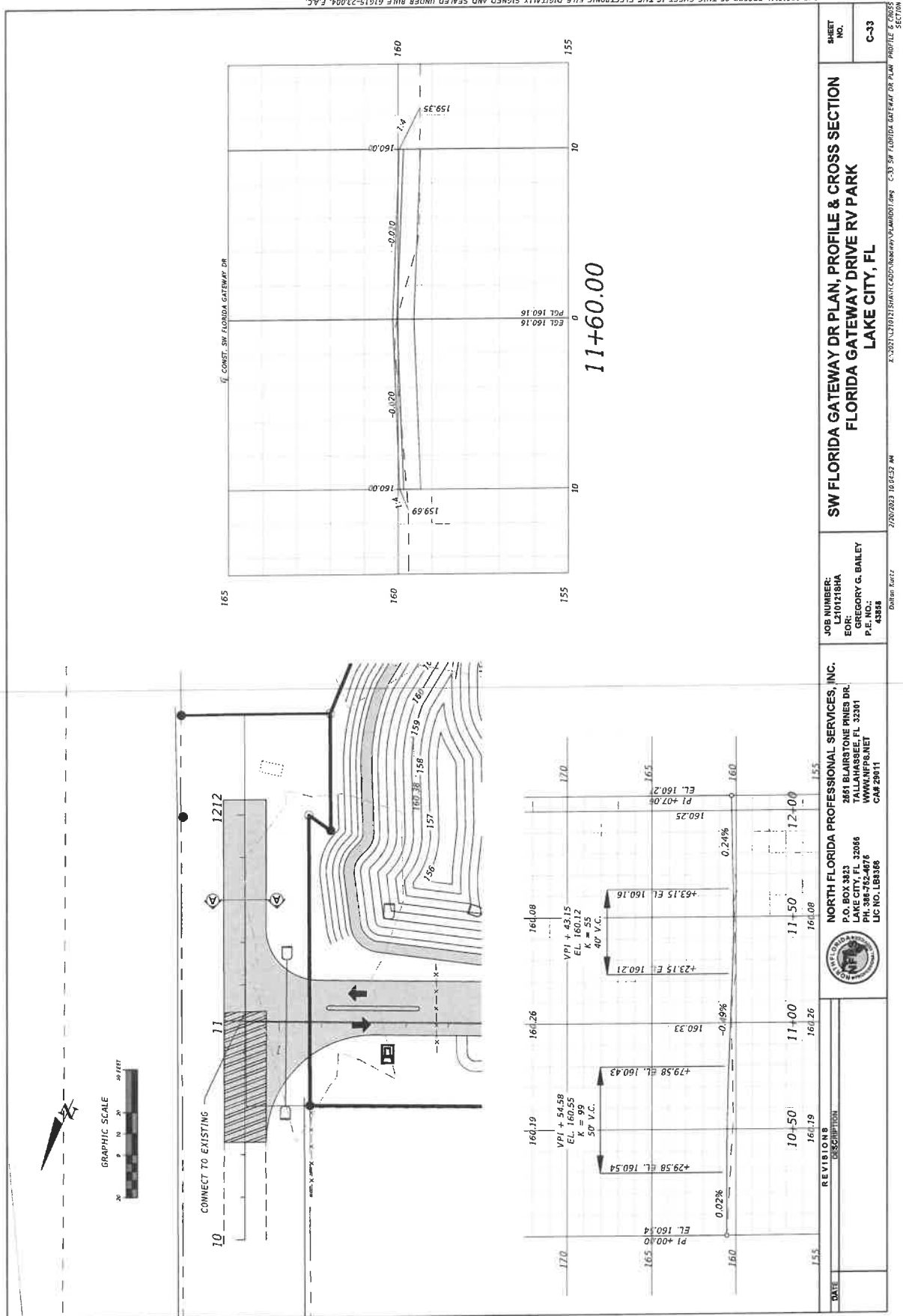
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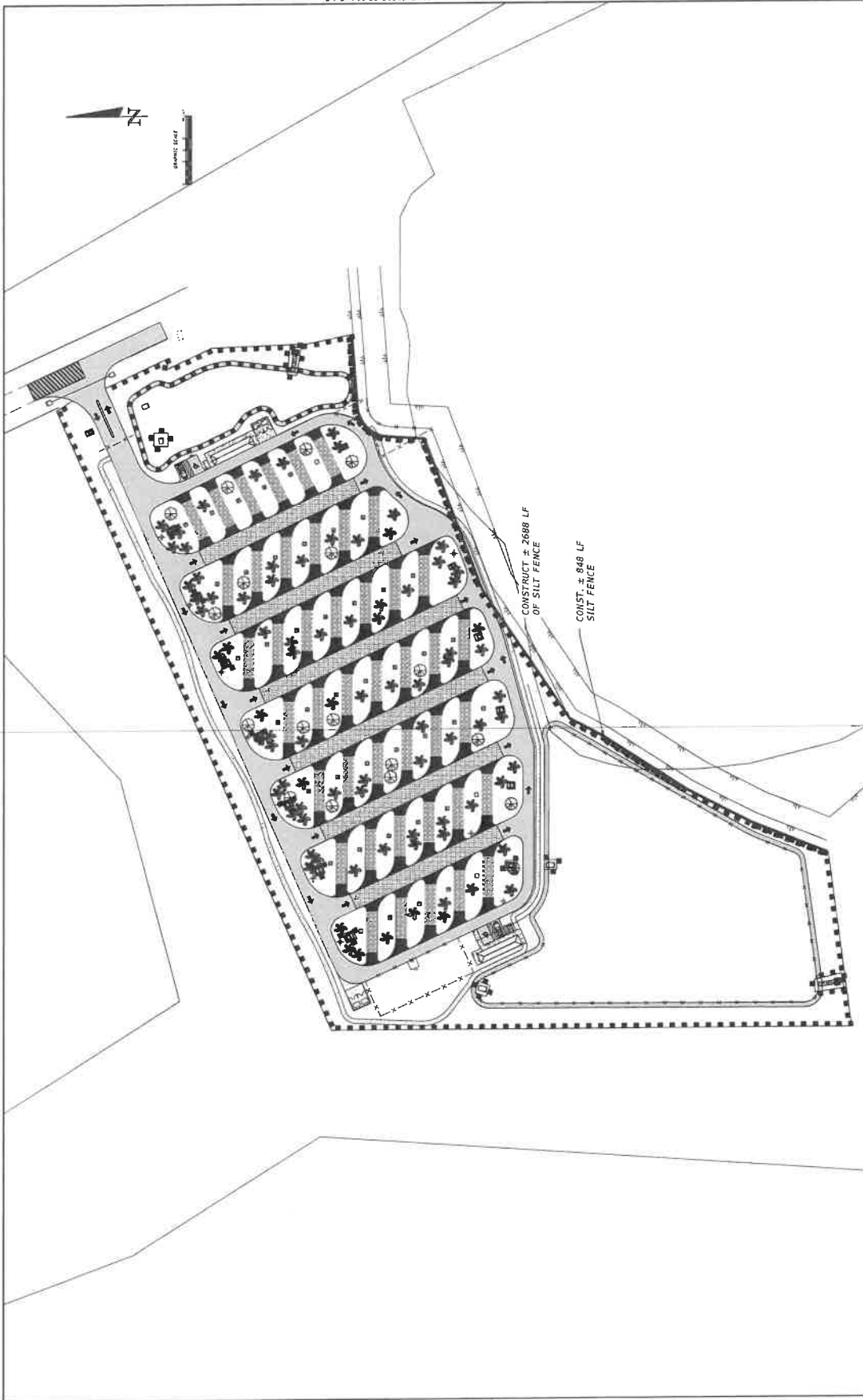


REVISIONS		DATE		JOB NUMBER: 121712181A		DEMOLITION PLAN		SHEET NO.	
DESCRIPTION				ED BY: GREGORY G. BAILEY		FLORIDA GATEWAY DRIVE RV PARK		C-32	
				P.E. NO.: 43868		COLUMBIA COUNTY, FL			
				NORTH FLORIDA PROFESSIONAL SERVICES, INC.					
				2611 BLAIRSTONE PINES DR.					
				P.O. BOX 3823					
				TALLAHASSEE, FL 32301					
				LAKE CITY, FL 33086					
				WWW.NFPS.NET					
				PH. 386-762-4876					
				LIC NO. LB8356					
				CAN# 28011					
				NORTH FLORIDA PROFESSIONAL SERVICES, INC.					
				P.O. BOX 3823					
				TALLAHASSEE, FL 32301					
				FOR: GREGORY G. BAILEY					
				P.E. NO.: 43868					

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Dillon Reitz
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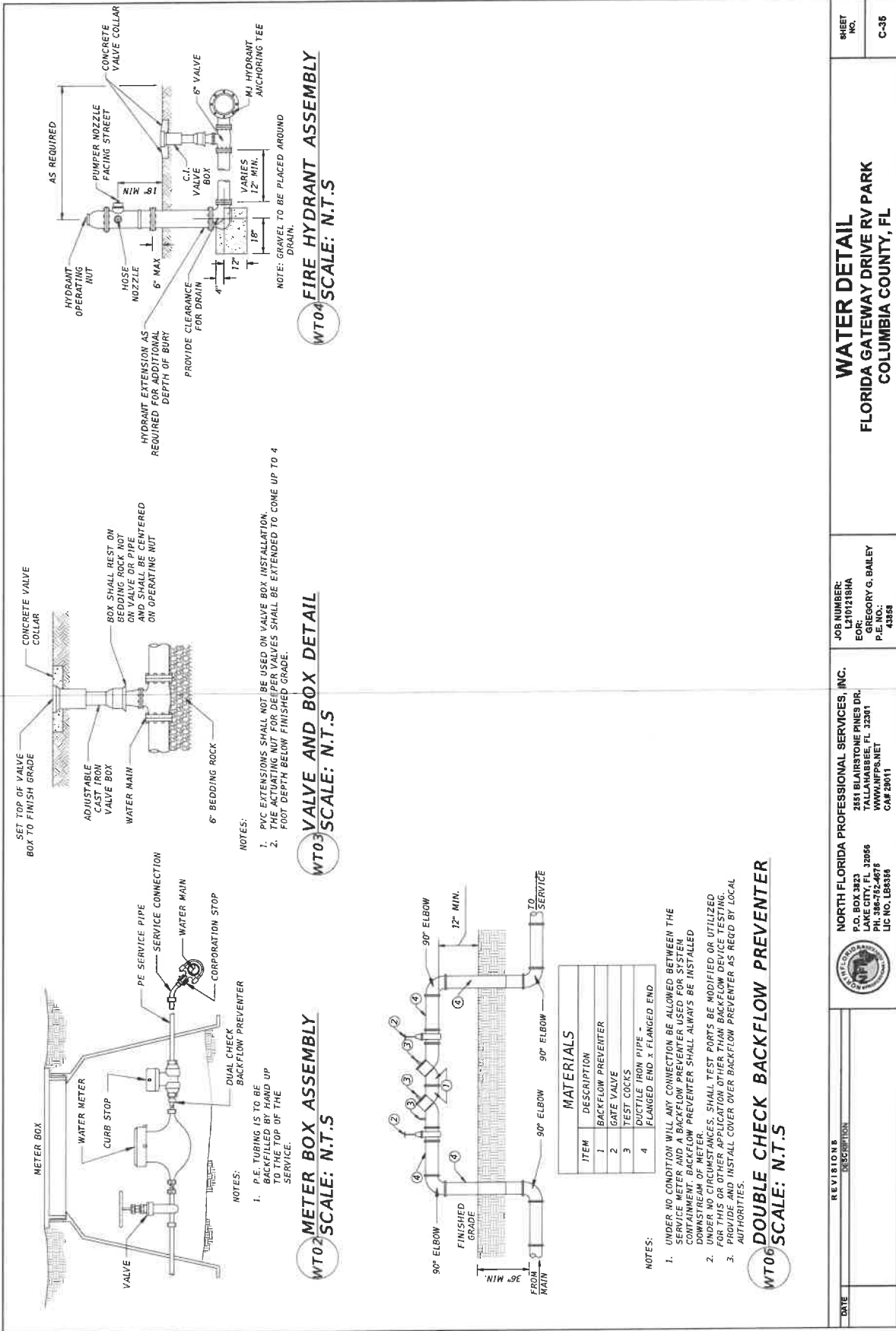
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.





												SHEET NO.	
												C-34	
												SWPPP	
												FLORIDA GATEWAY DRIVE RV PARK	
												LAKE CITY, FL	

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.
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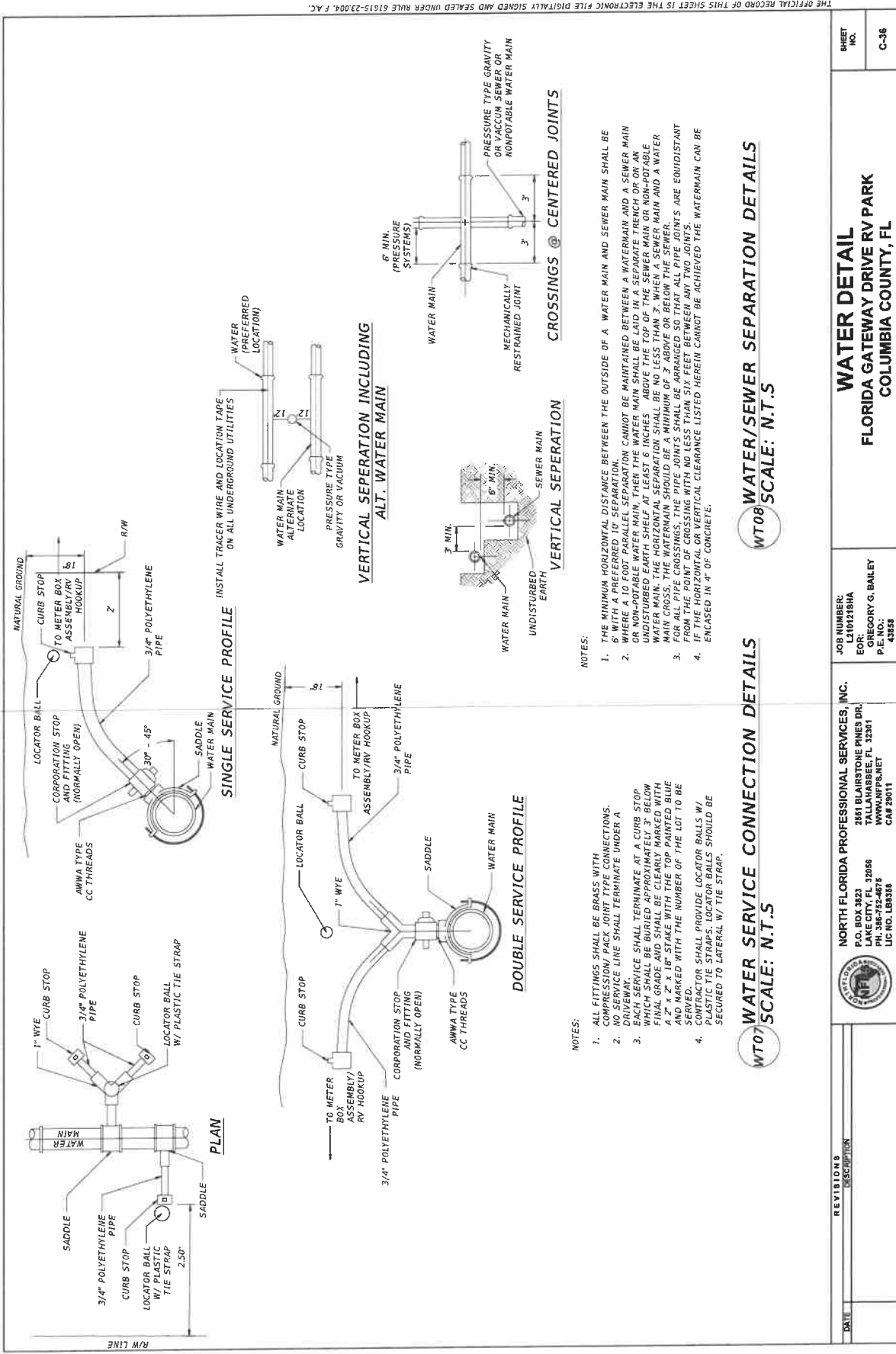
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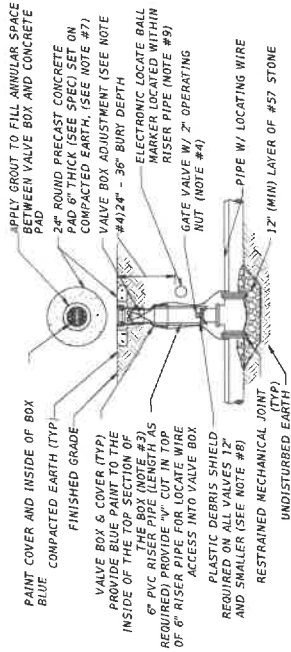
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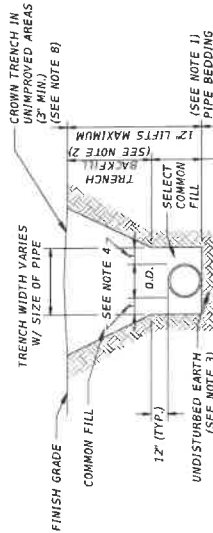
REVISIONS		DATE	
		NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 3823 LAKE CITY, FL 32056 PH. 386-752-4675 LIC NO. LB8358	
JOB NUMBER: LJ1012181A FOR: GREGORY G. BAILEY P.E. NO.: 43858		WATER DETAIL FLORIDA GATEWAY DRIVE RV PARK COLUMBIA COUNTY, FL	
DATE:		SHEET NO. C-36	

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C. X:\2021\121012181A\WATER\WATER DETAIL.dwg 2/20/2023 10:05:30 AM G:\user kurtz



- NOTES:
1. FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY UNLESS SHOWN OR NOTED OTHERWISE.
 2. ALL VALVES SHALL BE IDENTIFIED BY A BRASS IDENTIFICATION TAG.
 3. A 1/2" CUT SHALL BE CARVED IN THE CURB CLOSEST/ADJACENT TO ASPHALT (IF NO CURB) TO ALL BELOW GRADE VALVES. THE "V" CUT IS TO BE PAINTED BLUE WATER/PURPLE RECLAIMED.
 4. IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN OPERATING NUT AND THE TOP OF VALVE OPERATING NUT, OUTSIDE OF VALVE BOX. PROVIDE A BRASS IDENTIFICATION TAG TO THE VALVE OPERATING NUT. THE DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT, OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 30 INCHES BELOW FINISHED GRADE.
 5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDGRADE TO ALLOW FOR FUTURE BRASS ADJUSTMENT. ROUTE LOCATING WIRE THROUGH CUT IN THE TOP OF VALVE BOX TO THE VALVE OPERATING NUT. LOCATE WIRE TO BE CONNECTED TO THE VALVE OPERATING NUT WITH A 24" LONG PIG-TAIL AT THE TOP. SHALL BE CONNECTED TOGETHER WITH A WIRE NUT.
 6. BRASS IDENTIFICATION TAG INDICATING "WATER". VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A 1/2" HOLE IN BRASS TAG AND ATTACH TAG (TWIST WIRE INSIDE VALVE BOX) TO THE END OF LOCATING WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON FIRE LINES OR BRANNING LINES.
 7. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/ 2" - 4" REBAR AROUND PERIMETER, MAY BE USED.
 8. FOR VALVES 12 INCH AND SMALLER, PROVIDE A WHITE OR BLACK PLASTIC DEBRIS SHIELD WHICH INSTALLS BELOW THE OPERATING NUT. THIS SHIELD SHALL CENTER THE VALVE OPERATING NUT AND MINIMIZE INFILTRATION. SHIELD SHALL BE BY AFC BOXLOK OR APPROVED EQUAL.
 9. ALL VALVES SHALL BE INSTALLED WITH AN ELECTRIC LOCATE MARKER. MARKER SHALL BE 4" DIA. COLOR CODED BALL MARKER (3M-1403XR FOR WATER).

WATER VALVE INSTALLATION DETAIL
SCALE: N.T.S



- NOTES:
1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
 2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
 3. PIPE BEDDING: SELECT COMMON FILL OR BEDDING ROCK WILL BE REQUIRED IF OVER-EXCAVATION OCCURS.
 4. (1") 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
 5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
 6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE TRENCH.
 7. PROVIDE TRENCH SLOPING AND BRACING AS REQUIRED FOR SAFETY.
 8. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN PAVED AREAS SHALL COMPLY WITH THE REQUIREMENTS OF THE ROAD CONSTRUCTION SPECIFICATIONS.

TRENCH AND BACKFILL DETAILS
SCALE: N.T.S

REVISIONS

DATE

DESCRIPTION



NORTH FLORIDA PROFESSIONAL SERVICES, INC.
P.O. BOX 3323
LAKE CITY, FL 32056
PH. 386-752-4675
WWW.NFPS.NET
LIC NO. LB8386
C#8 28011

JOB NUMBER:
LJ1072161A
FOR:
GREGORY G. BAILEY
P.E. NO.:
41858

WATER DETAIL
FLORIDA GATEWAY DRIVE RV PARK
COLUMBIA COUNTY, FL

SHEET NO.

C-37

04/20/2023 10:05:30 AM

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NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS LENGTH (FT.)	VERTICAL BENDS LENGTH (FT.)	VALVES LENGTH (FT.)	REDUCERS LENGTH (FT.)	SECTIONS LENGTH (FT.)
4	21	9	5	3	17
6	30	13	6	4	23
8	38	16	8	4	30
10	45	19	9	5	36
12	53	22	11	6	43
14	61	26	13	7	50
16	69	30	15	8	57
18	77	34	17	9	64
20	85	38	19	10	71
24	99	44	22	12	83
30	123	53	27	15	100
36	147	63	33	18	120
42	171	73	39	21	141
48	195	83	45	24	162

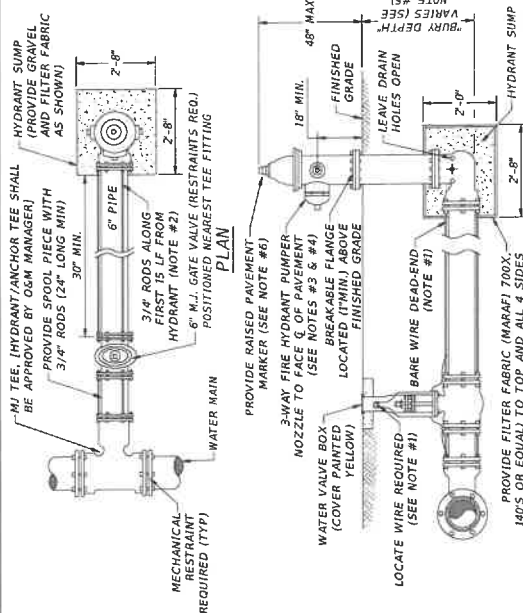
PVC PIPE RESTRAINT NOTES:

- THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER, FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
- ASSUMPTIONS: PVC PIPE, SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36" FOR 24" AND LARGER PIPE SIZE.
- BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
- VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, L4 IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL, L1 IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
- TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (R/J) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINED LENGTH ON TEE "BRANCH" LINE.
- HOPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).
- THE INSTALLATION OF BELL HARNESS RESTRAINTS AT PVC JOINTS (DR-18 & 25 PIPE) SHALL BE COMPLETED PER THE MANUFACTURER'S RECOMMENDATION, WHICH INCLUDES NOT OVER TIGHTENING THE BELL HARNESS. THE BELL HARNESS SHOULD ONLY BE SWIG TIGHT. THE HORN MARKS ON THE PIPE SHOULD ALWAYS BE VISIBLE AFTER THE RESTRAINT IS INSTALLED. OVERHONING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.

WT19 PVC PIPE RESTRAINT JOINT SCHEDULE SCALE: N.T.S

NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS LENGTH (FT.)	VERTICAL BENDS LENGTH (FT.)	VALVES LENGTH (FT.)	REDUCERS LENGTH (FT.)	SECTIONS LENGTH (FT.)
4	21	9	5	3	17
6	30	13	6	4	23
8	38	16	8	4	30
10	45	19	9	5	36
12	53	22	11	6	43
14	61	26	13	7	50
16	69	30	15	8	57
18	77	34	17	9	64
20	85	38	19	10	71
24	99	44	22	12	83
30	123	53	27	15	100
36	147	63	33	18	120
42	171	73	39	21	141
48	195	83	45	24	162

F.O. = FITTING ONLY

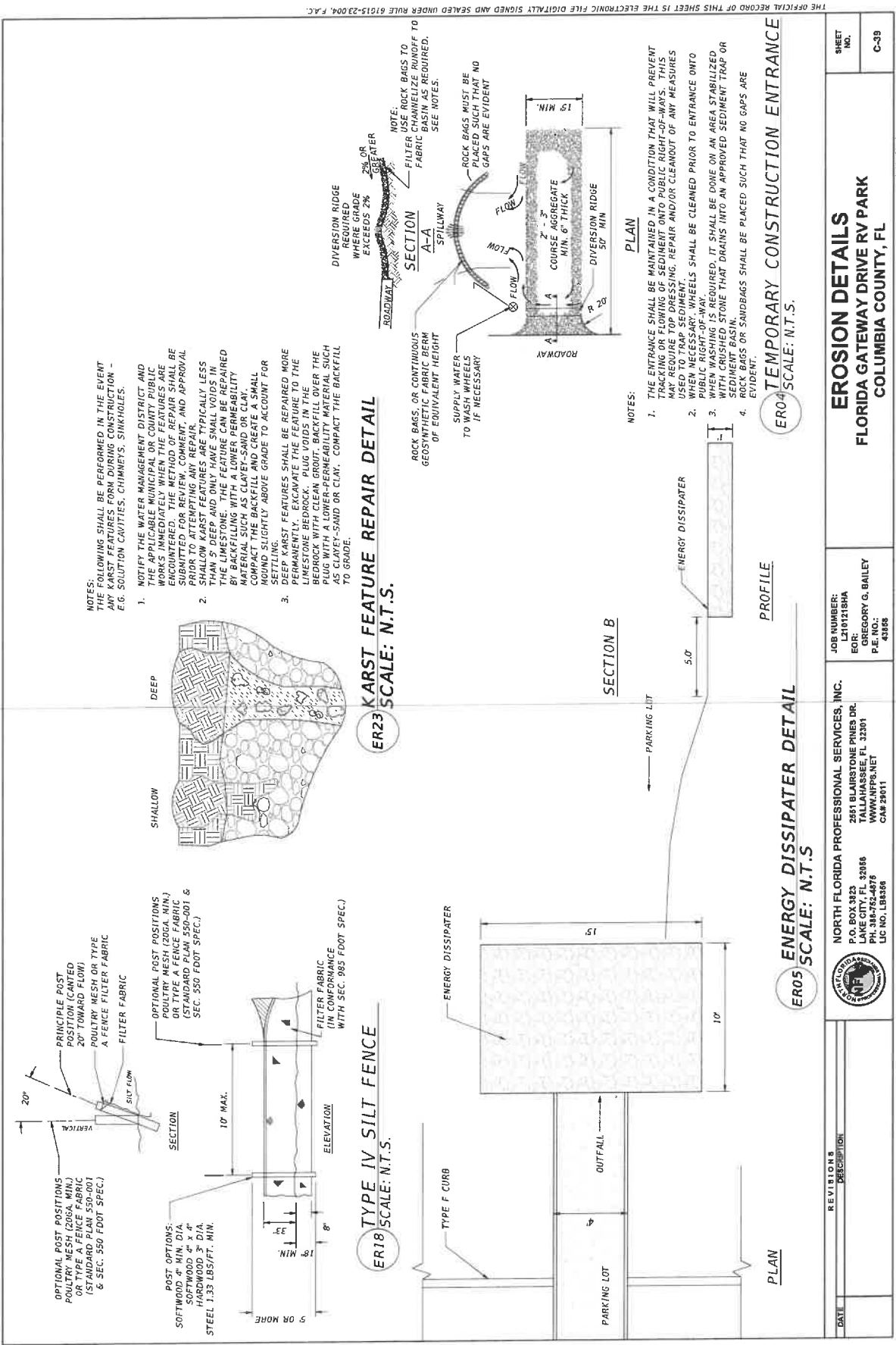


NOTES:

- LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE. THE END OF THE WIRE SHALL BE SECURED TO THE PIPE MAIN. SEE SECTION 350, LOCATE WIRE INSTALLATION PARAGRAPH.
- FIRE HYDRANTS SHALL BE INSTALLED BETWEEN BACK OF CURB AND FACE OF SIDEWALK AND NOT WITHIN SWALE/DITCH AREAS. THE DISTANCE RANGE FROM EDGE OF ADJACENT PAVEMENT, BACK OF CURB AND FACE OF SIDEWALK SHALL BE CONSIDERED. LOCAL COUNTY ENGINEERS WILL BE USED TO DETERMINE THE EXISTING CURB AND HYDRANT (I.E. THE PUMP NOZZLE). THE MAXIMUM DISTANCE (BACK OF CURB) SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY JEA. FOR OTHER LOCATION LIMITATIONS SEE PLATES W-10 AND W-11. IF PIPING BETWEEN TEE AND HYDRANT IS LOWER THAN 80 LF, AN ADDITIONAL 6" GATE VALVE IS REQUIRED AT THE HYDRANT LOCATION (PROVIDE 30" SEPARATION). ALL PIPING, VALVES AND FITTINGS ALONG THE HYDRANT BRANCH MAIN WHICH IS WITHIN 15 LF OF THE HYDRANT, SHALL BE RESTRAINED UTILIZING ONLY TWO SEPARATED RINGS WITH RESTRAINT ENDS (EBA 115 PRODS) OR RINGS USED IN THIS ASSEMBLY. ALL OTHER JOINTS ALONG THE HYDRANT BRANCH MAIN OUTSIDE OF THE FIRST 15 LF SHALL INCLUDE JOINT RESTRAINTS.
- OPERATION OF THE FIRE HYDRANT SHALL BE EITHER FULL OPEN POSITION OR TOTALLY CLOSED POSITION. THE HYDRANT SHALL NOT BE UTILIZED TO THROTTLE OUTLET FLOW.
- PRIOR TO PROJECT FINAL INSPECTION, THE HYDRANT AND ALL ABOVE GROUND PIPING SHALL BE RE-OLDED, GREASED AND REPAINTED (RUS- KIL ENAMEL-INTERMEDIATE YELLOW OR EQUAL), PRIVATELY OWNED AND MAINTAINED FIRE HYDRANTS SHALL BE PAINTED RED.
- FIRE HYDRANTS SHALL BE ORDERED WITH PROPER "BURY DEPTH" TO MEET ACTUAL FIELD CONDITIONS. THIS IS ESPECIALLY IMPORTANT FOR BRANCH LINES WHICH TEE-OFF A 12" OR LARGER WATER MAIN UNLESS APPROVED OTHERWISE. THE HYDRANT SHALL BE ORDERED WITH THE CORRECT ANGLE OF HYDRANT EXTENSIONS SHOULD BE MINIMIZED.
- BLUE REFLECTIVE MARKERS SHALL BE INSTALLED IN SUCH A MANNER THAT THE REFLECTIVE FACE OF THE MARKER IS PERPENDICULAR TO A LINE PARALLEL TO THE ROADWAY CENTERLINE. THE BLUE REFLECTIVE MARKERS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE, DIRECTLY ACROSS FROM AND ADJACENT TO EACH FIRE HYDRANT.

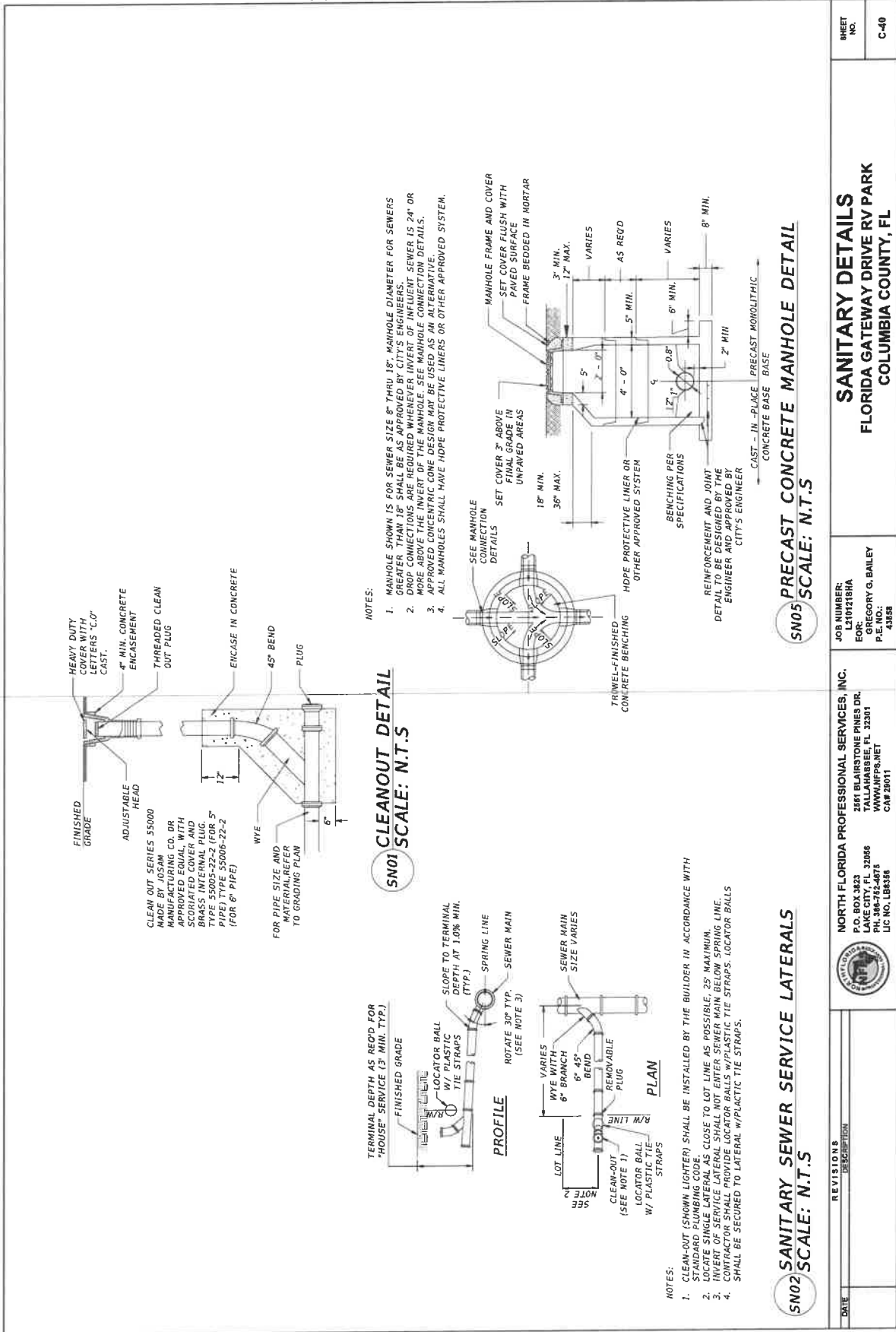
WT24 FIRE HYDRANT INSTALLATION USING MECHANICAL JOINT TEE SCALE: N.T.S

REVISIONS		JOB NUMBER: L21012181A	WATER DETAIL
DATE	DESCRIPTION		
		FOR: GREGORY G. BAILEY P.E. NO.: 43858	FLORIDA GATEWAY DRIVE RV PARK COLUMBIA COUNTY, FL
		NORTH FLORIDA PROFESSIONAL SERVICES, INC.	
		2851 BLARSTONE PINES DR. LAKE CITY, FL 32816 WWW.NFPS.NET LIC NO. LB9386	
		P.O. BOX 3823 LAKE CITY, FL 32816 PH. 386-762-4875 LIC NO. LB9386	



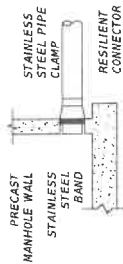
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EROSION DETAILS FLORIDA GATEWAY DRIVE RV PARK COLUMBIA COUNTY, FL		SHEET NO.	C-39
EROSION DETAILS FLORIDA GATEWAY DRIVE RV PARK COLUMBIA COUNTY, FL		JOB NUMBER:	L101115814
		DATE:	2/20/2023 10:05:21 AM
		ENGINEER:	GREGORY G. BAILEY
		P.E. NO.:	43888
		PROJECT NO.:	43888
		CONTRACT NO.:	CAF 25011
		DESIGNER:	NORTH FLORIDA PROFESSIONAL SERVICES, INC.
		DESIGNER ADDRESS:	2551 BLAIRSTONE PINES DR. LAKE CITY, FL 32816 PH. 384-752-4076 WWW.NFPS.NET
		DESIGNER LICENSE NO.:	LC NO. 188156
		DATE:	
		REVISIONS:	
		DESCRIPTION:	



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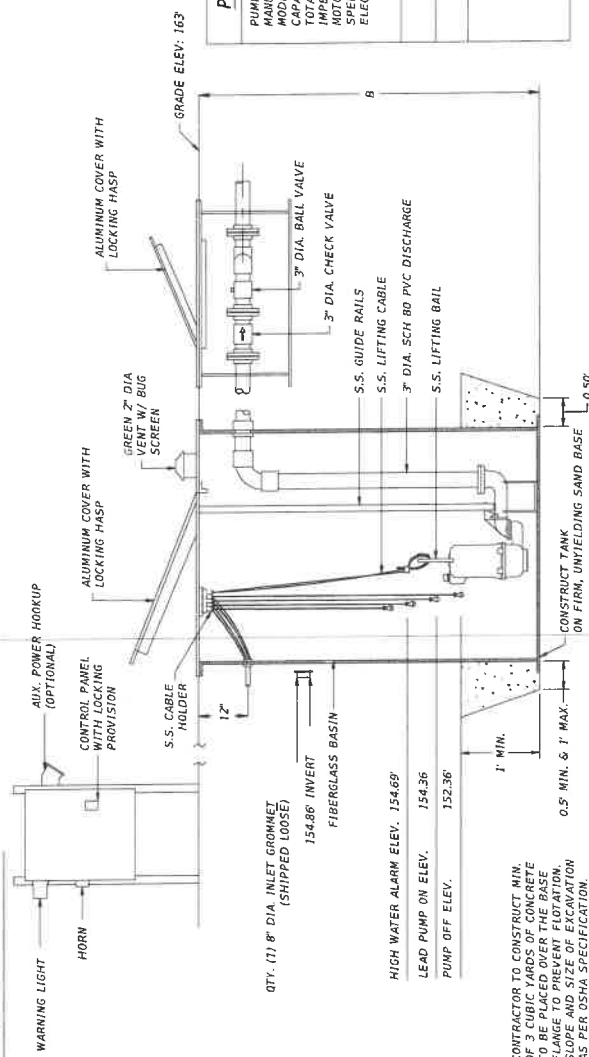
		JOB NUMBER: L31012181A		SHEET NO.
		FOR: GREGORY G. BAILEY P-E NO.: 43858		
		NORTH FLORIDA PROFESSIONAL SERVICES, INC. 2861 BLAIRSTONE PINES DR. TALLAHASSEE, FL 32301 WWW.NFPA.NET LIC. NO. LB8386 CAP 22011		C-40
		P.O. BOX 3823 LAKE CITY, FL 32066 PH. 386-765-4675 LIC. NO. LB8386		
				
REVISIONS				
DATE	DESCRIPTION			



NOTES:

1. MANHOLE SHOWN IS FOR SEWER SIZE 8" THRU 24"
2. APPROVED CONCENTRIC CONE DESIGN MAY BE USED AS AN ALTERNATIVE.
3. BOTH THE INTERIOR AND EXTERIOR SURFACES OF THE MANHOLE SHALL BE COATED WITH AN EPOXY RESIN AND NOT COAT CONCRETE WITH A POLYMER PORTLAND CEMENT OR PIPE OPENING SURFACES.
4. WHENEVER INVERT OF INFLUENT SEWER IS 24" OR MORE ABOVE THE INVERT OF THE MANHOLE, SEE DETAIL.
5. DROP PIPE AND FITTINGS SHALL BE OF SAME SIZE AND MATERIAL AS THE INFLUENT SEWER.

SN07 STANDARD MANHOLE CONNECTION DETAIL
SCALE: N.T.S.



- NOTE:**
1. CONTRACTOR TO CONSTRUCT MIN OF 3 CUBIC YARDS OF CONCRETE TO BE PLACED OVER THE BASE FLANGE TO PREVENT FLOTATION.
 2. SLOPE AND SIZE OF EXCAVATION AS PER USHA SPECIFICATION.

PUMP SPECIFICATIONS	
PUMPS REQD	2
MANUFACTURER	HOMA
MODEL NUMBER	BARRACUDA GRP 12/T
CAPACITY EACH (GPM)	45
TOTAL HEAD (FEET)	4.13'
IMPeller DIA.	1.2
MOTOR HP REQD	3450
SPEED (RPM)	2300/18/60HZ
ELECTRICAL	

TANK	
A (DIA)	48"
B (HEIGHT)	138"

SN11 FIBERGLASS LIFT STATION DETAIL
SCALE: N.T.S.

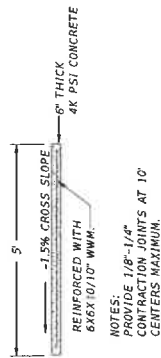
REVISIONS		DATE	DESCRIPTION
NO.	DESCRIPTION		
1			

NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 3423 LAKE CITY, FL 32068 PH. 386-752-4875 WWW.NFPS.NET LIC NO. LB8388		JOB NUMBER: L31011818A EOR: GREGORY G. BAILEY P.E. NO.: 43888	SANITARY DETAILS FLORIDA GATEWAY DRIVE RV PARK COLUMBIA COUNTY, FL	SHEET NO. C-41
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NOTE: SPIGOT SLEEVE TO BE INSTALLED AROUND BASE OF SPIGOT PIPE AND EXTEND 2' INTO THE GROUND. THE BOTTOM 1' OF THE SLEEVE SHALL BE FILLED WITH GRAVEL. THREADED PIPE CONNECTIONS SHALL BE ASSEMBLED FROM INSIDE OF THE SLEEVE AND ABOVE GRAVEL. SANITARY HOOKUP SHALL BE PLACED 3" ABOVE FINISHED GRADE WITH SPRING LOADED LOCKABLE CAP.

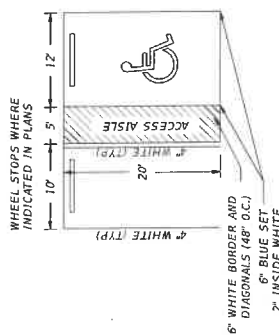
DATE	REVISIONS	DESCRIPTION	 NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 3823 LAKE CITY, FL 32086 PH. 384-762-4875 LIC NO. LB18356	JOB NUMBER: 271717618A OWNER: GREGORY G. BAILEY P.E. NO.: 43863	SANITARY DETAILS FLORIDA GATEWAY DRIVE RV PARK COLUMBIA COUNTY, FL	SHEET NO.	C-42
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MS01 SIDEWALK DETAIL "A"
SCALE: N.T.S



MS02 SIDEWALK DETAIL "B"
SCALE: N.T.S



- NOTES:
1. SIGN SHALL BE PLACED IN FRONT OF ALL WHEEL STOPS. SIGN SHALL BE 7' HIGH.
 2. 5' HANDICAPPED AISLE MAY BE PLACED ON THE RIGHT OR LEFT SIDE OF PARKING STALL.
 3. HANDICAPPED PARKING SYMBOL SHALL BE 3 OR 5 FT. HIGH. PAINT MARKINGS SHALL BE TINTED TO MATCH SHADE 15180 OF FEDERAL STANDARDS 595A.

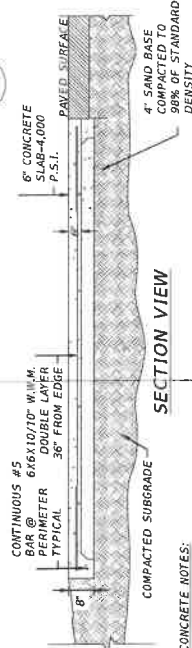
MS04 HANDICAP PARKING STALL DETAIL
SCALE: N.T.S



MS05 WHEEL STOP DETAIL
SCALE: N.T.S

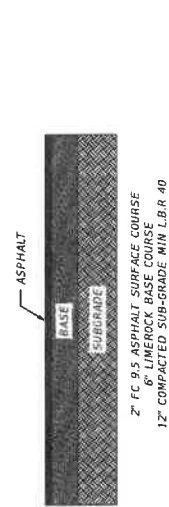


MS06 CONCRETE PAD DETAIL
SCALE: N.T.S

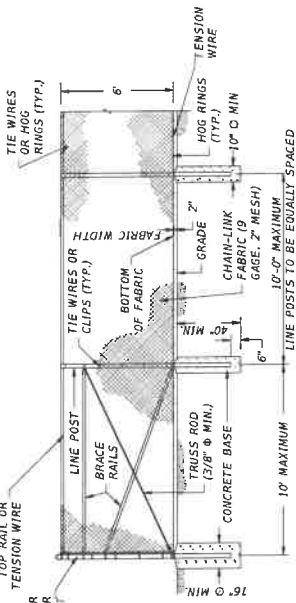


- CONCRETE NOTES:
1. THE DESIGN OF FOUNDATIONS AND SLAB-ON-GRADE IS BASED ON AN ASSUMED MINIMUM BEARING CAPACITY OF 4,000 P.S.I.
 2. THE AREA UNDER FOOTINGS, FOUNDATIONS, AND CONCRETE SLABS-ON-GRADE SHALL HAVE ALL VEGETATION, STUMPS, ROOTS, AND FOREIGN MATERIALS REMOVED PRIOR TO THEIR CONSTRUCTION. FILL MATERIAL AND BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, CONSTRUCTION DEBRIS, LARGE ROCKS, AND ANY OTHER FOREIGN MATERIAL.
 3. THE CONTRACTOR SHALL INVESTIGATE ACTUAL LOCATIONS OF UNDERGROUND LINES AND UTILITIES BEFORE ANY CONSTRUCTION OF FOUNDATIONS AND SLAB-ON-GRADE. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION.
 4. A MINIMUM CONCRETE COVER OF 3\"/>

MS06 CONCRETE PAD DETAIL
SCALE: N.T.S



MS37 STANDARD ASPHALT PAVEMENT DESIGN
SCALE: N.T.S



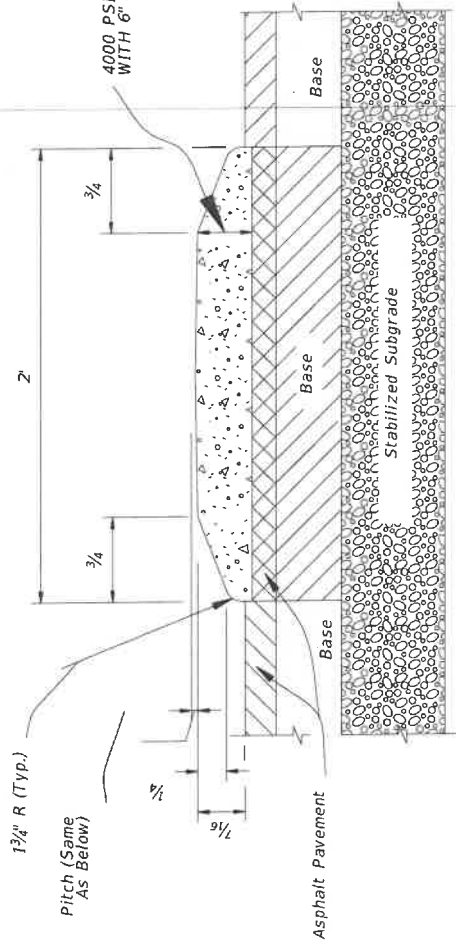
MS10 CHAIN LINK FENCE WITHOUT BARBWIRE
SCALE: N.T.S

DATE	REVISIONS	DESCRIPTION	JOB NUMBER:	DATE:	SHEET NO.
			2811 BLAIRSTONE PINES DR., TALLAHASSEE, FL 32306 WWW.NFP9.NET CAN 2811	2/20/2023 10:05:23 AM	C-43

MISC. DETAILS
FLORIDA GATEWAY DRIVE RV PARK
COLUMBIA COUNTY, FL

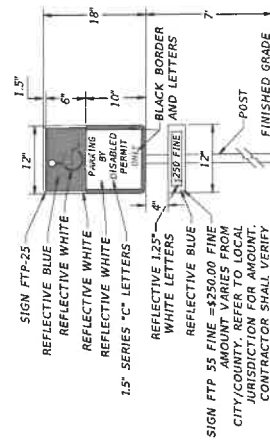
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4000 PSI CONCRETE REINFORCED
WITH 6" WWF ON TOP OF 1" SADDLES

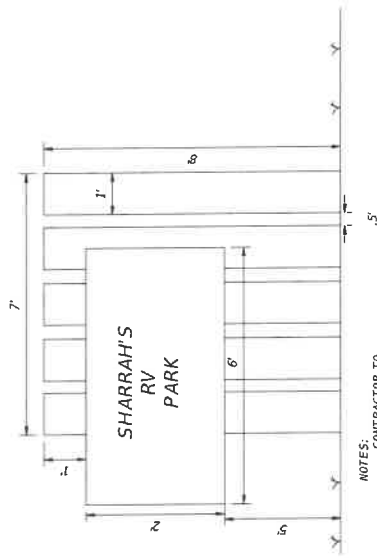


TRANSVERSE SECTION

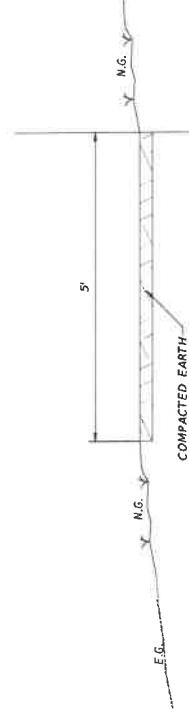
MS20
SCALE: N.T.S



MS21
SCALE: N.T.S



MS31
SCALE: N.T.S



MS25
SCALE: N.T.S

NOTES:
CONTRACTOR TO
INSTALL SIGN PER
CITY OF LAKE CITY
LAND DEVELOPMENT REGULATION

DATE	REVISIONS	DESCRIPTION	JOB NUMBER: L2011218HA EOR: GREGORY G. BAILEY P.E. NO.: 43888	MISC. DETAILS FLORIDA GATEWAY DRIVE RV PARK COLUMBIA COUNTY, FL	SHEET NO. C-44

NORTH FLORIDA PROFESSIONAL SERVICES, INC.
2851 BLAKESTONE PINES DR.
TALLAHASSEE, FL 32301
WWW.NFPS.NET
CAN 20011



DATE: 2/20/2023 10:02:23 AM
DRAWN BY: DMITRY KUTZ
X:\2021\12101218HA\CAD\Roadway\VEE\0001.dwg

EROSION CONTROL NOTES

1. THIS EROSION AND SEDIMENTATION CONTROL PLAN COMPLIES WITH THE REQUIREMENTS OF THE "FLORIDA EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL" AND THE "FLORIDA EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL".
2. THE CONTRACTOR SHALL ADHERE TO COLUMBIA COUNTY, SRWMD, AND OTHER GOVERNING AUTHORITIES FOR EROSION AND SEDIMENT CONTROL REGULATIONS. IF THE CONTRACTOR NEEDS TO CHANGE THIS PLAN TO MORE EFFECTIVELY CONTROL EROSION AND SEDIMENTATION, THE CONTRACTOR SHALL USE BMP'S FROM THE "FLORIDA EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL".
3. THE CONTRACTOR SHALL ADJUST AND REVISE THIS PLAN TO MEET ACTUAL FIELD CONDITIONS. ANY REVISIONS SHALL BE APPROVED BY THE REVIEWING AGENCIES.
4. SEDIMENT AND EROSION CONTROL FACILITIES, STORM DRAINAGE FACILITIES AND DETENTION BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
5. EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL OF 0.5 INCHES OR GREATER, AND REPAIRED OR REPLACED AS NECESSARY.
6. SEDIMENT AND EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL CONSTRUCTION IS COMPLETE AND UNTIL A PERMANENT GROUND COVER HAS BEEN ESTABLISHED.
7. ALL OPEN DRAINAGE SWALES SHALL BE GRASSED AND RIPRAP SHALL BE PLACED AS REQUIRED TO CONTROL EROSION.
8. SILT FENCES SHALL BE LOCATED ON SITE TO PREVENT SEDIMENT AND EROSION FROM LEAVING PROJECT LIMITS.
9. CONTRACTOR SHALL PLACE A DOUBLE ROW OF SILT FENCE IN AREAS WHERE RUNOFF FROM DISTURBED AREAS MAY ENTER WETLANDS.
10. DURING CONSTRUCTION AND AFTER CONSTRUCTION IS COMPLETE, ALL STRUCTURES SHALL BE CLEARED OF ALL DEBRIS AND EXCESS SEDIMENT.
11. ALL GRADED AREAS SHALL BE STABILIZED IMMEDIATELY WITH A TEMPORARY FAST-GROWING COVER AND/OR MULCH.
12. A PAD OF RUBBLE RIP RAP SHALL BE PLACED AT THE BOTTOM OF ALL COLLECTION TRENCHES. ALL TRENCHES SHALL BE COVERED WITH GRANITE OR LIMESTONE RIPRAP IS REQUIRED. NO BROKEN CONCRETE WILL BE ACCEPTED.
13. ALL SIDE SLOPES STEEPER THAN 3:1 SHALL BE ADEQUATELY PROTECTED FROM EROSION THROUGH THE USE OF SYNTHETIC BALES OR SODDING.
14. ALL STABILIZATION PRACTICES SHALL BE INITIATED AS SOON AS PRACTICABLE IN AREAS OF THE JOB WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY STOPPED, BUT IN NO CASE SHALL THE DISTURBED AREA BE LEFT UNPROTECTED FOR MORE THAN SEVEN DAYS.
15. ALL WASTE GENERATED ON THE PROJECT SHALL BE DISPOSED OF BY THE CONTRACTOR IN AREAS PROVIDED BY CONTRACTOR.
16. LOADED HAUL TRUCKS SHALL BE COVERED WITH TARPS.
17. EXCESS DIRT SHALL BE REMOVED DAILY.
18. THIS PROJECT SHALL COMPLY WITH ALL WATER QUALITY STANDARDS. PERMIT REQUIRED FROM SRWMD HAS BEEN OBTAINED.
19. QUALIFIED PERSONNEL SHALL INSPECT THE AREA USED FOR STORAGE OF STOCKPILES, THE SILT FENCE AND STRAW BALES. THE LOCATION WHERE VEHICLES ENTER OR EXIT THE SITE, AND THE DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED, AT LEAST 0.5 INCHES OR GREATER.
20. SITES THAT HAVE BEEN FINALLY STABILIZED WITH SOD OR GRASSING SHALL BE INSPECTED AT LEAST ONCE EVERY WEEK.

REVISIONS

DATE	DESCRIPTION
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NORTH FLORIDA PROFESSIONAL SERVICES, INC.
P.O. BOX 3923
LAKE CITY, FL 32086
PH. 386-762-4876
WWW.NFPS.NET
LIC NO. 1B8308
CAN 28611

JOB NUMBER:
EOR: 101216HA
FOR: GREGORY G. BAILEY
P.E. NO.: 43868

EROSION NOTES
FLORIDA GATEWAY DRIVE RV PARK
LAKE CITY, FL

SHEET
NO.

C-46

2/28/2022 10:05:23 AM

Oliver Kertz

A:\2021\121017\SHAW-PCAD\Roadway\NET\50007.dwg

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LEGEND

CNF=CONCRETE MONUMENT FOUND
SEC=SECTION
IP=IRON PIPE FOUND
LND=LOCAL LAND SURVEYOR
COR=CORNER
P.S.=PROFESSIONAL SURVEYOR & MAPPER
NE=NORTHEAST
NW=NORTHWEST
SE=SOUTHEAST
SW=SOUTHWEST
C=CENTER LINE
S=SECTION
T=TRACT
E=EAST
W=WEST
S.E.=SOUTHEAST
L.B.=LICENSED BUSINESS
P.O.B.=POINT OF BEGINNING
RICHMOND RESURFACING CORPORATION
IRF=IRON REBAR FOUND

N.S. Combass, P.S.M.
Florida Reg. No. 4093
DATE: ____/____/2021

DATE: 08/01/2021	SHEET NO.	1
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X:\2021\L210121SHA\H.CADD\Survey\SURVRD01.dwg 5-7 SURVEY

Dalton Kurtz

NORTH FLORIDA PROFESSIONAL SERVICES, INC.
P.O. BOX 3823
LAKE CITY, FL 32056
PH. 386-752-4675
LIC NO. LB8356

JOB NO. L270427CRA
CA# 29011

2551 BLAIRSTONE PINES DR.
TALLAHASSEE, FL 32301
WWW.NFPS.NET

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION



NFPS



PO BOX 3823
LAKE CITY, FL 32056

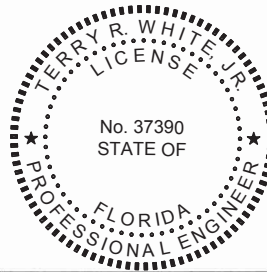


PHONE (386) 752-4675
FAX (386) 752-4674



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RV PARK SOUTH POND ENGINEERING REPORT FORT WHITE FLORIDA



Terry R. White, Jr., P.E.
Florida Registration No. 37390
December 1, 2022

Terry Robinson White, Jr, P.E., State of Florida, Professional Engineer, License No. 37390
This item has been digitally signed and sealed by TerryR. White, Jr. on the date indicated here.
Printed copies of this document are not considered signed and sealed and the signature must be
verified on any electronic copies.

Dalton Kurtz
Project Manager
December 1, 2022



PROJECT DESCRIPTION

Existing Conditions (see Figure 1)

The existing site consists of the property which totals 8.5 acres on parcel 02-4S-16-02714-014. The site has been divided into two basins; this report covers the Southwest side (referred to as the South basin/pond). The site's current status is a cattle pasture. To streamline the review process, this Engineering report is for the **SOUTH POND**. The overall design will be referenced in this report however each pond will have its own engineering report.

Proposed Conditions (see Figure 2)

As follows are design summaries for the area impacted.

- **Pre-development South Basin**
 - Drainage Basin Area= 7.04 ac
 - Total Impervious Area=0.0 ac
 - Open Area=7.04 ac
 - Composite Curve Number= 80
 - Composite Runoff Number=.15
 - Time of Concentration=12.3 Minutes
 - Kh= 13.65
 - Kv= 6.05
 - Fillable Porosity=25%
- **Post-development Pond 1**
 - Basin Area = 7.04 acres
 - Total Impervious Area (Not including pond) = .832 acres
 - Total Semi Impervious Area=1.32
 - Open Area =3.26 acres
 - Composite Curve Number= 89
 - Composite Runoff Number=.55
 - Time of Concentration=6.8 Minutes
 - Kh=13.65
 - Kv=6.05
 - Fillable Porosity=25%
 - Dry Pond = 1.622 acres
 - Discharge Structure = One 4.5' wide concrete overflow weir with an invert elevation at 162.5 feet NAVD.
 - Top of Pond = 164 feet NAVD
 - Water Table=157.59 feet NAVD
 - Bottom of Pond = 158.59 feet NAVD
 - Maximum Stage (72HR 100 YR) = 162.93 feet NAVD



Basin area was determined utilizing the proposed project layout and stormwater analysis tools in C3D 2022. Ponds V3.3 software was used to model the dry pond. See summary tables on the following pages and supporting documentation on the proceeding pages for additional information with regards to modeling.

Overall Basin Size

Basin	Pre-Condition	Post- Condition	Total Impervious	Total Semi-Imperv.
North Pond	1.46	1.46	0.24	0.192
South Pond	7.04	7.04	0.832	1.326
Total	8.5	8.5	1.072	1.518

Overall Basin Discharges

COMPARISON OF PRE Vs. POST DISCHARGE RATES TOTAL BASIN							
PRE-DEVELOPMENT	PEAK DISCHARGE (CFS)	PEAK VOLUME (CUFT)	POST-DEVELOPMENT	PEAK DISCHARGE (CFS)	PEAK VOLUME (CUFT)	POST-PRE DISCHARGE (CFS)	POST-PRE VOLUME (CUFT)
FDOT 1HR 100YR	44.62	124696	1HR 100YR	0	0	-44.62	-124696
FDOT 2HR 100YR	37.18	168306	2HR 100YR	0	0	-37.18	-168306
FDOT 4HR 100YR	20.46	217619	4HR 100YR	0	0	-20.46	-217619
FDOT 8HR 100YR	22.7	283931	8HR 100YR	0.27	2802	-22.43	-281129
FDOT 24HR 100YR	7.4	416086	24HR 100YR	3.38	110211	-4.02	-305875
FDOT 72HR 100YR	5.05	555357	72HR 100YR	4.63	219820	-0.42	-335537
FDOT 168HR 100YR	3.44	643263	168HR 100YR	3.37	291968	-0.07	-351295
FDOT 240HR 100YR	4.61	759297	240HR 100YR	4.53	391818	-0.08	-367479
			2" OVER AREA	0	0	0	0

ESHGWT, Kh & Kv DETERMINATION

South basin ESHGWT, Kh & Kv values were taken from an average of the boreholes B1&B3 from the geotechnical reports performed on January 10th, 2022 and June 16th, 2022. In designing the site, it was determined that we would need additional borings on the South side of the site, however the design shifted to a two-pond site after this had been performed. The ESHGWT for the North was determined based on an average of B1&B3 ESHGWT table height while Kh & Kv were taken directly from B3 as they are the more conservative values. B2 is located in the North Pond location but did not have a percolation test performed; indicated water table is 3' below grade. It is in our sound Engineering judgement that the soil across this site is homogeneous enough to support these claims.

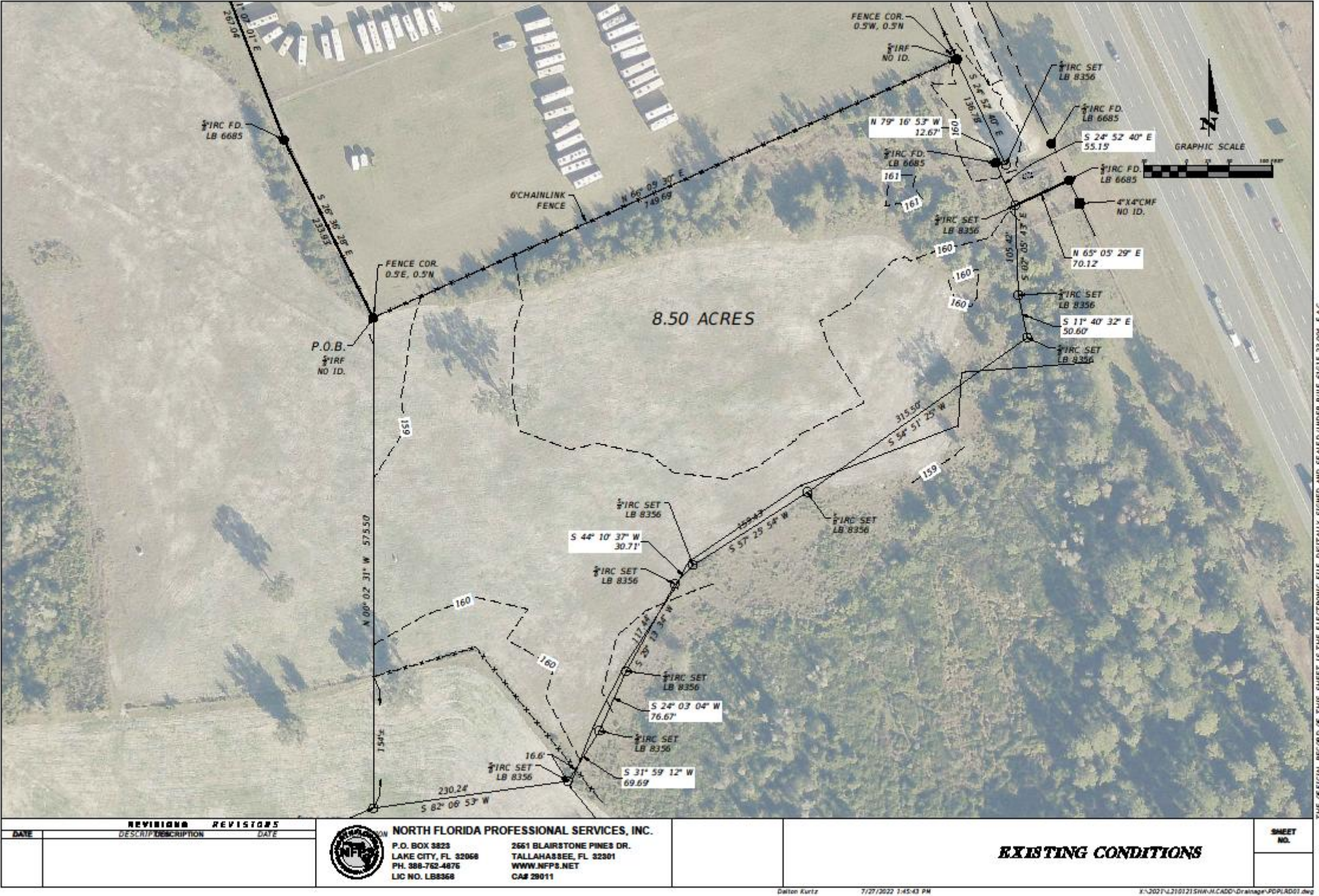


FIGURE 1

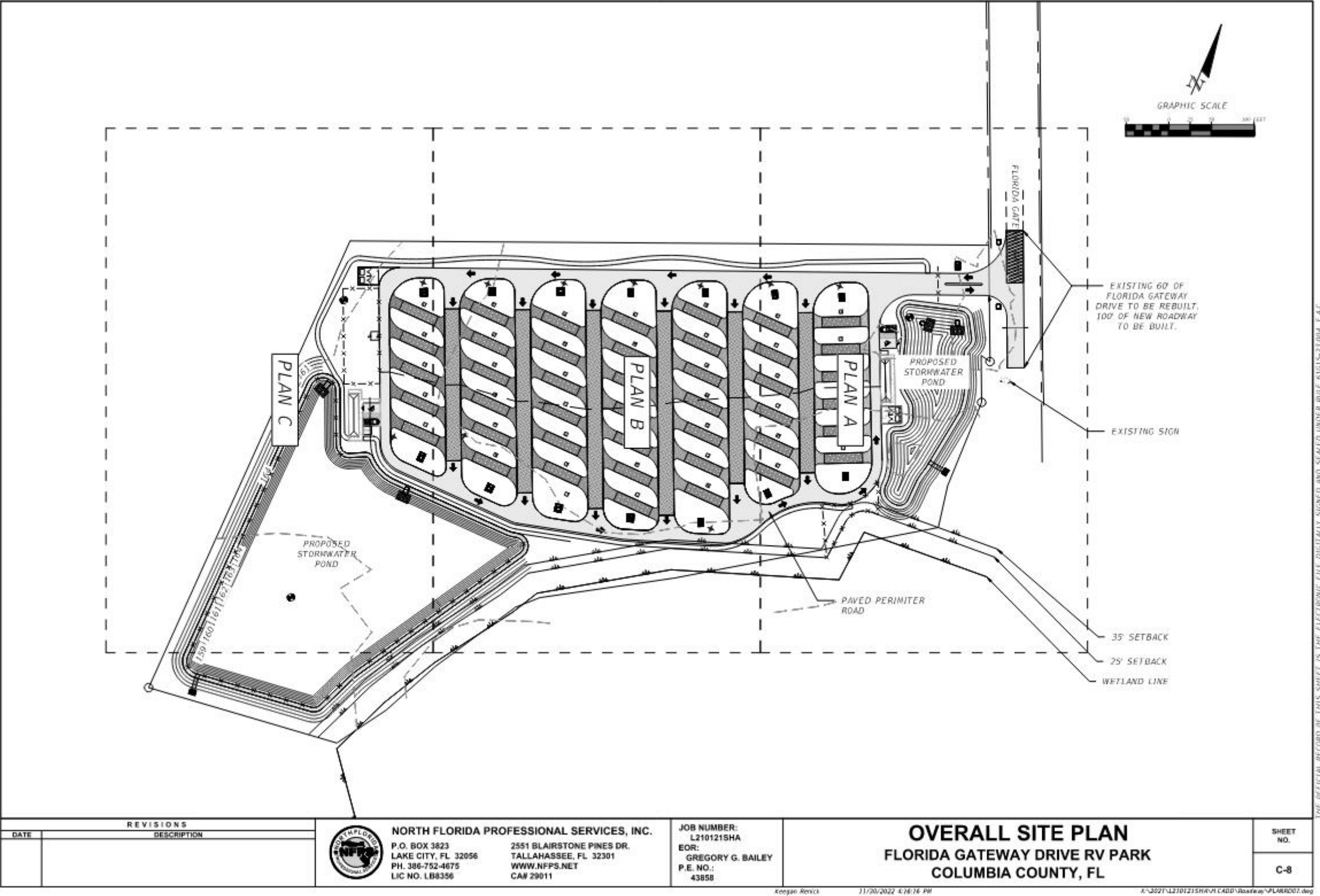


FIGURE 2



TABLE 1. PRE VS. POST DISCHARGE AND MAX STAGE/FREEBOARD

COMPARISON OF PRE Vs. POST DISCHARGE RATES						MAX STAGE & FREEBOARD				
PRE- DEVELOPMENT	PEAK DISCHARGE (CFS)	PEAK VOLUME (CUFT)	POST- DEVELOPMENT	PEAK DISCHARGE (CFS)	PEAK VOLUME (CUFT)	POST-PRE DISCHARGE (CFS)	POST-PRE VOLUME (CUFT)	MAX STAGE (FT)	FREE BOARD (FT)	TOP OF POND
FDOT 1HR 100YR	37.04	113069	1HR 100YR	0	0	-37.04	-113069	160.41	3.59	164
FDOT 2HR 100YR	30.85	152612	2HR 100YR	0	0	-30.85	-152612	161.01	2.99	164
FDOT 4HR 100YR	16.98	197327	4HR 100YR	0	0	-16.98	-197327	161.65	2.35	164
FDOT 8HR 100YR	18.83	257456	8HR 100YR	0	0	-18.83	-257456	162.44	1.56	164
FDOT 24HR 100YR	6.14	377287	24HR 100YR	2.92	96741	-3.22	-280546	162.85	1.15	164
FDOT 72HR 100YR	4.19	503572	72HR 100YR	3.98	196622	-0.21	-306950	162.93	1.07	164
FDOT 168HR 100YR	2.85	583281	168HR 100YR	2.83	264430	-0.02	-318851	162.84	1.16	164
FDOT 240HR 100YR	3.83	688495	240HR 100YR	3.83	356439	0	-332056	162.92	1.08	164
			2" OVER AREA	0	0	0	0	159.1	4.9	164

DRAINAGE RETENTION AREA STAGE STORAGE		
ELEVATION	AREA (SF)	VOLUME (CF)
164	70640	7618
163.59	69364	7480
162.59	66493	7170
161.59	63622	6860
160.59	60432	6515
159.59	57561	6205
158.59	54690	0



NFPS



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PROJECT CALCULATIONS AND DATA



PRE-DEVELOPED SCS RUNOFF CURVE NUMBERS

Land Use Description	Hydrologic Soil Group	Area (Acres)	Curve Number
VACANT LOT/PASTURE	D	7.040	80
	Composite Curve Number		80

Drainage Area (acres) 7.04

POST-DEVELOPED SCS RUNOFF CURVE NUMBERS

Land Use Description	Hydrologic Soil Group	Area (Acres)	Curve Number
BUILDINGS	D	0.258	98
PERIMETER ROAD	D	0.574	98
POND	D	1.622	100
GRAVEL ROADS	D	0.518	91
GRAVEL RV SPACES	D	0.458	91
DIRT APPROACH PADS	D	0.350	89
GREEN/OPEN SPACES	D	3.260	80
	Composite Curve Number		89

Drainage Area (acres) 7.04



Table T-7
SCS Runoff Curve Numbers for Selected Agricultural, Suburban, and Urban Land Use

Land Use Description	Hydrologic Soil Group			
	A	B	C	D
Cultivated Land ^a :				
Without conservation treatment	72	81	88	91
With conservation treatment	62	71	78	81
Pasture or range land:				
Poor condition	68	79	86	89
Good condition	39	61	74	80
Meadow: good condition	30	58	71	78
Wood or Forest Land:				
Thin stand, poor cover, no mulch	45	66	77	83
Good cover ^b	25	55	70	77
Open Spaces, Lawns, Parks, Golf Courses, Cemeteries:				
Good condition: grass cover on 75% or more of the area	39	61	74	80
Fair condition: grass cover on 50% to 75% of the area	49	69	79	84
Poor condition: grass cover on 50% or less of the area	68	79	86	89
Commercial and Business Areas (85% impervious)	89	92	94	95
Industrial Districts (72% impervious)	81	88	91	93
Residential ^c				
Average lot size Average % Impervious ^d				
1/8 acre or less 65	77	85	90	92
1/4 acre 38	61	75	83	87
1/3 acre 30	57	72	81	86
1/2 acre 25	54	70	80	85
1 acre 20	51	68	79	84
Paved Parking Lots, Roofs, Driveways ^e :	98	98	98	98
Streets and Roads:				
Paved with curbs and storm sewers ^e	98	98	98	98
Gravel	76	85	89	91
Dirt	72	82	87	89
Paved with open ditches	83	89	92	93
Newly graded area (no vegetation established) ^f	77	86	91	94

^a For a more detailed description of agricultural land use curve numbers, refer to Table T-8.

^b Good cover is protected from grazing and litter and brush cover soil.

^c Curve numbers are computed assuming the runoff from the house and driveway is directed toward the street with a minimum of roof water directed to lawns where additional infiltration could occur. Depends on depth and degree of permeability of underlying strata.

^d The remaining pervious areas (lawn) are considered to be in good pasture condition for these curve numbers.

^e In some warmer climates of the country, a curve number of 96 may be used.

^f Use for temporary conditions during grading and construction.

Note: These values are for Antecedent Moisture Condition II, and $I_a = 0.2S$.

Reference: USDA, SCS, TR-55 (1984).



Table T-8
SCS Runoff Curve Numbers For Agricultural Use

Land Use	Treatment or Practice	Hydrologic Condition	Hydrologic Soil Group			
			A	B	C	D
Fallow	Straight row	----	77	86	91	94
Row Crops	Straight row	Poor	72	81	88	91
	Straight row	Good	67	78	85	89
	Contoured	Poor	70	79	84	88
	Contoured	Good	65	75	82	86
	Contoured and terraced	Poor	66	74	80	82
	Contoured and terraced	Good	62	71	78	81
Small grain	Straight row	Poor	65	76	84	88
	Straight row	Good	63	75	83	87
	Contoured	Poor	63	74	82	85
	Contoured	Good	61	73	81	84
	Contoured	Good	55	69	78	83
	Contoured and terraced	Poor	61	72	79	82
Close seeded legumes ^a or rotation meadow	Contoured and terraced	Good	59	70	78	81
	Straight row	Poor	66	77	85	89
	Straight row	Good	58	72	81	85
	Contoured	Poor	64	75	83	85
	Contoured	Good	55	69	78	83
	Contoured and terraced	Poor	63	73	80	83
Pasture or range	Contoured and terraced	Good	51	67	76	80
		Poor	68	79	86	89
		Fair	49	69	79	84
		Good	39	61	74	80
	Contoured	Poor	47	67	81	88
	Contoured	Fair	25	59	75	83
Meadow	Contoured	Good	6	35	70	79
		Good	30	58	71	78
		Poor	45	66	77	83
Woods		Fair	36	60	73	79
		Good	25	55	70	77
		Good	25	55	70	77
Farmsteads		----	59	74	82	86
Road (dirt) ^b		----	72	82	87	89
(hard surface) ^b		----	74	84	90	92

^a Closed-drilled or broadcast.

^b Including right-of-way.

Note: These values are for Antecedent Moisture Condition II, and $I_s = 0.25$.

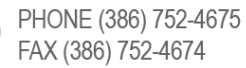
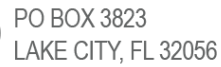
Reference: USDA, SCS, NEH-4 (1972).



Table T-9
SCS Classifications Of Vegetative Covers By Their
Hydrologic Properties

<u>Vegetative Cover</u>		<u>Hydrologic Condition</u>
Crop rotation	Poor:	Contains a high proportion of row crops, small grain, and fallow.
	Good:	Contains a high proportion of alfalfa and grasses.
Native pasture or range	Poor:	Heavily grazed or having plant cover on less range than 50% of the area.
	Fair:	Moderately grazed; 50 - 75% plant cover.
	Good:	Lightly grazed; more than 75% plant cover.
	Permanent Meadow:	100% plant cover.
Woodlands	Poor:	Heavily grazed or regularly burned so that litter, small trees, and brush are destroyed.
	Fair:	Grazed but not burned; there may be some litter.
	Good:	Protected from grazing so that litter and shrubs cover the soil.

Reference: USDA, SCS, NEH-4 (1972).



Land Use Description	Slope	Area (Acres)	Coefficient
VACANT LOT/PASTURE	0.02	7.040	0.15
	Composite Runoff Coefficient		0.15

POST-DEVELOPED RATIONAL RUNOFF COEFFICIENTS

Land Use Description	Slope	Area (Acres)	Coefficient
BUILDINGS	D	0.258	0.95
PERIMETER ROAD	D	0.574	0.95
POND	D	1.622	1.00
GRAVEL ROADS	D	0.518	0.75
GRAVEL RV SPACES	D	0.458	0.75
DIRT APPROACH PADS	D	0.350	0.75
GREEN/OPEN SPACES	D	3.260	0.15
	Composite Runoff Coefficient		0.55

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Table T-4
Runoff Coefficients For A Design Storm Return
Period Of 10 Years Or Less^a

Slope	Land Use	Sandy Soils		Clay Soils	
		Min.	Max.	Min.	Max.
Flat (0-2%)	Woodlands	0.10	0.15	0.15	0.20
	Pasture, grass, and farmland ^b	0.15	0.20	0.20	0.25
	Bare Earth	0.30	0.50	0.50	0.60
	Rooftops and pavement	0.95	0.95	0.95	0.95
	Pervious pavements ^c	0.75	0.95	0.90	0.95
	SFR: 1/2-acre lots and larger	0.30	0.35	0.35	0.45
	Smaller lots	0.35	0.45	0.40	0.50
	Duplexes	0.35	0.45	0.40	0.50
	MFR: Apartments, townhouses, and condominiums	0.45	0.60	0.50	0.70
	Commercial and Industrial	0.50	0.95	0.50	0.95
Rolling (2-7%)	Woodlands	0.15	0.20	0.20	0.25
	Pasture, grass, and farmland ^b	0.20	0.25	0.25	0.30
	Bare Earth	0.40	0.60	0.60	0.70
	Rooftops and pavement	0.95	0.95	0.95	0.95
	Pervious pavements ^c	0.80	0.95	0.90	0.95
	SFR: 1/2-acre lots and larger	0.35	0.50	0.40	0.55
	Smaller lots	0.40	0.55	0.45	0.60
	Duplexes	0.40	0.55	0.45	0.60
	MFR: Apartments, townhouses, and condominiums	0.50	0.70	0.60	0.80
	Commercial and Industrial	0.50	0.95	0.50	0.95
Steep (7%+)	Woodlands	0.20	0.25	0.25	0.30
	Pasture, grass, and farmland ^b	0.25	0.35	0.30	0.40
	Bare Earth	0.50	0.70	0.70	0.80
	Rooftops and pavement	0.95	0.95	0.95	0.95
	Pervious pavements ^c	0.85	0.95	0.90	0.95
	SFR: 1/2-acre lots and larger	0.40	0.55	0.50	0.65
	Smaller lots	0.45	0.60	0.55	0.70
	Duplexes	0.45	0.60	0.55	0.70
	MFR: Apartments, townhouses, and condominiums	0.60	0.75	0.65	0.85
	Commercial and Industrial	0.60	0.95	0.65	0.95

^a Weighted coefficient based on percentage of impervious surfaces and green areas must be selected for each site.

^b Coefficients assume good ground cover and conservation treatment.

^c Depends on depth and degree of permeability of underlying strata.

Note: SFR = Single Family Residential
MFR = Multi-Family Residential

Pre-Developed Time of Concentration

Overland Flow

$$T_t = \frac{0.007(n\ell)^{0.8}}{(P_2)^{0.5} S^{0.4}} \quad (\text{eq. 15-8})$$

where:

T_t = travel time, h

n = Manning's roughness coefficient (table 15-1)

ℓ = sheet flow length, ft

P_2 = 2-year, 24-hour rainfall, in

S = slope of land surface, ft/ft

$t_1 =$	8.3	minutes
$n =$	0.15	
$\ell =$	94	feet
$P_2 =$	4.1	inches
$S =$	0.02	ft/ft

$$\ell = \frac{100\sqrt{S}}{n} \quad (\text{eq. 15-9})$$

Shallow Channel Flow

See Figure 15-4

For slopes less than 0.005
ft/ft, use Table 15-3

$t_2 =$	4.1	minutes
$L =$	240	feet
$V =$	0.98	ft/sec
$S =$	0.02	ft/ft
$k =$	6.962	

Main Channel Flow

$$V = \frac{1.486}{n} R^{0.67} S^{0.5}$$

$t_3 =$	0.0	minutes
$L =$	0	feet
$V =$	0.00	ft/sec
$n =$	0.00	
$R =$	0.00	feet
$A =$	0.00	sq. ft.
$P =$	0.00	feet
$S =$	0.00	ft/ft
$BW =$	0.00	feet
$SS1 =$	0.00	:1
$SS2 =$	0.00	:1
$D =$	0.00	feet

Where:

- $V =$ Velocity in feet per second
- $n =$ Manning's n value from Table T-3
- $R =$ Hydraulic Radius (A/P)
- $A =$ Cross sectional flow area in square feet
- $P =$ Wetted perimeter in feet
- $S =$ Slope in ft/ft
- $BW =$ Channel bottom width
- $SS1 =$ Side slope left in x:1
- $SS2 =$ Side slope right in x:1
- $D =$ Flow depth in feet

$$T_c = t_1 + t_2 + t_3 = 12.3 \text{ minutes}$$

Table T-1
Overland Flow Manning's n Values

	<u>Value</u>	<u>Recommended Range of Values</u>
Concrete	0.011	0.010 -0.013
Asphalt	0.012	0.010 -0.015
Bare sand ^a	0.010	0.010 -0.016
Graveled surface ^a	0.012	0.012 -0.030
Bare clay-loam (eroded) ^a	0.012	0.012 -0.033
Fallow (no residue) ^b	0.05	0.006 -0.16
Chisel plow (<1/4 tons/acre residue)	0.07	0.006 -0.17
Chisel plow (1/4 - 1 tons/acre residue)	0.18	0.070 -0.34
Chisel plow (1 - 3 tons/acre residue)	0.30	0.190 -0.47
Chisel plow (>3 tons/acre residue)	0.40	0.340 -0.46
Disk/Harrow (<1/4 tons/acre residue)	0.08	0.008 -0.41
Disk/Harrow (1/4 - 1 tons/acre residue)	0.16	0.100 -0.25
Disk/Harrow (1 - 3 tons/acre residue)	0.25	0.140 -0.53
Disk/Harrow (>3 tons/acre residue)	0.30	— —
No till (<1/4 tons/acre residue)	0.04	0.030 -0.07
No till (1/4 - 1 tons/acre residue)	0.07	0.010 -0.13
No till (1 - 3 tons/acre residue)	0.30	0.160 -0.47
Plow (Fall)	0.06	0.020 -0.10
Coulter	0.10	0.050 -0.13
Range (natural)	0.13	0.010 -0.32
Range (clipped)	0.08	0.020 -0.24
Grass (bluegrass sod)	0.45	0.390 -0.63
Short grass prairie ^a	0.15	0.100 -0.20
Dense grass ^c	0.24	0.170 -0.30
Bermuda grass ^c	0.41	0.300 -0.48
Woods	0.45	— —

All values are from Engman (1983), unless noted otherwise.

^aWoolhiser (1975).

^bFallow has been idle for one year and is fairly smooth.

^cPalmer (1946). Weeping love grass, bluegrass, buffalo grass, blue gamma grass, native grass mix (OK), alfalfa, lespedeza.

Note: These values were determined specifically for overland flow conditions and are not appropriate for conventional open channel flow calculations. See the open channel handbook for open channel flow procedures.

Figure 15-4 Velocity versus slope for shallow concentrated flow

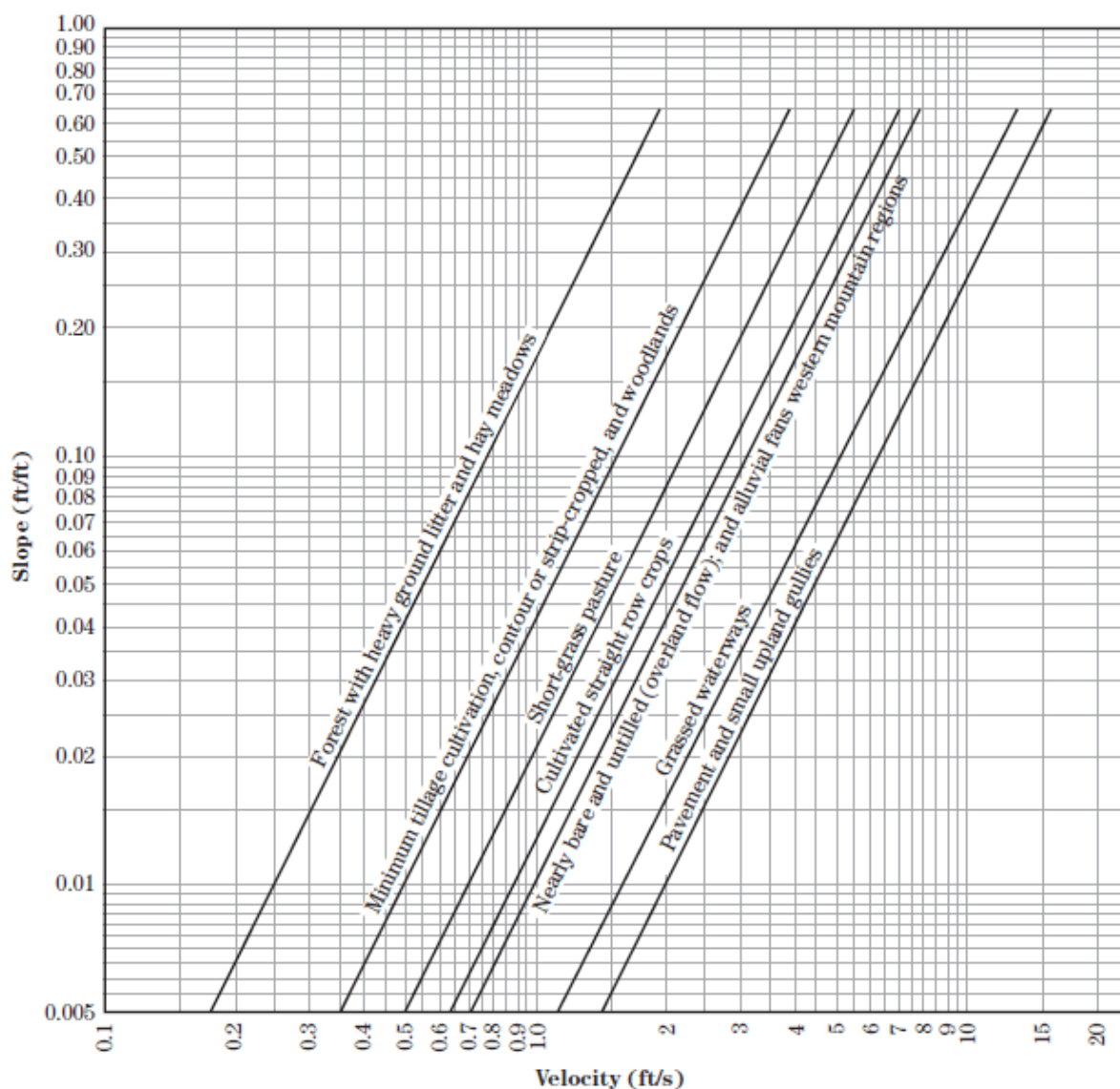


Table 15-3 Equations and assumptions developed from figure 15-4

Flow type	Depth (ft)	Manning's <i>n</i>	Velocity equation (ft/s)
Pavement and small upland gullies	0.2	0.025	$V = 20.328(s)^{0.5}$
Grassed waterways	0.4	0.050	$V = 16.135(s)^{0.5}$
Nearly bare and untilled (overland flow); and alluvial fans in western mountain regions	0.2	0.051	$V = 9.965(s)^{0.5}$
Cultivated straight row crops	0.2	0.058	$V = 8.762(s)^{0.5}$
Short-grass pasture	0.2	0.073	$V = 6.962(s)^{0.5}$
Minimum tillage cultivation, contour or strip-cropped, and woodlands	0.2	0.101	$V = 5.032(s)^{0.5}$
Forest with heavy ground litter and hay meadows	0.2	0.202	$V = 2.516(s)^{0.5}$



Table T-3
Recommended Manning's n Values for Artificial
Channels with Various Linings

<u>Channel Lining</u>	<u>Lining Description</u>	<u>Design Manning's n Value</u>
<u>Bare Earth or Vegetative Linings</u>		
Bare earth, fairly uniform	Clean, recently completed	0.022
Bare earth, fairly uniform	Short grass and some weeds	0.028
Dragline excavated	No vegetation	0.030
Dragline excavated	Light brush	0.040
Channels not maintained	Dense weeds to flow depth	0.100
Channels not maintained	Clear bottom, brush sides	0.080
Maintained grass or sodded ditches	Good stand, well maintained 2" - 6"	0.060*
Maintained grass or sodded ditches	Fair stand, length 12" - 24"	0.200*
<u>Rigid Linings</u>		
Concrete paved	Broomed**	0.016
Concrete paved	"Roughened" - standard	0.020
Concrete paved	Guniting	0.020
Concrete paved	Over rubble	0.023
Asphalt concrete	Smooth	0.013
Asphalt concrete	Rough	0.016

* Decrease 30% for flows > 0.7' (maximum flow depth 1.5').

** Because this is not the standard finish, it must be specified.

Post-Developed Time of Concentration

Overland Flow

$$T_t = \frac{0.007(n\ell)^{0.8}}{(P_2)^{0.5} S^{0.4}} \quad (\text{eq. 15-8})$$

where:

T_t = travel time, h

n = Manning's roughness coefficient (table 15-1)

ℓ = sheet flow length, ft

P_2 = 2-year, 24-hour rainfall, in

S = slope of land surface, ft/ft

$t_1 =$	2.5	minutes
$n =$	0.012	
$\ell =$	260	feet
$P_2 =$	4.1	inches
$S =$	0.02	ft/ft

$$\ell = \frac{100\sqrt{S}}{n} \quad (\text{eq. 15-9})$$

Shallow Channel Flow

See Figure 15-4

For slopes less than 0.005
ft/ft, use Table 15-3

$t_2 =$	4.4	minutes
$L =$	600	feet
$V =$	2.28	ft/sec
$S =$	0.02	ft/ft
$k =$	16.135	

Main Channel Flow

$$V = \frac{1.486}{n} R^{0.67} S^{0.5}$$

$t_3 =$	0.0	minutes
$L =$		feet
$V =$	#DIV/0!	ft/sec
$n =$		
$R =$	#DIV/0!	feet
$A =$	0.00	sq. ft.
$P =$	0.00	feet
$S =$		ft/ft
$BW =$		feet
$SS1 =$		:1
$SS2 =$		:1
$D =$		feet

Where:

- $V =$ Velocity in feet per second
- $n =$ Manning's n value from Table T-3
- $R =$ Hydraulic Radius (A/P)
- $A =$ Cross sectional flow area in square feet
- $P =$ Wetted perimeter in feet
- $S =$ Slope in ft/ft
- $BW =$ Channel bottom width
- $SS1 =$ Side slope left in x:1
- $SS2 =$ Side slope right in x:1
- $D =$ Flow depth in feet

$$T_c = t_1 + t_2 + t_3 = 6.8 \text{ minutes}$$



Table T-1
Overland Flow Manning's n Values

	<u>Value</u>	<u>Recommended Range of Values</u>
Concrete	0.011	0.010 -0.013
Asphalt	0.012	0.010 -0.015
Bare sand ^a	0.010	0.010 -0.016
Graveled surface ^a	0.012	0.012 -0.030
Bare clay-loam (eroded) ^a	0.012	0.012 -0.033
Fallow (no residue) ^b	0.05	0.006 -0.16
Chisel plow (<1/4 tons/acre residue)	0.07	0.006 -0.17
Chisel plow (1/4 - 1 tons/acre residue)	0.18	0.070 -0.34
Chisel plow (1 - 3 tons/acre residue)	0.30	0.190 -0.47
Chisel plow (>3 tons/acre residue)	0.40	0.340 -0.46
Disk/Harrow (<1/4 tons/acre residue)	0.08	0.008 -0.41
Disk/Harrow (1/4 - 1 tons/acre residue)	0.16	0.100 -0.25
Disk/Harrow (1 - 3 tons/acre residue)	0.25	0.140 -0.53
Disk/Harrow (>3 tons/acre residue)	0.30	— —
No till (<1/4 tons/acre residue)	0.04	0.030 -0.07
No till (1/4 - 1 tons/acre residue)	0.07	0.010 -0.13
No till (1 - 3 tons/acre residue)	0.30	0.160 -0.47
Plow (Fall)	0.06	0.020 -0.10
Coulter	0.10	0.050 -0.13
Range (natural)	0.13	0.010 -0.32
Range (clipped)	0.08	0.020 -0.24
Grass (bluegrass sod)	0.45	0.390 -0.63
Short grass prairie ^a	0.15	0.100 -0.20
Dense grass ^c	0.24	0.170 -0.30
Bermuda grass ^c	0.41	0.300 -0.48
Woods	0.45	— —

All values are from Engman (1983), unless noted otherwise.

^aWoolhiser (1975).

^bFallow has been idle for one year and is fairly smooth.

^cPalmer (1946). Weeping love grass, bluegrass, buffalo grass, blue gamma grass, native grass mix (OK), alfalfa, lespedeza.

Note: These values were determined specifically for overland flow conditions and are not appropriate for conventional open channel flow calculations. See the open channel handbook for open channel flow procedures.

Figure 15-4 Velocity versus slope for shallow concentrated flow

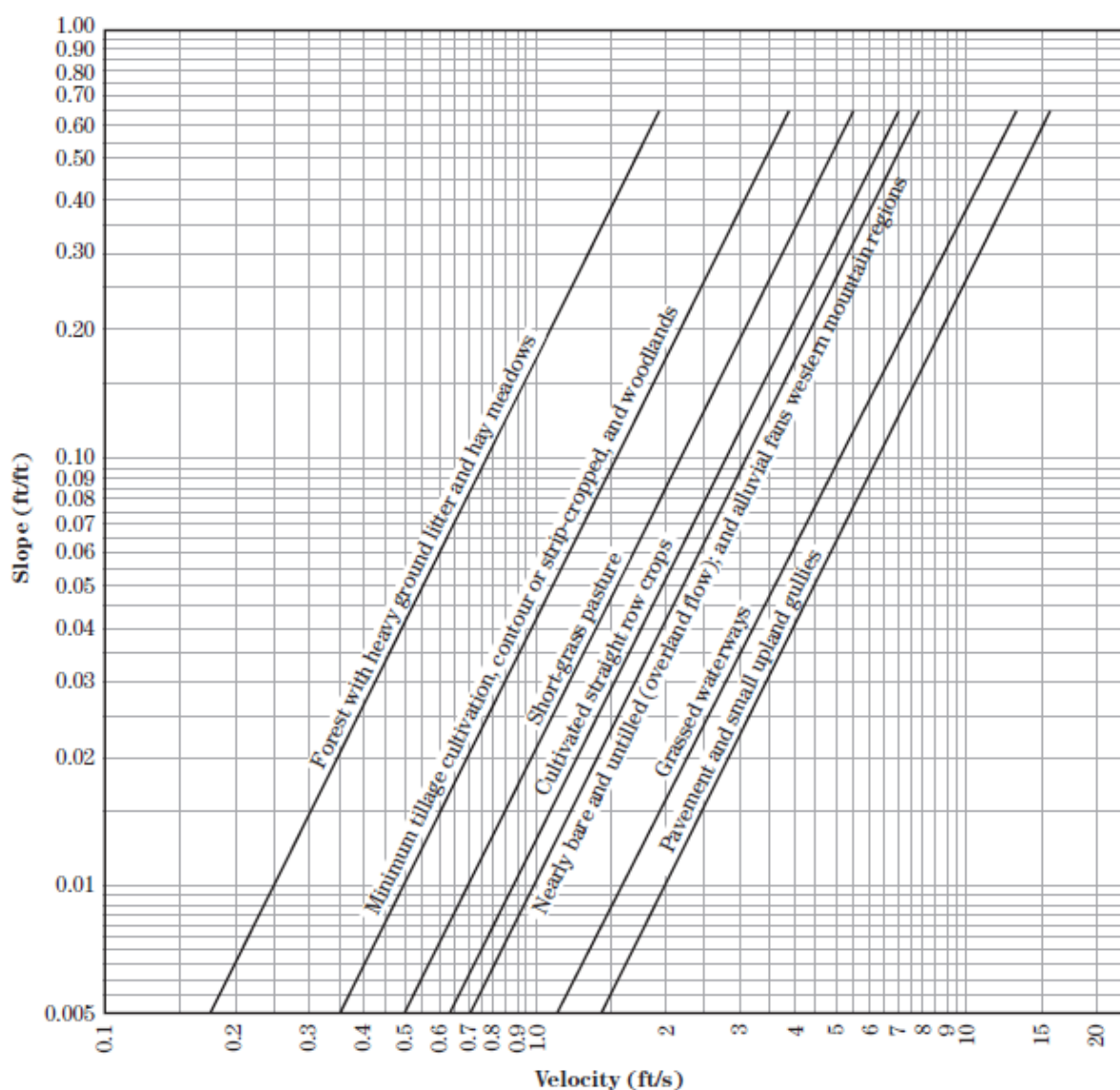


Table 15-3 Equations and assumptions developed from figure 15-4

Flow type	Depth (ft)	Manning's <i>n</i>	Velocity equation (ft/s)
Pavement and small upland gullies	0.2	0.025	$V = 20.328(s)^{0.5}$
Grassed waterways	0.4	0.050	$V = 16.135(s)^{0.5}$
Nearly bare and untilled (overland flow); and alluvial fans in western mountain regions	0.2	0.051	$V = 9.965(s)^{0.5}$
Cultivated straight row crops	0.2	0.058	$V = 8.762(s)^{0.5}$
Short-grass pasture	0.2	0.073	$V = 6.962(s)^{0.5}$
Minimum tillage cultivation, contour or strip-cropped, and woodlands	0.2	0.101	$V = 5.032(s)^{0.5}$
Forest with heavy ground litter and hay meadows	0.2	0.202	$V = 2.516(s)^{0.5}$



Table T-3
Recommended Manning's n Values for Artificial
Channels with Various Linings

<u>Channel Lining</u>	<u>Lining Description</u>	<u>Design Manning's n Value</u>
<u>Bare Earth or Vegetative Linings</u>		
Bare earth, fairly uniform	Clean, recently completed	0.022
Bare earth, fairly uniform	Short grass and some weeds	0.028
Dragline excavated	No vegetation	0.030
Dragline excavated	Light brush	0.040
Channels not maintained	Dense weeds to flow depth	0.100
Channels not maintained	Clear bottom, brush sides	0.080
Maintained grass or sodded ditches	Good stand, well maintained 2" - 6"	0.060*
Maintained grass or sodded ditches	Fair stand, length 12" - 24"	0.200*
<u>Rigid Linings</u>		
Concrete paved	Broomed**	0.016
Concrete paved	"Roughened" - standard	0.020
Concrete paved	Guniting	0.020
Concrete paved	Over rubble	0.023
Asphalt concrete	Smooth	0.013
Asphalt concrete	Rough	0.016

* Decrease 30% for flows > 0.7' (maximum flow depth 1.5').

** Because this is not the standard finish, it must be specified.



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OTHER MANNINGS “N” COEFFICIENTS USED IN DESIGN

Table 3-5 Estimates of Manning's roughness coefficient for overland flow

Source	Ground Cover	n	Range
Crawford and Linsley (1966) ^a	Smooth asphalt	0.01	
	Asphalt of concrete paving	0.014	
	Packed clay	0.03	
	Light turf	0.20	
	Dense turf	0.35	
	Dense shrubbery and forest litter	0.4	
Engman (1986) ^b	Concrete or asphalt	0.01 I	0.010-0.013
	Bare sand	0.010	0.01-0.016
	Graveled surface	0.02	0.012-0.03
	Bare clay-loam (eroded)	0.02	0.012-0.033
	Range (natural)	0.13	0.01-0.32
	Bluegrass sod	0.45	0.39-0.63
	Short grass prairie	0.15	0.10-0.20
	Bermuda grass	0.41	0.30-0.48
Yen (2001) ^c	Smooth asphalt pavement	0.012	0.010-0.015
	Smooth impervious surface	0.013	0.011-0.015
	Tar and sand pavement	0.014	0.012-0.016
	Concrete pavement	0.017	0.014-0.020
	Rough impervious surface	0.019	0.015-0.023
	Smooth bare packed soil	0.021	0.017-0.025
	Moderate bare packed soil	0.030	0.025-0.035
	Rough bare packed soil	0.038	0.032-0.045
	Gravel soil	0.032	0.025-0.045
	Mowed poor grass	0.038	0.030-0.045
	Average grass, closely clipped sod	0.050	0.040-0.060
	Pasture	0.055	0.040-0.070
	Timberland	0.090	0.060-0.120
	Dense grass	0.090	0.060-0.120
	Shrubs and bushes	0.120	0.080-0.180
	Business land use	0.022	0.014-0.035
	Semi-business land use	0.035	0.022-0.050
	Industrial land use	0.035	0.020-0.050
	Dense residential land use	0.040	0.025-0.060
	Suburban residential land use	0.055	0.030-0.080
	Parks and lawns	0.075	0.040-0.120
^a Obtained by calibration of Stanford Watershed Model. ^b Computed by Engman (1986) by kinematic wave and storage analysis of measured rainfall-runoff data. ^c Computed on basis of Cinematic wave analysis.			



DRY POND DESIGN

where: DA = Drainage Area (ft²) => 306662.00
C_{PST} = Post-Developed Runoff Coefficient => 0.55

BLEED-DOWN ORIFICE CALCULATIONS

- ☒ Suwannee River Water Management District
☐ Northwest Florida Water Management District
☐ St. Johns River Water Management District
- ☐ Discharge to other than OFW or active sink
☐ Discharge to OFW
☒ Discharge to active sink

WATER QUALITY REQUIREMENT: RUNOFF FROM THE FIRST TWO INCHES OF RAINFALL

WATER QUALITY VOLUME REQUIRED 28111
=

WATER QUALITY VOLUME PROVIDED 338677
=

	ELEV (ft)	AREA (ft ²)
TOP OF WATER QUALITY VOLUME	164.00	70640
BOTTOM OF POND	158.59	54690

DRAWDOWN DEPTH (ft) = 5.41

ONE HALF OF WATER QUALITY VOLUME = 169338.4568

MINIMUM FLOW RATE (60 HOURS) = 0.784 cfs

MAXIMUM FLOW RATE (48 HOURS) = 0.980 cfs

MINIMUM ORIFICE AREA

= 0.1268 ft² 4.82 in. diam.

MAXIMUM ORIFICE AREA

= 0.1585 ft² 5.39 in. diam.

SELECTED ORIFICE

AREA = 0.0276 ft²



SELECTED ORIFICE
DIAM. =

2.25 inches

WATER QUALITY VOLUMES

ELEV (ft)	AREA (ft ²)	VOL (CF)	T VOL (CF)
164.00	70640	7618.30	338676.91
163.89	70320.51	7583.82	331058.61
163.78	70001.52	7549.34	323474.79
163.68	69682.53	7514.86	315925.44
163.57	69363.54	7480.38	308410.58
163.46	69044.55	7445.90	300930.20
163.35	68725.56	7411.42	293484.29
163.24	68406.57	7376.94	286072.87
163.13	68087.58	7342.46	278695.93
163.03	67768.59	7307.98	271353.47
162.92	67449.60	7273.50	264045.48
162.81	67130.61	7239.02	256771.98
162.70	66811.62	7204.54	
162.59	66492.63	7170.06	242328.42
162.49	66173.64	7135.58	235158.36
162.38	65854.65	7101.10	228022.78
162.27	65535.66	7066.62	220921.68
162.16	65216.67	7032.14	213855.06
162.05	64897.68	6997.66	206822.92
161.94	64578.69	6963.18	199825.26
161.84	64259.70	6928.70	192862.08
161.73	63940.71	6894.22	185933.38
161.62	63621.72	6859.74	179039.16
161.51	63302.73	6825.26	172179.42
161.40	62983.74	6790.78	165354.16
161.30	62664.75	6756.30	158563.38
161.19	62345.76	6721.82	151807.08
161.08	62026.77	6687.34	145085.27
160.97	61707.78	6652.86	138397.93
160.86	61388.79	6618.38	131745.07
160.75	61069.80	6583.90	125126.69
160.65	60750.81	6549.42	118542.80
160.54	60431.82	6514.94	111993.38
160.43	60112.83	6480.46	105478.44
160.32	59793.84	6445.98	98997.99



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160.21	59474.85	6411.50	92552.01
160.10	59155.86	6377.02	86140.51
160.00	58836.87	6342.54	79763.50
159.89	58517.88	6308.06	73420.96
159.78	58198.89	6273.57	67112.91
159.67	57879.90	6239.09	60839.33
159.56	57560.91	6204.61	54600.24
159.46	57241.92	6170.13	48395.63
159.35	56922.93	6135.65	42225.49
159.24	56603.94	6101.17	36089.84
159.13	56284.95	6066.69	29988.66
159.02	55965.96	6032.21	23921.97
158.91	55646.97	5997.73	17889.76
158.81	55327.98	5963.25	11892.02
158.70	55008.99	5928.77	5928.77
158.59	54690.00	0.00	0.00



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PRE-DEVELOPMENT MODELING DATA

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Retention Pond Recovery - Refined Method
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Project Data

Project Name: Florida Gateway Drive RV Park
Simulation Description: Pre- Development Basin SOUTH
Project Number: L210121SHA
Engineer : Dalton Kurtz
Supervising Engineer: Terry White
Date: 09-01-2022

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 157.58
Water Table Elevation, [WT] (ft datum): 157.59
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 13.65
Fillable Porosity, [n] (%): 25.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day): 6.05
Maximum Area For Unsaturated Infiltration, [Av] (ft²): 306898.0

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Scenario Input Data

Scenario 1 :: FDOT 1 Hour - 1 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 2

Basin Area (acres) 7.050
Time Of Concentration (minutes) 12.3
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 4.2
Design Rainfall Duration (hours) 1.0
Shape Factor UHG 484
Rainfall Distribution FDOT 1 Hour

Initial ground water level (ft datum) 157.59 (default)

No times after storm specified.

Scenario 2 :: FDOT 2 Hour - 2 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 2

Basin Area (acres) 7.050
Time Of Concentration (minutes) 12.3
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 5.1
Design Rainfall Duration (hours) 2.0
Shape Factor UHG 484
Rainfall Distribution FDOT 2 Hour

Initial ground water level (ft datum) 157.59 (default)

No times after storm specified.

Scenario 3 :: FDOT 4 Hour - 4 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 2

Basin Area (acres) 7.050
Time Of Concentration (minutes) 12.3
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 6.1
Design Rainfall Duration (hours) 4.0
Shape Factor UHG 484
Rainfall Distribution FDOT 4 Hour

Initial ground water level (ft datum) 157.59 (default)

No times after storm specified.

Scenario Input Data (cont'd.)

Scenario 4 :: FDOT 8 Hour - 8 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 2

Basin Area (acres) 7.050
Time Of Concentration (minutes) 12.3
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 7.4
Design Rainfall Duration (hours) 8.0
Shape Factor UHG 484
Rainfall Distribution FDOT 8 Hour

Initial ground water level (ft datum) 157.59 (default)

No times after storm specified.

Scenario 5 :: FDOT 24 Hour - 24 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 2

Basin Area (acres) 7.050
Time Of Concentration (minutes) 12.3
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 9.8
Design Rainfall Duration (hours) 24.0
Shape Factor UHG 484
Rainfall Distribution FDOT 24 Hour

Initial ground water level (ft datum) 157.59 (default)

No times after storm specified.

Scenario 6 :: FDOT 72 Hour - 72 hr - 100 yr

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Not routed**
Repetitions: 2

Basin Area (acres) 7.050
Time Of Concentration (minutes) 12.3
DCIA (%) 0.0
Curve Number 80
Design Rainfall Depth (inches) 12.4
Design Rainfall Duration (hours) 72.0
Shape Factor UHG 484
Rainfall Distribution FDOT 72 Hour

Initial ground water level (ft datum) 157.59 (default)

No times after storm specified.

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Scenario Input Data (cont'd.)

Scenario 7 :: FDOT 168 Hour - 168 hr - 100 yr

Hydrograph Type:	Inline SCS
• Modflow Routing:	Not routed
Repetitions:	2
Basin Area (acres)	7.050
Time Of Concentration (minutes)	12.3
DCIA (%)	0.0
Curve Number	80
Design Rainfall Depth (inches)	14.0
Design Rainfall Duration (hours)	168.0
Shape Factor	UHG 484
Rainfall Distribution	FDOT 168 Hour
Initial ground water level (ft datum)	157.59 (default)
No times after storm specified.	

Scenario 8 :: FDOT 240 Hour - 240 hr - 100 yr

Hydrograph Type:	Inline SCS
• Modflow Routing:	Not routed
Repetitions:	2
Basin Area (acres)	7.050
Time Of Concentration (minutes)	12.3
DCIA (%)	0.0
Curve Number	80
Design Rainfall Depth (inches)	16.1
Design Rainfall Duration (hours)	240.0
Shape Factor	UHG 484
Rainfall Distribution	FDOT 240 Hour
Initial ground water level (ft datum)	157.59 (default)
No times after storm specified.	

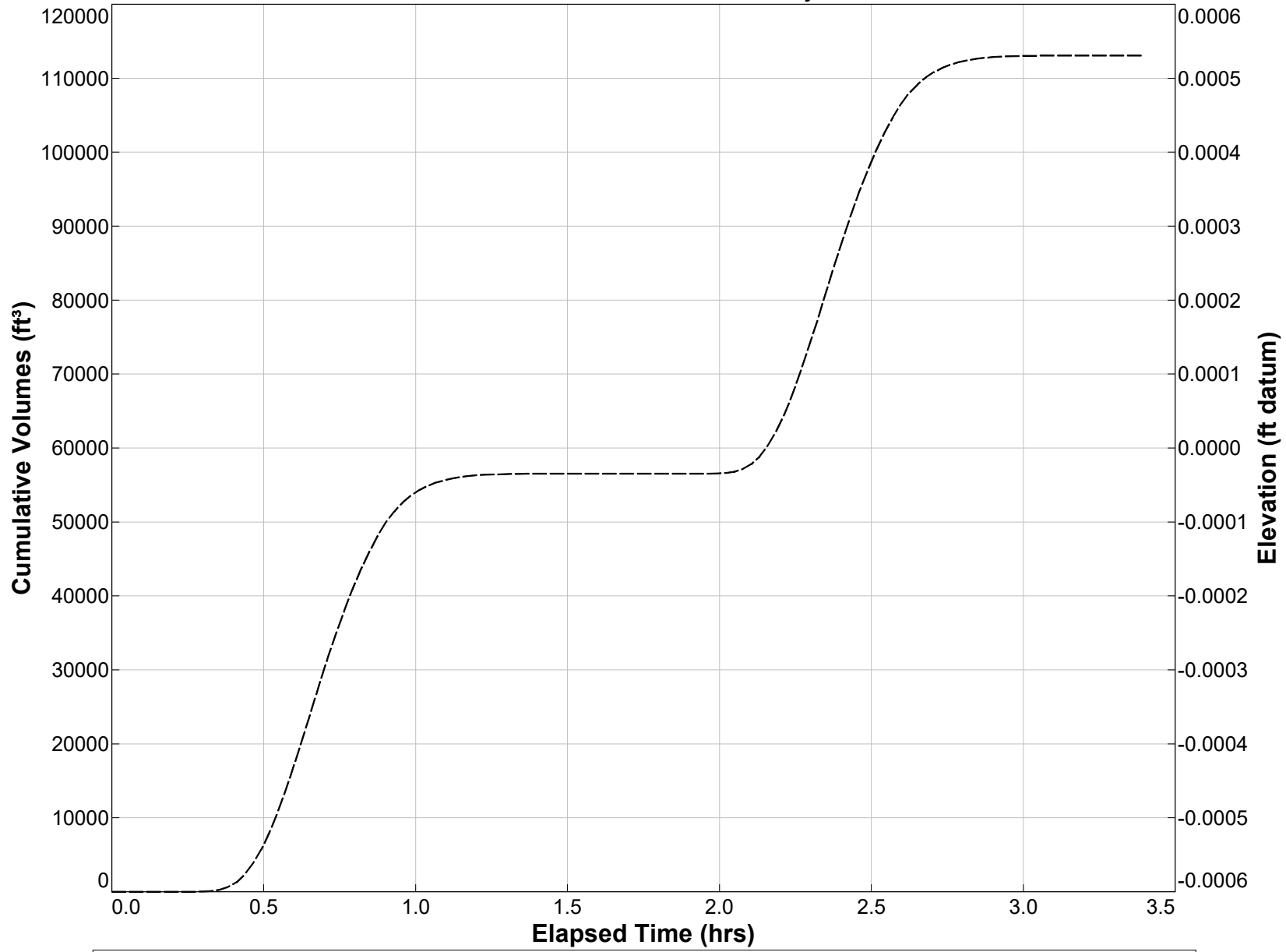
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Summary of Results :: Scenario 1 :: FDOT 1 Hour - 1 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	0.656		37.0369	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	3.362			113068.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	3.389			113068.6
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	0.656		37.0369	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	3.362			113068.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	3.389			113068.6
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

Plot of Cumulative Volumes and Pond Stage vs Elapsed Time

Scenario 1 :: FDOT 1 Hour - 1 hr - 100 yr



Y1 Axis: Cumulative Inflow — Cumulative Infiltration — Cumulative Discharge — Y2 Axis: Pond Stage —

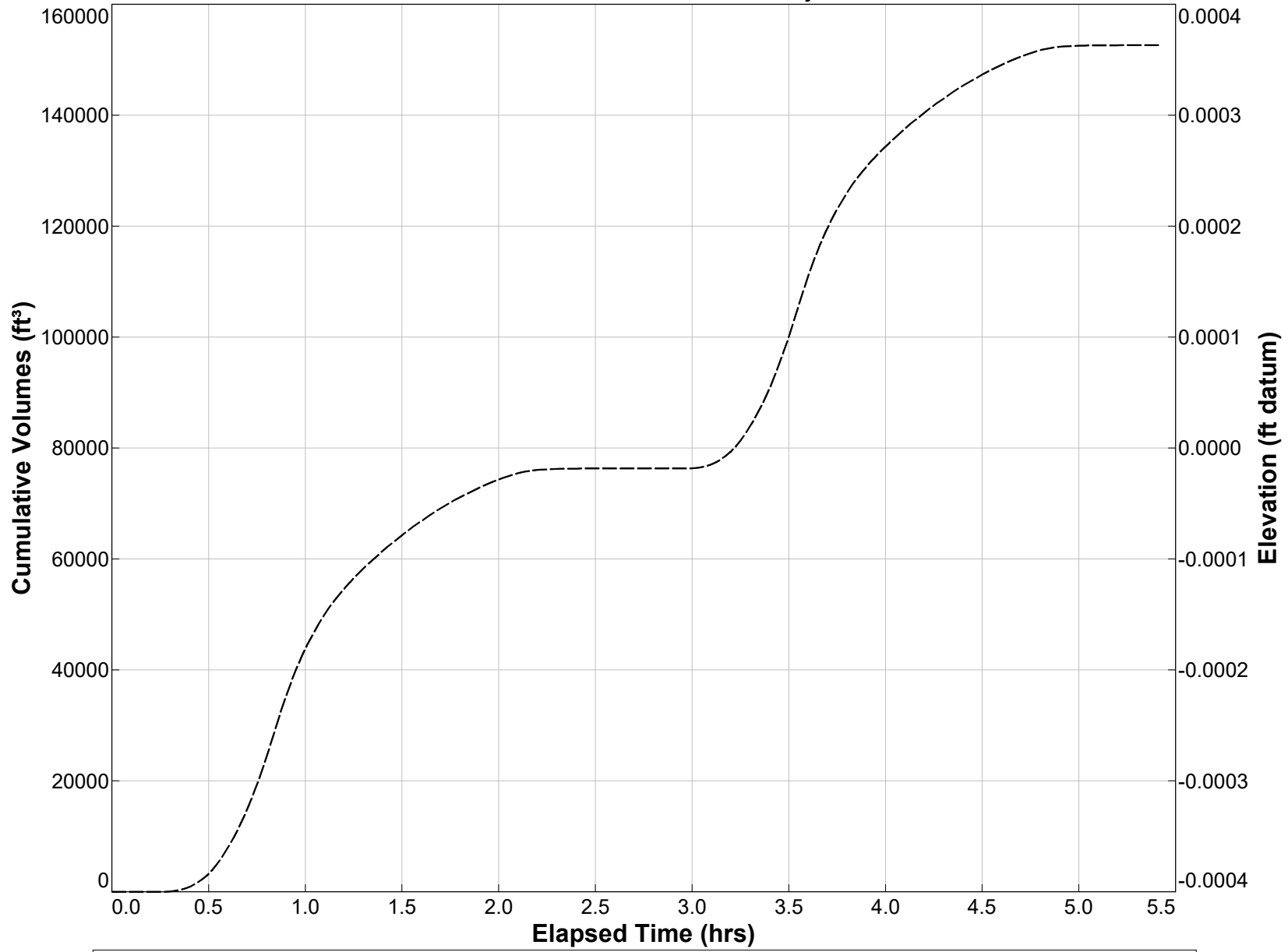
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Summary of Results :: Scenario 2 :: FDOT 2 Hour - 2 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	0.847		30.8452	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	5.385			152611.5
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	5.412			152611.5
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	0.847		30.8452	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	5.385			152611.5
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	5.412			152611.5
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

Plot of Cumulative Volumes and Pond Stage vs Elapsed Time

Scenario 2 :: FDOT 2 Hour - 2 hr - 100 yr



Y1 Axis: Cumulative Inflow --- Cumulative Infiltration - - - - Cumulative Discharge - - - - Y2 Axis: Pond Stage —

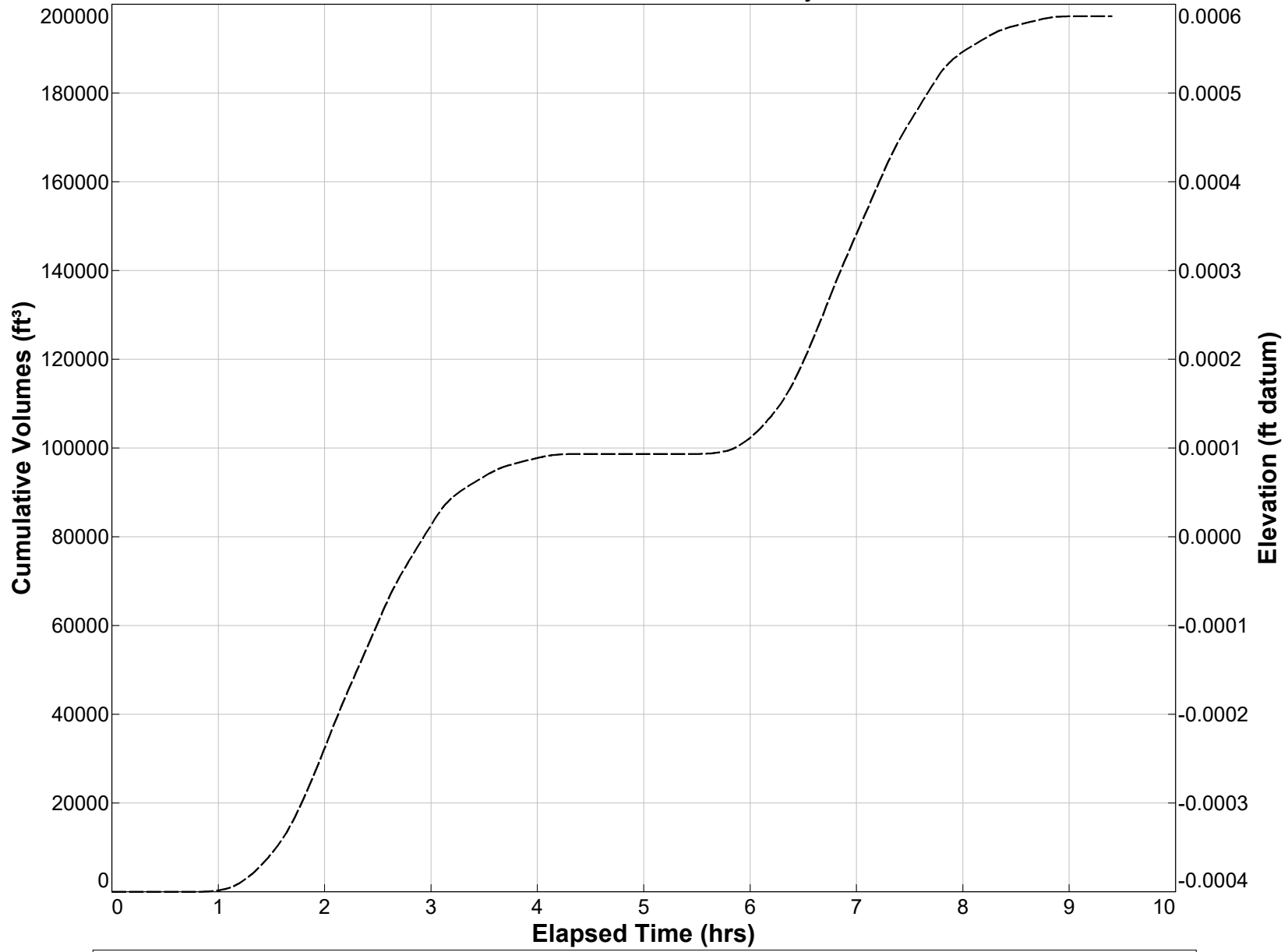
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Summary of Results :: Scenario 3 :: FDOT 4 Hour - 4 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	2.050		16.9750	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	9.375			197327.3
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	9.403			197327.3
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	2.050		16.9750	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	9.375			197327.3
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	9.403			197327.3
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

Plot of Cumulative Volumes and Pond Stage vs Elapsed Time

Scenario 3 :: FDOT 4 Hour - 4 hr - 100 yr

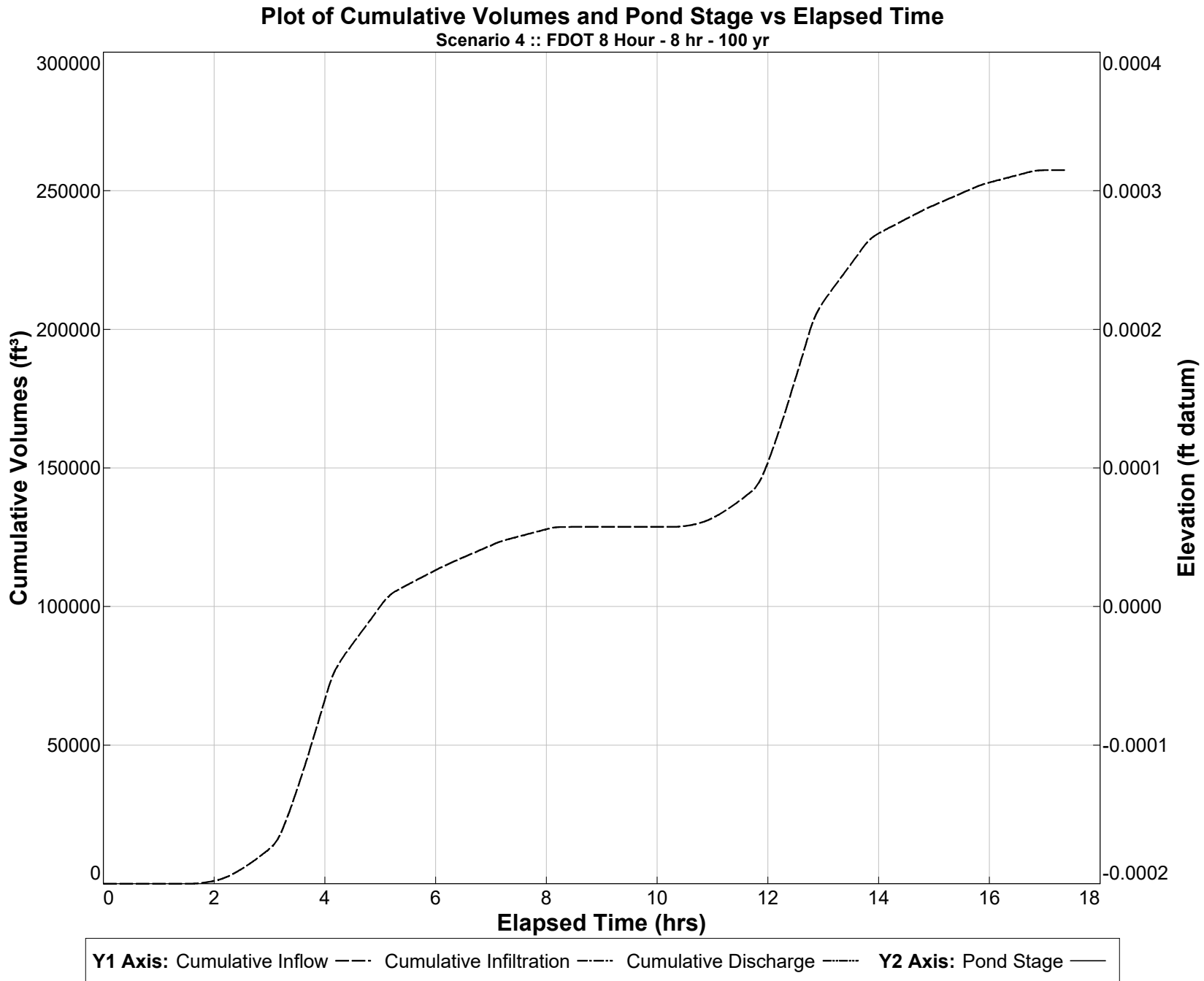


Y1 Axis: Cumulative Inflow — Cumulative Infiltration -.- Cumulative Discharge Y2 Axis: Pond Stage —

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Summary of Results :: Scenario 4 :: FDOT 8 Hour - 8 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	3.991		18.8309	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	17.357			257455.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	17.384			257455.6
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	3.991		18.8309	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	17.357			257455.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	17.384			257455.6
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



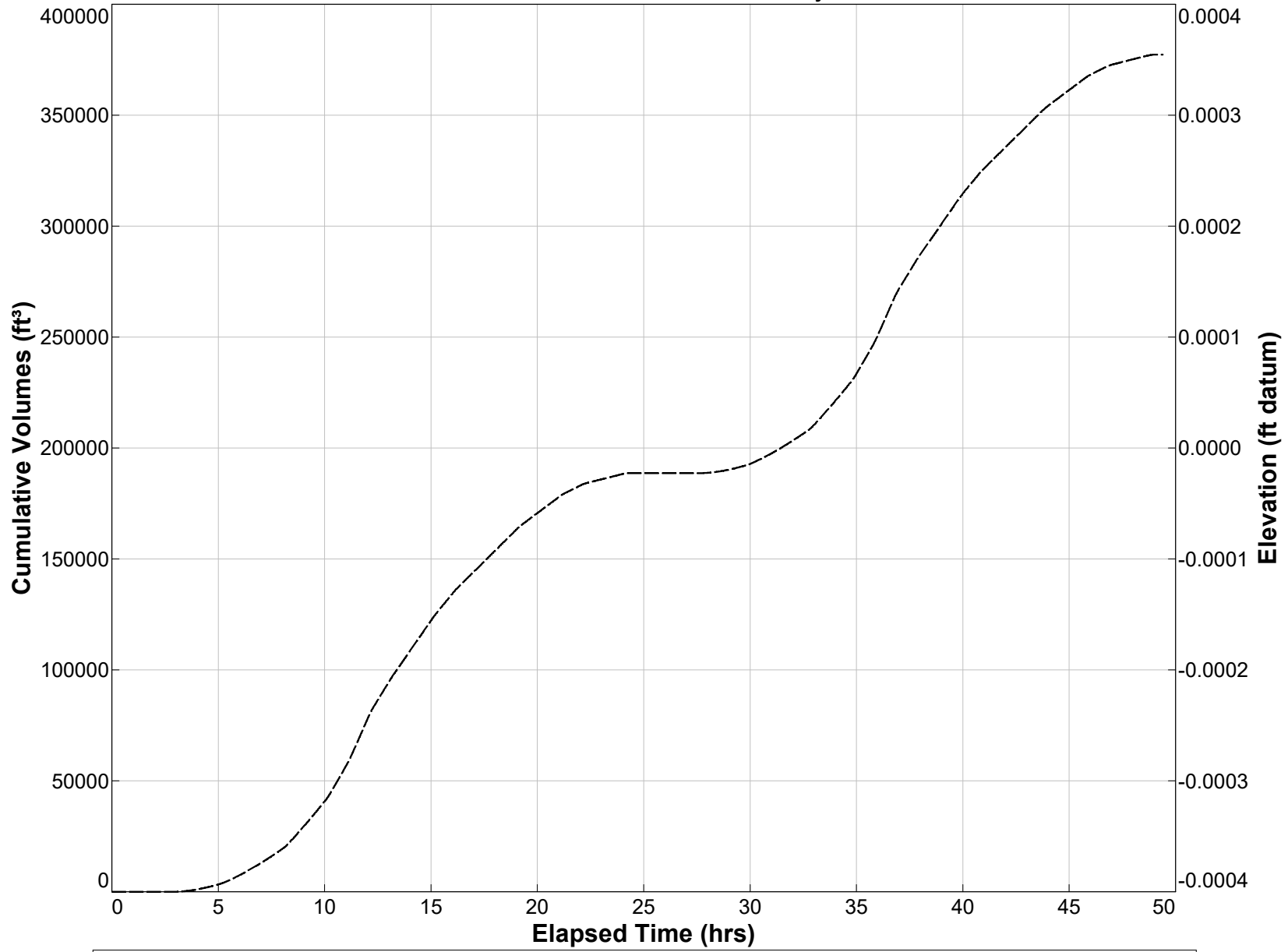
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Summary of Results :: Scenario 5 :: FDOT 24 Hour - 24 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	11.999		6.1381	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	49.391			377287.1
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	49.419			377287.1
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	11.999		6.1381	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	49.391			377287.1
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	49.419			377287.1
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

Plot of Cumulative Volumes and Pond Stage vs Elapsed Time

Scenario 5 :: FDOT 24 Hour - 24 hr - 100 yr



Y1 Axis: Cumulative Inflow — Cumulative Infiltration - - - Cumulative Discharge . . . Y2 Axis: Pond Stage —

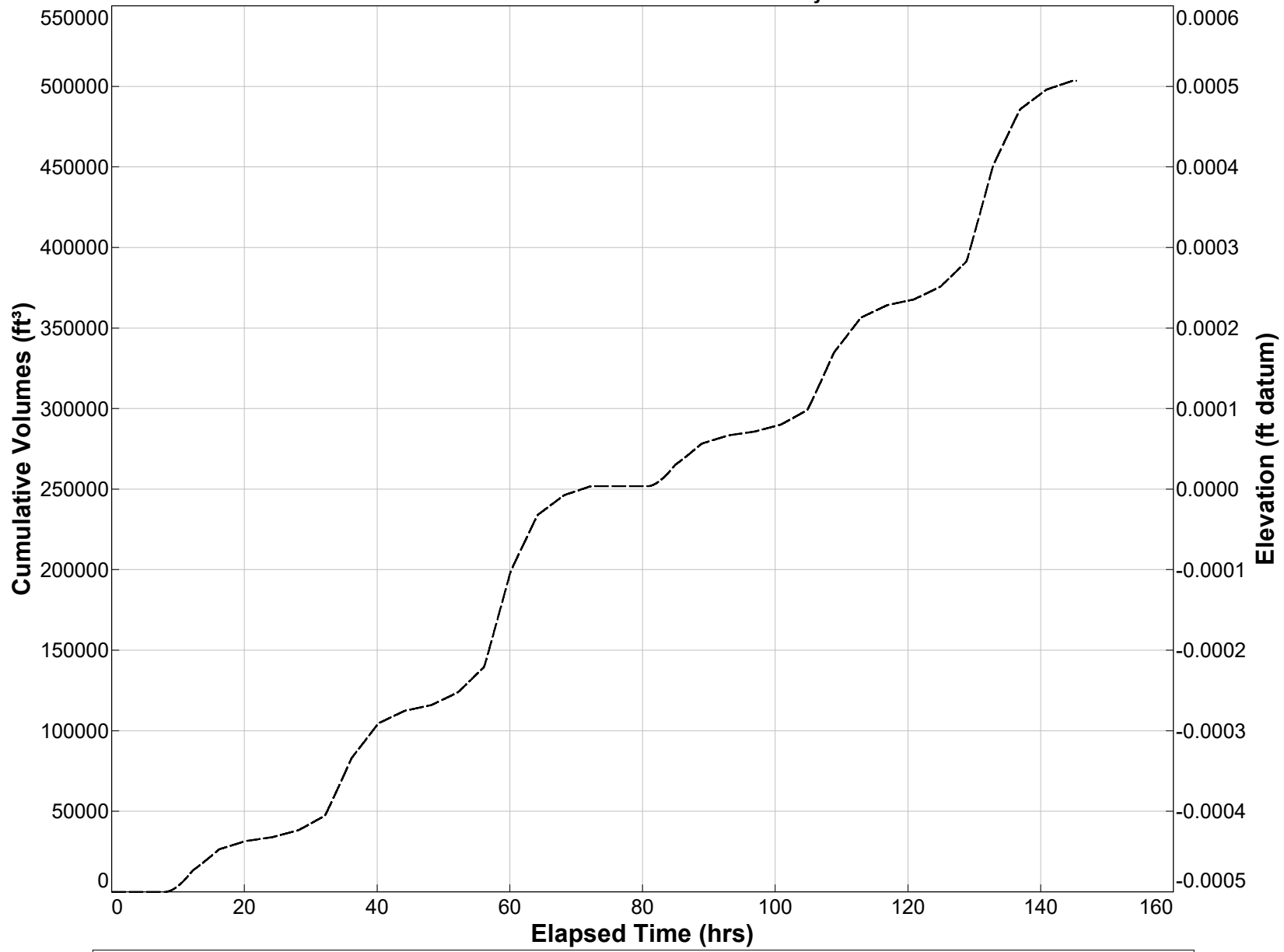
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Summary of Results :: Scenario 6 :: FDOT 72 Hour - 72 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	59.997		4.1856	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	145.386			503571.7
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	145.413			503571.7
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	59.997		4.1856	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	145.386			503571.7
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	145.413			503571.7
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

Plot of Cumulative Volumes and Pond Stage vs Elapsed Time

Scenario 6 :: FDOT 72 Hour - 72 hr - 100 yr



Y1 Axis: Cumulative Inflow — Cumulative Infiltration - - Cumulative Discharge . . . Y2 Axis: Pond Stage —

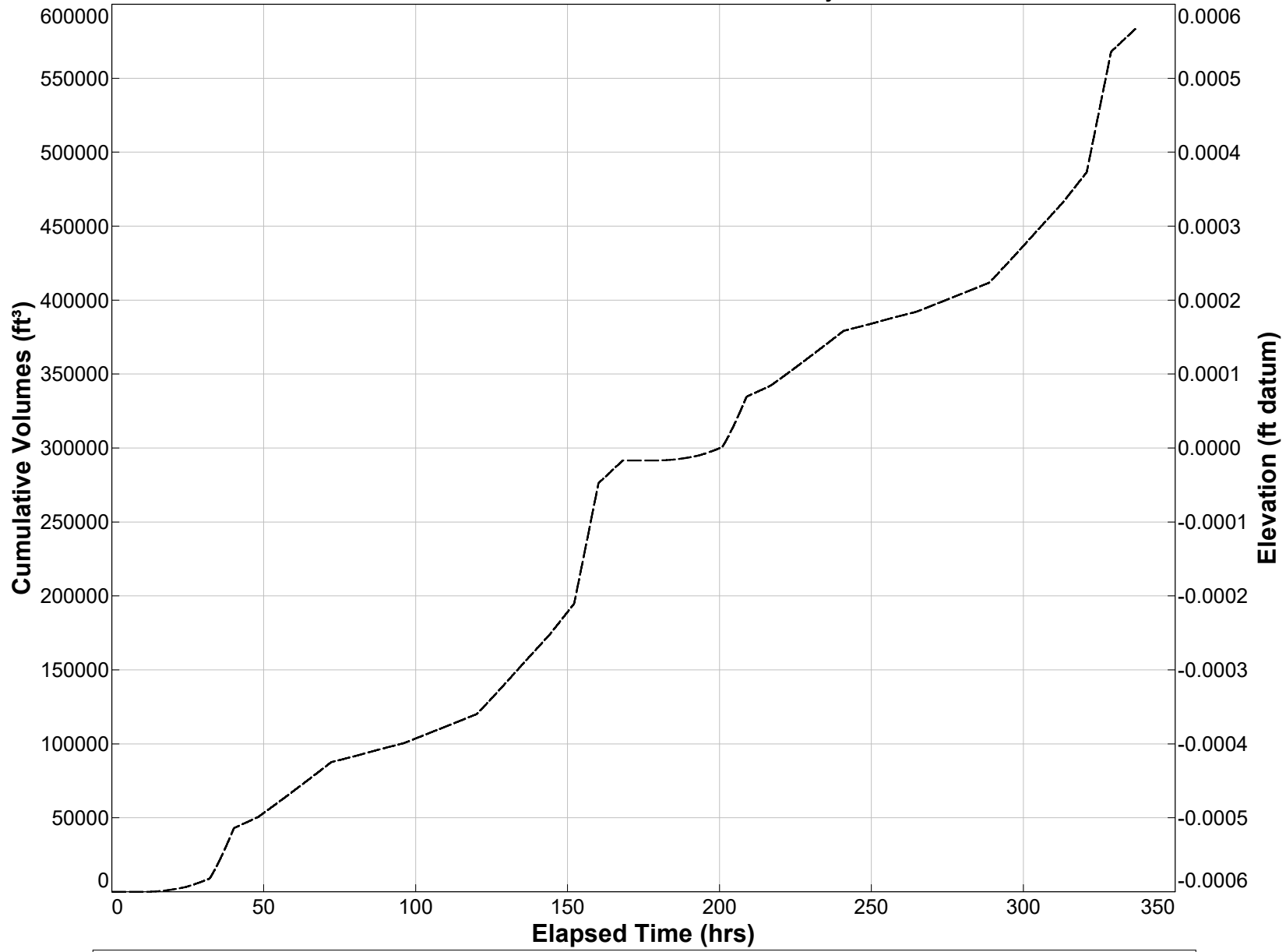
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Summary of Results :: Scenario 7 :: FDOT 168 Hour - 168 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	159.982		2.8480	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	337.375			583280.5
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	337.403			583280.5
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	159.982		2.8480	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	337.375			583280.5
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	337.403			583280.5
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

Plot of Cumulative Volumes and Pond Stage vs Elapsed Time

Scenario 7 :: FDOT 168 Hour - 168 hr - 100 yr



Y1 Axis: Cumulative Inflow — Cumulative Infiltration - - Cumulative Discharge . . . Y2 Axis: Pond Stage —

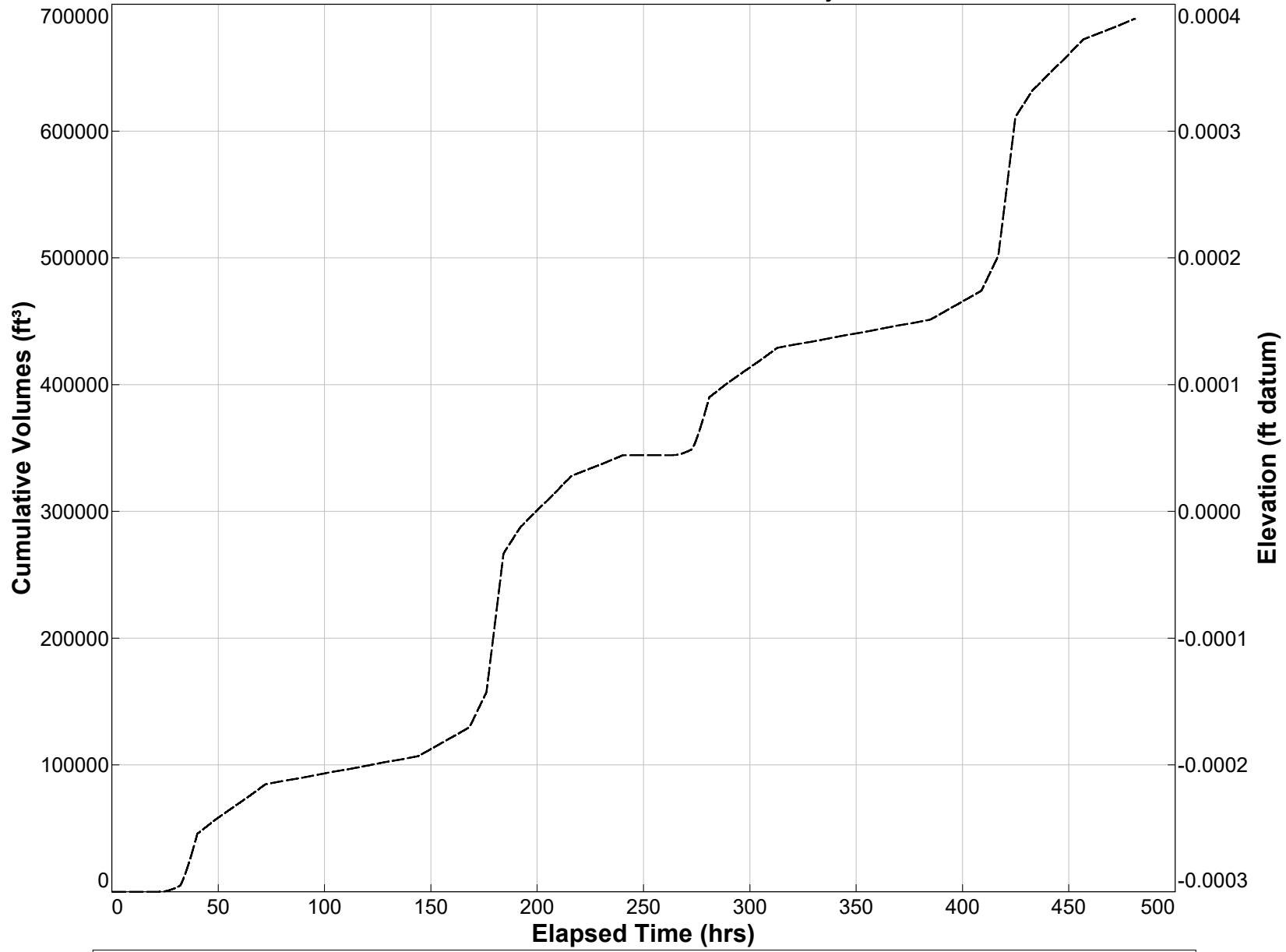
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Summary of Results :: Scenario 8 :: FDOT 240 Hour - 240 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	Not Available	Not Available		
Maximum	Not Available	Not Available		
Inflow				
Rate - Maximum - Positive	184.008		3.8318	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	481.367			688494.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	481.395			688494.6
Infiltration				
Rate - Maximum - Positive	Not Available		Not Available	
Rate - Maximum - Negative	Not Available		Not Available	
Cumulative Volume - Maximum Positive	Not Available			Not Available
Cumulative Volume - Maximum Negative	Not Available			Not Available
Cumulative Volume - End of Simulation	Not Available			Not Available
Combined Discharge				
Rate - Maximum - Positive	184.008		3.8318	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	481.367			688494.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	481.395			688494.6
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

Plot of Cumulative Volumes and Pond Stage vs Elapsed Time

Scenario 8 :: FDOT 240 Hour - 240 hr - 100 yr



Y1 Axis: Cumulative Inflow — Cumulative Infiltration - - Cumulative Discharge . . . Y2 Axis: Pond Stage —



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POST-DEVELOPMENT MODELING DATA

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Project Data

Project Name: RV PARK POST DEVELOPMENT SOUTH BASIN
Simulation Description: Post Development Basin
Project Number: L210112SHA
Engineer : Dalton Kurtz
Supervising Engineer: Terry White
Date: 10-25-2022

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 157.58
Water Table Elevation, [WT] (ft datum): 157.59
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 13.65
Fillable Porosity, [n] (%): 25.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day): 6.05
Maximum Area For Unsaturated Infiltration, [Av] (ft²): 70640.0

Geometry Data

Equivalent Pond Length, [L] (ft): 265.8
Equivalent Pond Width, [W] (ft): 265.8
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft ²)
158.59	54690.0
164.00	70640.0

Discharge Structures

Discharge Structure #1 is active as weir

Structure Parameters

Description: 4.5' CONCRETE OVERFLOW WEIR

Weir elevation, (ft datum): 162.5
Weir coefficient: 3.13
Weir length, (ft): 4.5
Weir exponent: 1.5

Tailwater - disabled, free discharge

Discharge Structures (cont'd.)

Discharge Structure #2 is inactive

Discharge Structure #3 is inactive

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Scenario Input Data

Scenario 9 :: FDOT 1 Hour - 1 hr - 100 yr

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 2

Basin Area (acres) 7.040
Time Of Concentration (minutes) 6.8
DCIA (%) 0.0
Curve Number 89
Design Rainfall Depth (inches) 4.2
Design Rainfall Duration (hours) 1.0
Shape Factor UHG 484
Rainfall Distribution FDOT 24 Hour

Initial ground water level (ft datum) 157.59 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	5.000	11.500	18.000	24.500
0.200	5.500	12.000	18.500	25.000
0.300	6.000	12.500	19.000	25.500
0.400	6.500	13.000	19.500	26.000
0.500	7.000	13.500	20.000	26.500
1.000	7.500	14.000	20.500	27.000
1.500	8.000	14.500	21.000	27.500
2.000	8.500	15.000	21.500	28.000
2.500	9.000	15.500	22.000	28.500
3.000	9.500	16.000	22.500	29.000
3.500	10.000	16.500	23.000	29.500
4.000	10.500	17.000	23.500	30.000
4.500	11.000	17.500	24.000	

Scenario 10 :: FDOT 2 Hour - 2 hr - 100 yr

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 2

Basin Area (acres) 7.040
Time Of Concentration (minutes) 6.8
DCIA (%) 0.0
Curve Number 89
Design Rainfall Depth (inches) 5.1
Design Rainfall Duration (hours) 2.0
Shape Factor UHG 484
Rainfall Distribution FDOT 2 Hour

Initial ground water level (ft datum) 157.59 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	1.500	4.500	7.500	10.500
0.200	2.000	5.000	8.000	11.000
0.300	2.500	5.500	8.500	11.500
0.400	3.000	6.000	9.000	12.000
0.500	3.500	6.500	9.500	12.500
1.000	4.000	7.000	10.000	13.000

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Scenario Input Data (cont'd.)

Scenario 10 (cont'd.) :: SCS :: FDOT 2 Hour - 2 hr - 100 yr

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
13.500	17.000	20.500	24.000	27.500
14.000	17.500	21.000	24.500	28.000
14.500	18.000	21.500	25.000	28.500
15.000	18.500	22.000	25.500	29.000
15.500	19.000	22.500	26.000	29.500
16.000	19.500	23.000	26.500	30.000
16.500	20.000	23.500	27.000	

Scenario 11 :: FDOT 4 Hour - 4 hr - 100 yr

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 2

Basin Area (acres) 7.040
Time Of Concentration (minutes) 6.8
DCIA (%) 0.0
Curve Number 89
Design Rainfall Depth (inches) 6.1
Design Rainfall Duration (hours) 4.0
Shape Factor UHG 484
Rainfall Distribution FDOT 4 Hour

Initial ground water level (ft datum) 157.59 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	5.000	11.500	18.000	24.500
0.200	5.500	12.000	18.500	25.000
0.300	6.000	12.500	19.000	25.500
0.400	6.500	13.000	19.500	26.000
0.500	7.000	13.500	20.000	26.500
1.000	7.500	14.000	20.500	27.000
1.500	8.000	14.500	21.000	27.500
2.000	8.500	15.000	21.500	28.000
2.500	9.000	15.500	22.000	28.500
3.000	9.500	16.000	22.500	29.000
3.500	10.000	16.500	23.000	29.500
4.000	10.500	17.000	23.500	30.000
4.500	11.000	17.500	24.000	

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Scenario Input Data (cont'd.)

Scenario 12 :: FDOT 8 Hour - 8 hr - 100 yr

Hydrograph Type: Inline SCS
 Modflow Routing: Routed with infiltration
 Repetitions: 2

Basin Area (acres) 7.040
 Time Of Concentration (minutes) 6.8
 DCIA (%) 0.0
 Curve Number 89
 Design Rainfall Depth (inches) 7.4
 Design Rainfall Duration (hours) 8.0
 Shape Factor UHG 484
 Rainfall Distribution FDOT 8 Hour

Initial ground water level (ft datum) 157.59 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	5.000	11.500	18.000	24.500
0.200	5.500	12.000	18.500	25.000
0.300	6.000	12.500	19.000	25.500
0.400	6.500	13.000	19.500	26.000
0.500	7.000	13.500	20.000	26.500
1.000	7.500	14.000	20.500	27.000
1.500	8.000	14.500	21.000	27.500
2.000	8.500	15.000	21.500	28.000
2.500	9.000	15.500	22.000	28.500
3.000	9.500	16.000	22.500	29.000
3.500	10.000	16.500	23.000	29.500
4.000	10.500	17.000	23.500	30.000
4.500	11.000	17.500	24.000	

Scenario 13 :: FDOT 24 Hour - 24 hr - 100 yr

Hydrograph Type: Inline SCS
 Modflow Routing: Routed with infiltration
 Repetitions: 2

Basin Area (acres) 7.040
 Time Of Concentration (minutes) 6.8
 DCIA (%) 0.0
 Curve Number 89
 Design Rainfall Depth (inches) 9.8
 Design Rainfall Duration (hours) 24.0
 Shape Factor UHG 484
 Rainfall Distribution FDOT 24 Hour

Initial ground water level (ft datum) 157.59 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	1.500	4.500	7.500	10.500
0.200	2.000	5.000	8.000	11.000
0.300	2.500	5.500	8.500	11.500
0.400	3.000	6.000	9.000	12.000
0.500	3.500	6.500	9.500	12.500
1.000	4.000	7.000	10.000	13.000

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Scenario Input Data (cont'd.)

Scenario 13 (cont'd.) :: SCS :: FDOT 24 Hour - 24 hr - 100 yr

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
13.500	17.000	20.500	24.000	27.500
14.000	17.500	21.000	24.500	28.000
14.500	18.000	21.500	25.000	28.500
15.000	18.500	22.000	25.500	29.000
15.500	19.000	22.500	26.000	29.500
16.000	19.500	23.000	26.500	30.000
16.500	20.000	23.500	27.000	

Scenario 14 :: FDOT 72 Hour - 72 hr - 100 yr

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 2

Basin Area (acres) 7.040
Time Of Concentration (minutes) 6.8
DCIA (%) 0.0
Curve Number 89
Design Rainfall Depth (inches) 12.4
Design Rainfall Duration (hours) 72.0
Shape Factor UHG 484
Rainfall Distribution FDOT 72 Hour

Initial ground water level (ft datum) 157.59 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	5.000	11.500	18.000	24.500
0.200	5.500	12.000	18.500	25.000
0.300	6.000	12.500	19.000	25.500
0.400	6.500	13.000	19.500	26.000
0.500	7.000	13.500	20.000	26.500
1.000	7.500	14.000	20.500	27.000
1.500	8.000	14.500	21.000	27.500
2.000	8.500	15.000	21.500	28.000
2.500	9.000	15.500	22.000	28.500
3.000	9.500	16.000	22.500	29.000
3.500	10.000	16.500	23.000	29.500
4.000	10.500	17.000	23.500	30.000
4.500	11.000	17.500	24.000	

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Scenario Input Data (cont'd.)

Scenario 15 :: FDOT 168 Hour - 168 hr - 100 yr

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 2

Basin Area (acres) 7.040
Time Of Concentration (minutes) 6.8
DCIA (%) 0.0
Curve Number 89
Design Rainfall Depth (inches) 14.0
Design Rainfall Duration (hours) 168.0
Shape Factor UHG 484
Rainfall Distribution FDOT 168 Hour

Initial ground water level (ft datum) 157.59 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	5.000	11.500	18.000	24.500
0.200	5.500	12.000	18.500	25.000
0.300	6.000	12.500	19.000	25.500
0.400	6.500	13.000	19.500	26.000
0.500	7.000	13.500	20.000	26.500
1.000	7.500	14.000	20.500	27.000
1.500	8.000	14.500	21.000	27.500
2.000	8.500	15.000	21.500	28.000
2.500	9.000	15.500	22.000	28.500
3.000	9.500	16.000	22.500	29.000
3.500	10.000	16.500	23.000	29.500
4.000	10.500	17.000	23.500	30.000
4.500	11.000	17.500	24.000	

Scenario 16 :: FDOT 240 Hour - 240 hr - 100 yr

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 2

Basin Area (acres) 7.040
Time Of Concentration (minutes) 6.8
DCIA (%) 0.0
Curve Number 89
Design Rainfall Depth (inches) 16.1
Design Rainfall Duration (hours) 240.0
Shape Factor UHG 484
Rainfall Distribution FDOT 240 Hour

Initial ground water level (ft datum) 157.59 (default)

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
0.100	1.500	4.500	7.500	10.500
0.200	2.000	5.000	8.000	11.000
0.300	2.500	5.500	8.500	11.500
0.400	3.000	6.000	9.000	12.000
0.500	3.500	6.500	9.500	12.500
1.000	4.000	7.000	10.000	13.000

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Scenario Input Data (cont'd.)

Scenario 16 (cont'd.) :: SCS :: FDOT 240 Hour - 240 hr - 100 yr

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
13.500	17.000	20.500	24.000	27.500
14.000	17.500	21.000	24.500	28.000
14.500	18.000	21.500	25.000	28.500
15.000	18.500	22.000	25.500	29.000
15.500	19.000	22.500	26.000	29.500
16.000	19.500	23.000	26.500	30.000
16.500	20.000	23.500	27.000	

Scenario 17 :: 2" over drainage area

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

Treatment Volume (ft³) 28055

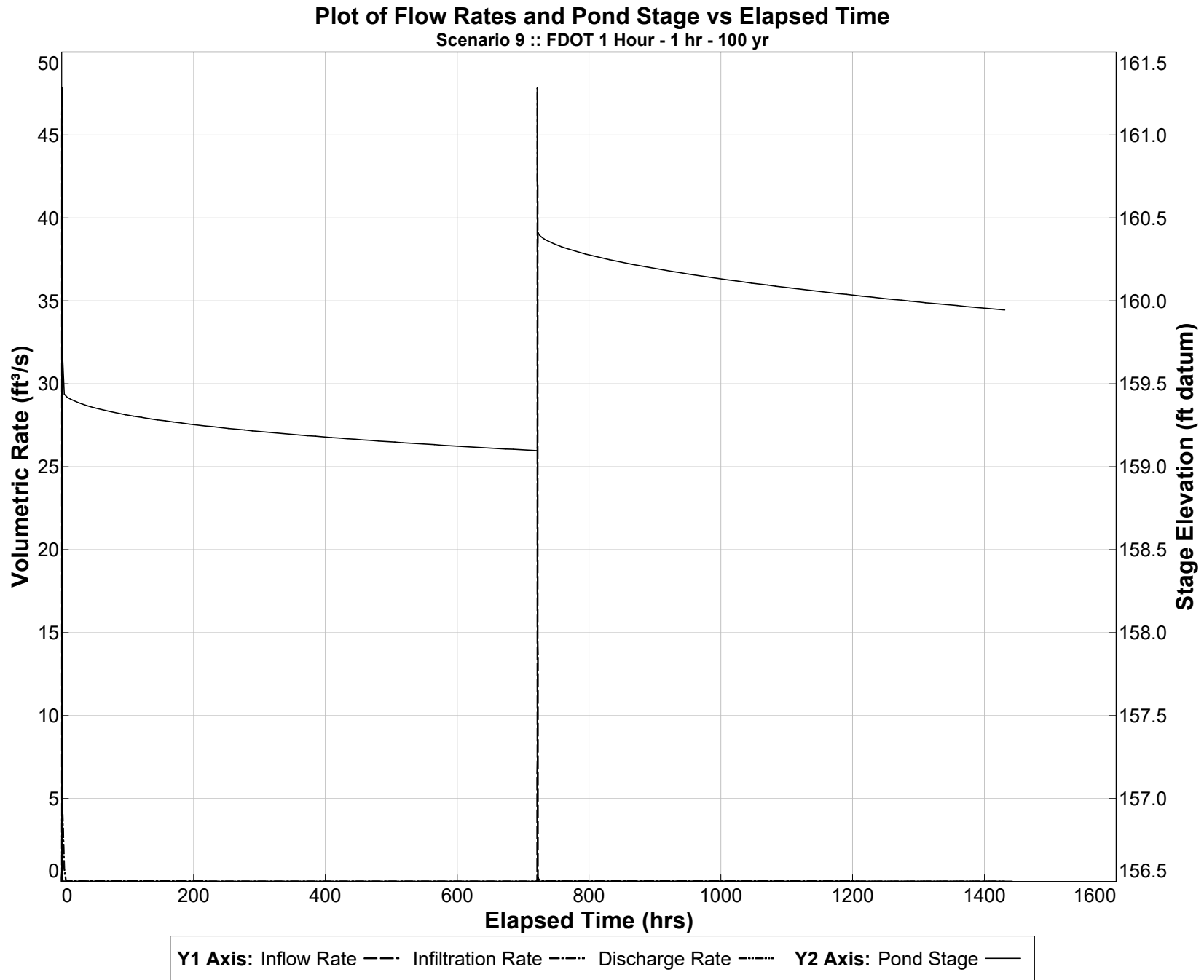
Initial ground water level (ft datum) 157.59 (default)

Time After Storm Event (days)	Time After Storm Event (days)
0.100	2.000
0.250	2.500
0.500	3.000
1.000	3.500
1.500	4.000

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Summary of Results :: Scenario 9 :: FDOT 1 Hour - 1 hr - 100 yr

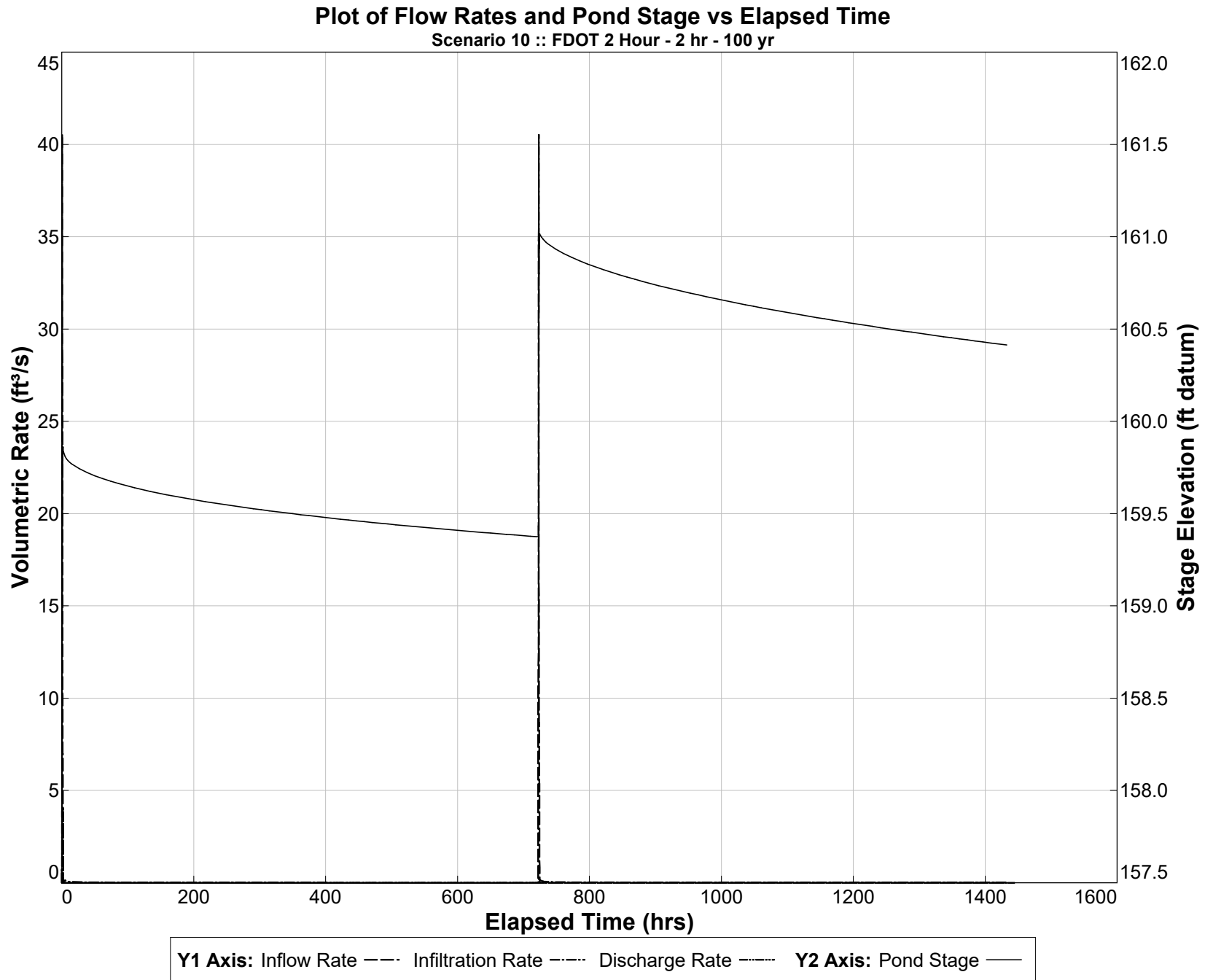
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	157.59		
Maximum	722.599	160.41		
Inflow				
Rate - Maximum - Positive	0.559		47.8360	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	722.765			153978.9
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1442.780			153978.9
Infiltration				
Rate - Maximum - Positive	1.073		4.0645	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1442.780			77392.9
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1442.780			77392.9
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1442.780			0.0
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1442.780			0.0
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 10 :: FDOT 2 Hour - 2 hr - 100 yr

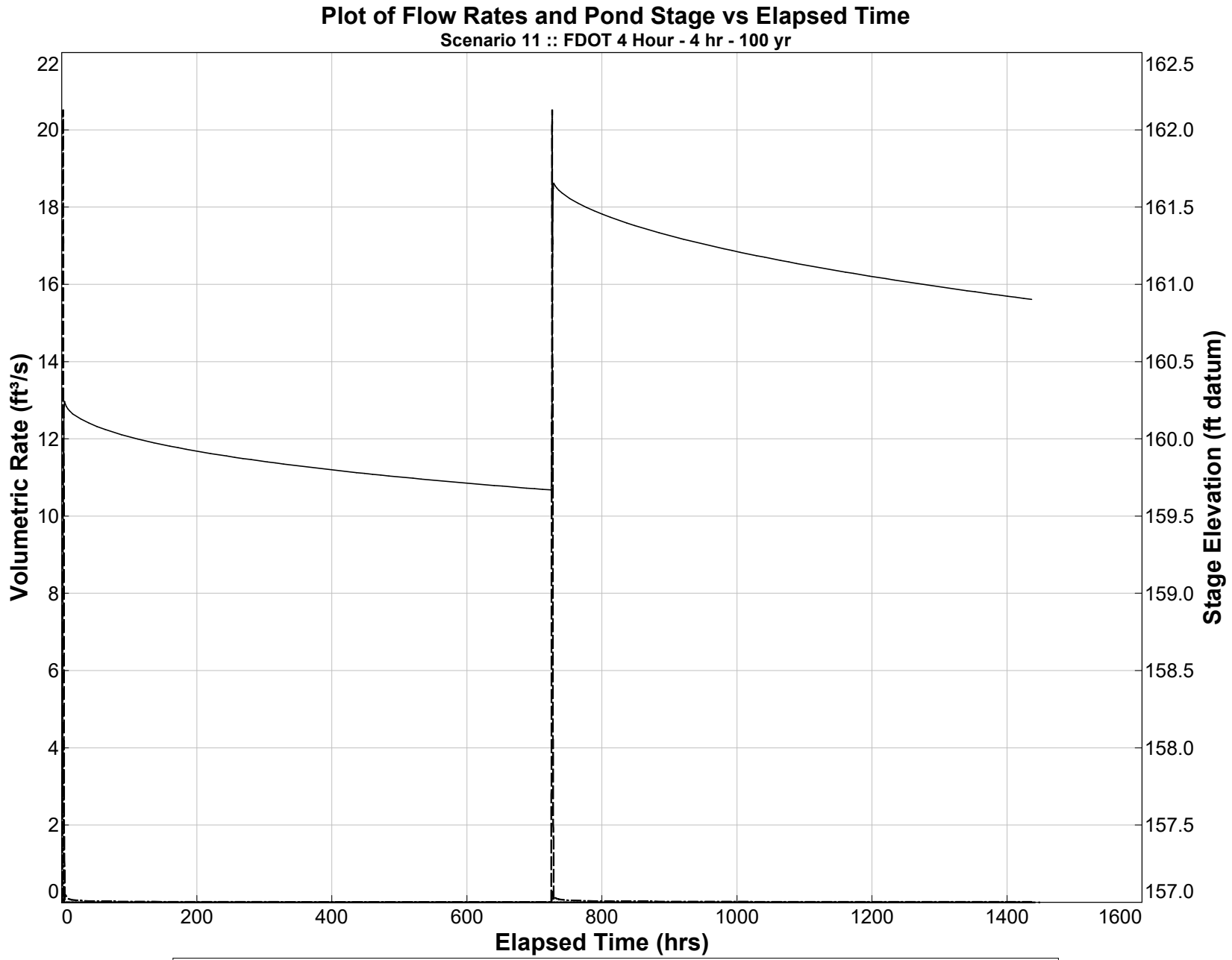
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	157.59		
Maximum	724.579	161.02		
Inflow				
Rate - Maximum - Positive	0.801		40.5397	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	724.760			197774.7
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1444.775			197774.7
Infiltration				
Rate - Maximum - Positive	1.889		4.0928	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1444.775			93473.1
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1444.775			93473.1
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1444.775			0.0
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1444.775			0.0
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 11 :: FDOT 4 Hour - 4 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	157.59		
Maximum	728.523	161.66		
Inflow				
Rate - Maximum - Positive	2.010		20.5177	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	728.749			246107.8
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1448.764			246107.8
Infiltration				
Rate - Maximum - Positive	2.720		4.0832	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1448.764			112182.8
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1448.764			112182.8
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1448.764			0.0
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1448.764			0.0
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

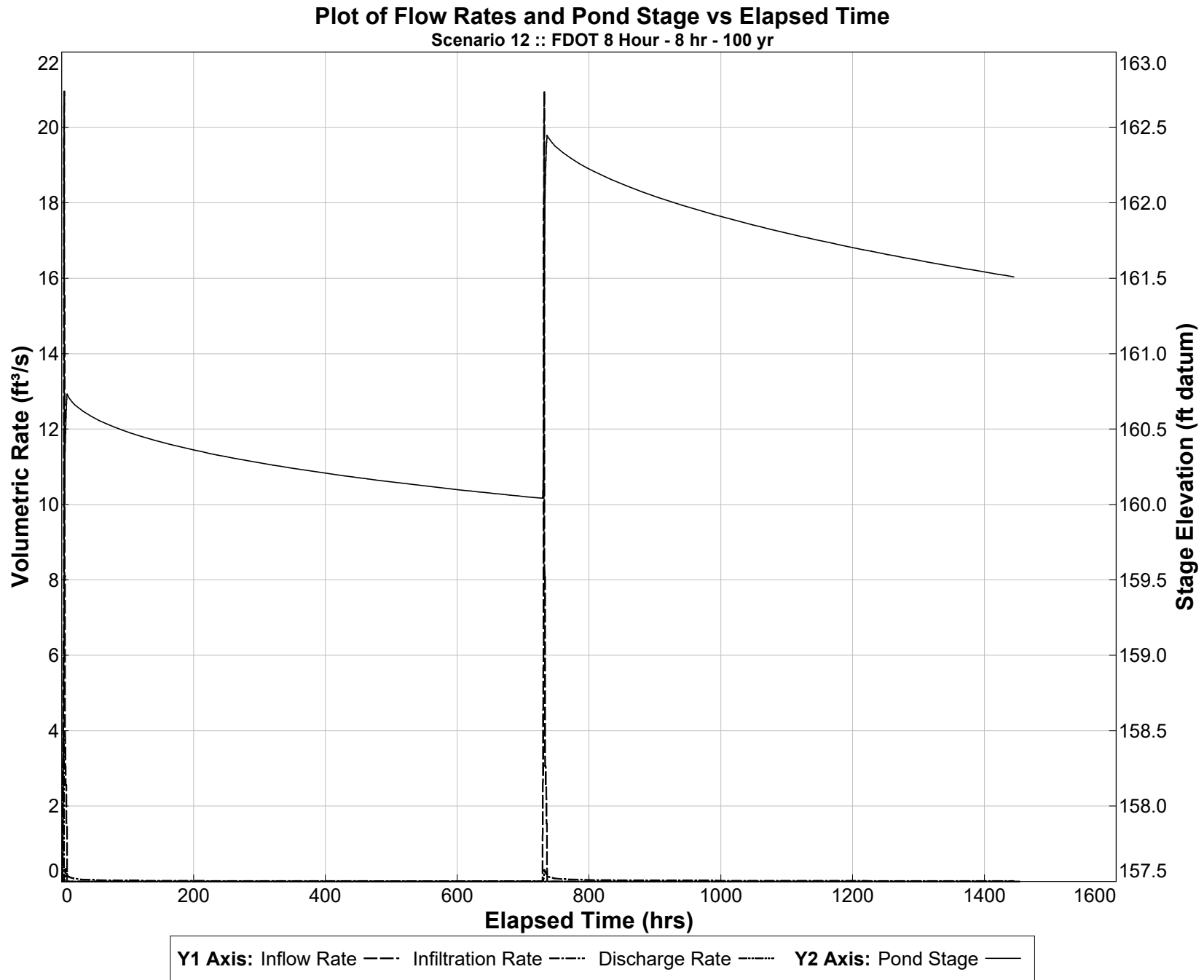


Y1 Axis: Inflow Rate — Infiltration Rate Discharge Rate -.- Y2 Axis: Pond Stage —

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Summary of Results :: Scenario 12 :: FDOT 8 Hour - 8 hr - 100 yr

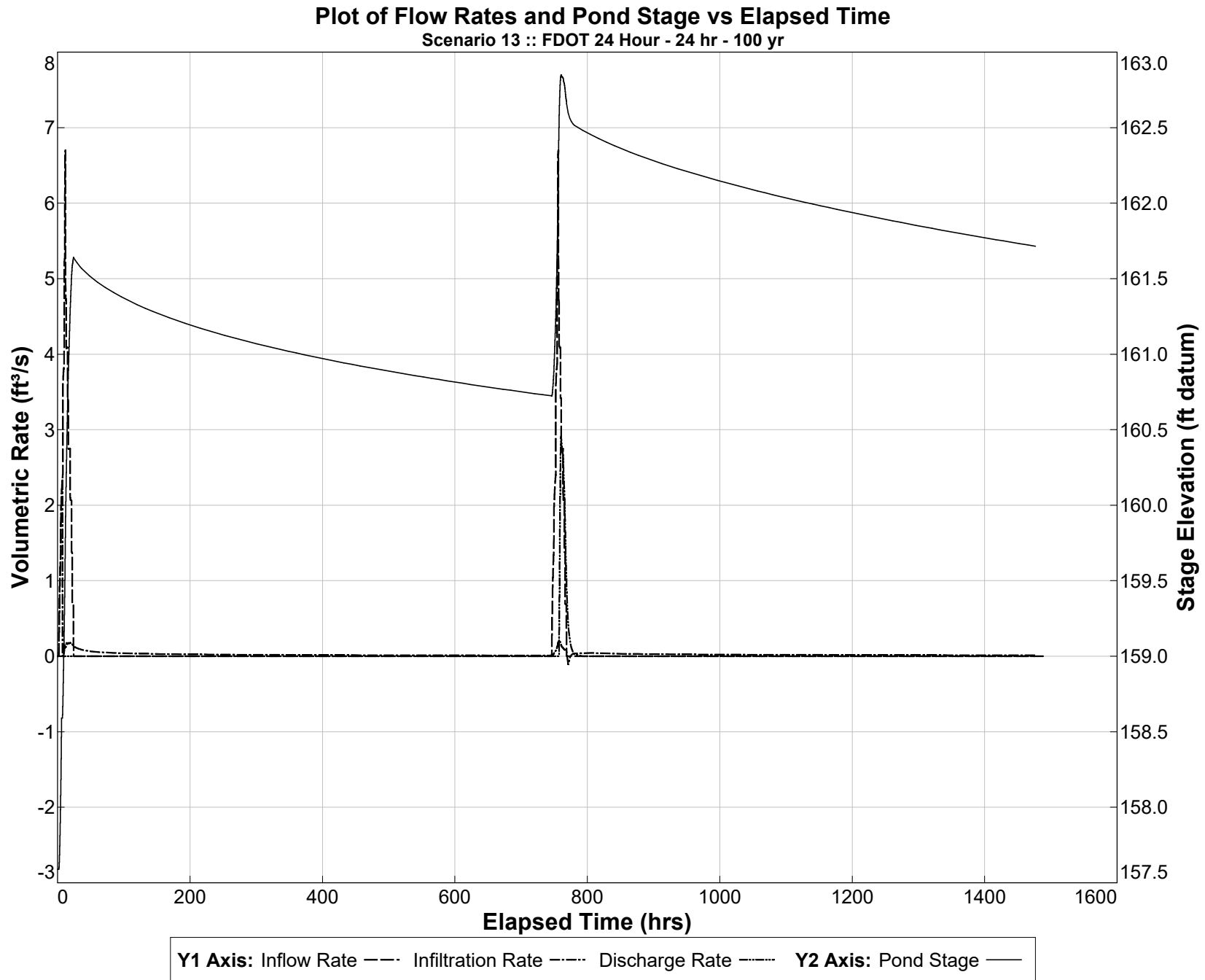
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	157.59		
Maximum	736.532	162.45		
Inflow				
Rate - Maximum - Positive	3.989		20.9647	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	736.758			309865.7
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1456.773			309865.7
Infiltration				
Rate - Maximum - Positive	3.627		3.9706	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1456.773			138155.5
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1456.773			138155.5
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1456.773			0.0
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1456.773			0.0
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 13 :: FDOT 24 Hour - 24 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	157.59		
Maximum	760.468	162.85		
Inflow				
Rate - Maximum - Positive	11.998		6.7063	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	768.764			434536.3
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1488.779			434536.3
Infiltration				
Rate - Maximum - Positive	7.404		2.3490	
Rate - Maximum - Negative	771.179		-0.1095	
Cumulative Volume - Maximum Positive	1488.779			153065.4
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1488.779			153065.4
Combined Discharge				
Rate - Maximum - Positive	760.468		2.9175	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	792.779			96741.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1488.779			96741.6
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	760.468		2.9175	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	792.779			96741.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1488.779			96741.6
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



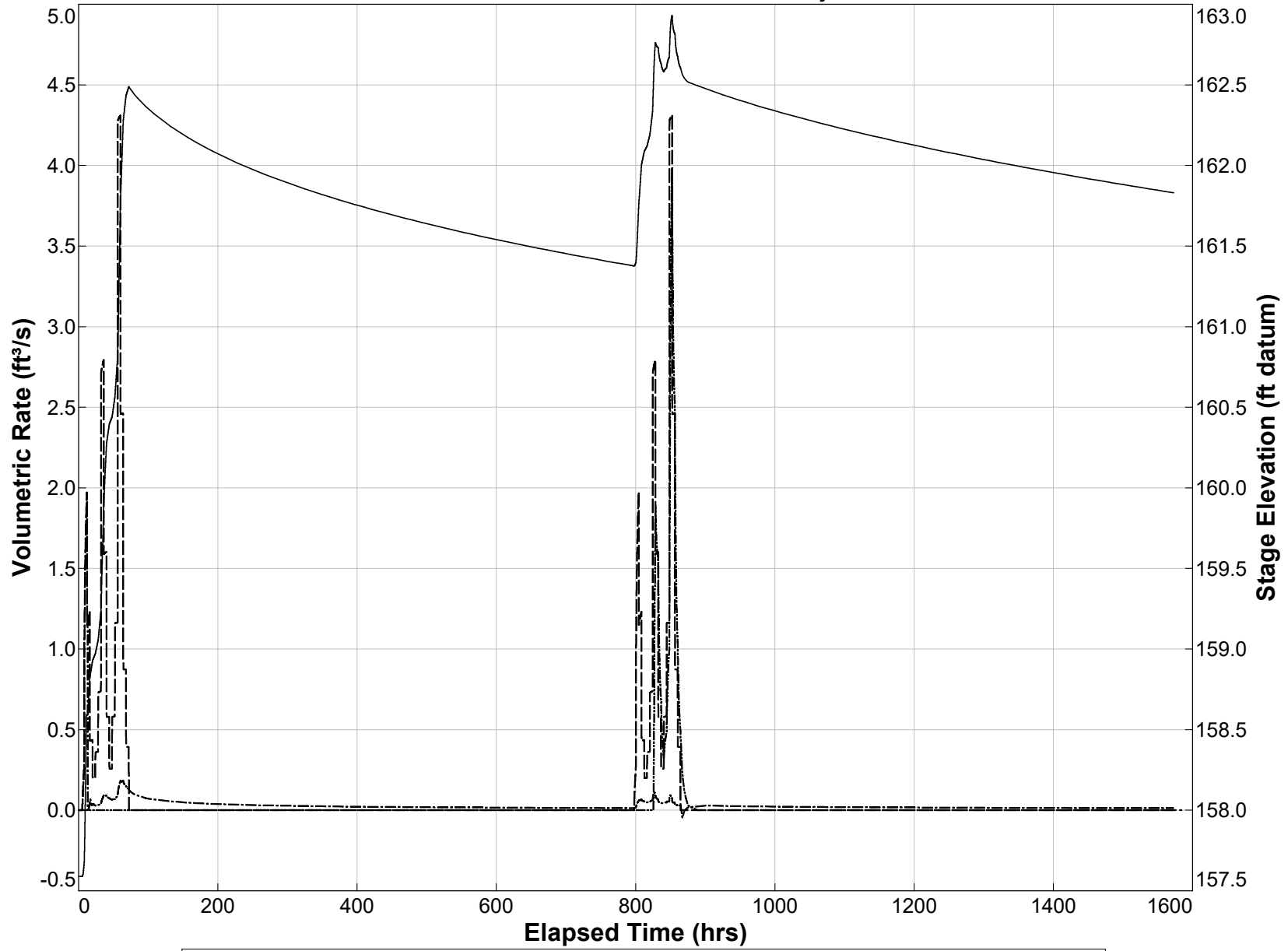
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Summary of Results :: Scenario 14 :: FDOT 72 Hour - 72 hr - 100 yr

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	157.59		
Maximum	852.419	162.93		
Inflow				
Rate - Maximum - Positive	59.991		4.3105	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	864.749			564061.3
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1584.764			564061.3
Infiltration				
Rate - Maximum - Positive	11.983		1.9721	
Rate - Maximum - Negative	867.164		-0.0488	
Cumulative Volume - Maximum Positive	1584.764			175258.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1584.764			175258.0
Combined Discharge				
Rate - Maximum - Positive	852.419		3.9856	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	888.764			196622.2
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1584.764			196622.2
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	852.419		3.9856	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	888.764			196622.2
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1584.764			196622.2
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

Plot of Flow Rates and Pond Stage vs Elapsed Time

Scenario 14 :: FDOT 72 Hour - 72 hr - 100 yr

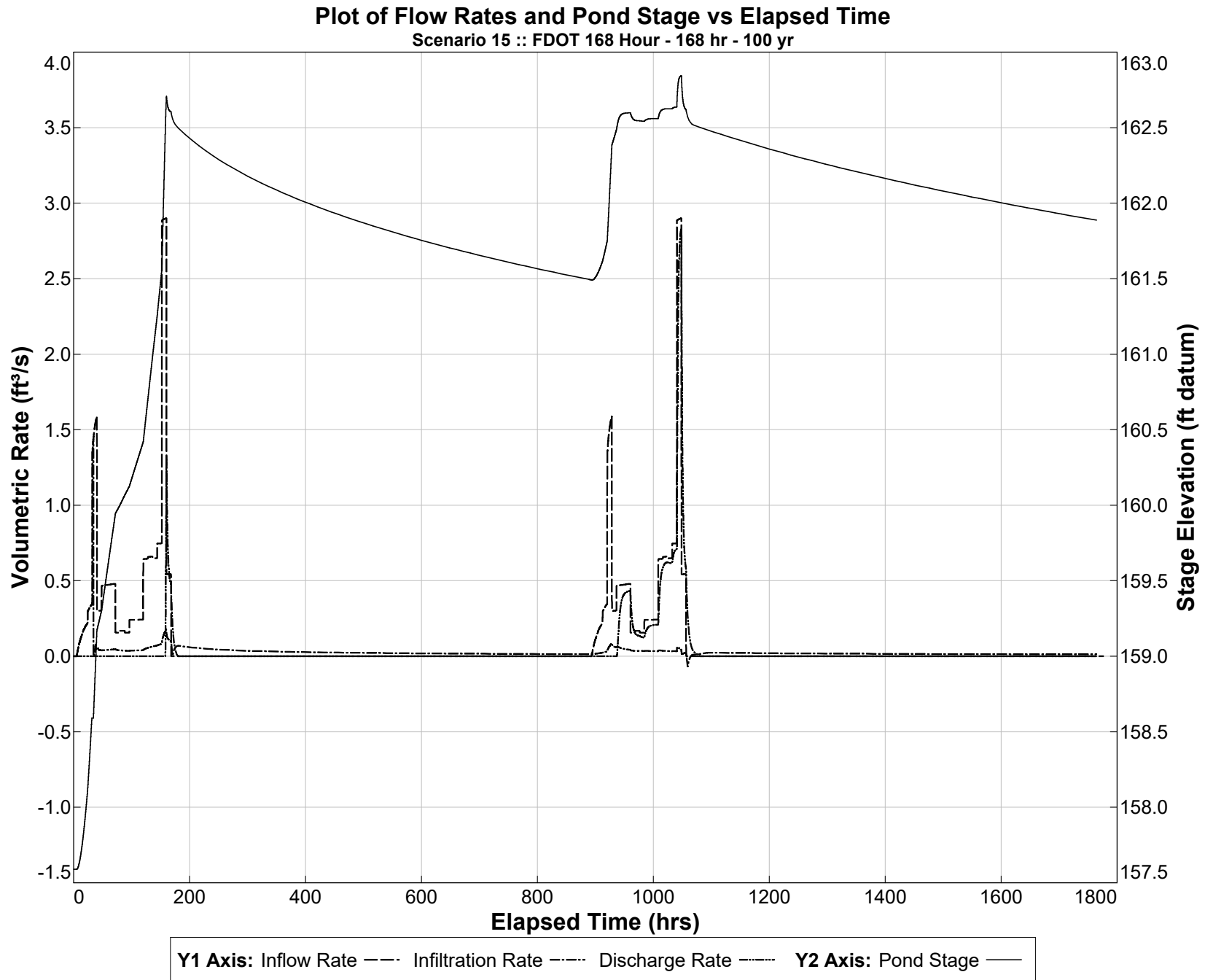


Y1 Axis: Inflow Rate — Infiltration Rate — Discharge Rate — Y2 Axis: Pond Stage —

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Summary of Results :: Scenario 15 :: FDOT 168 Hour - 168 hr - 100 yr

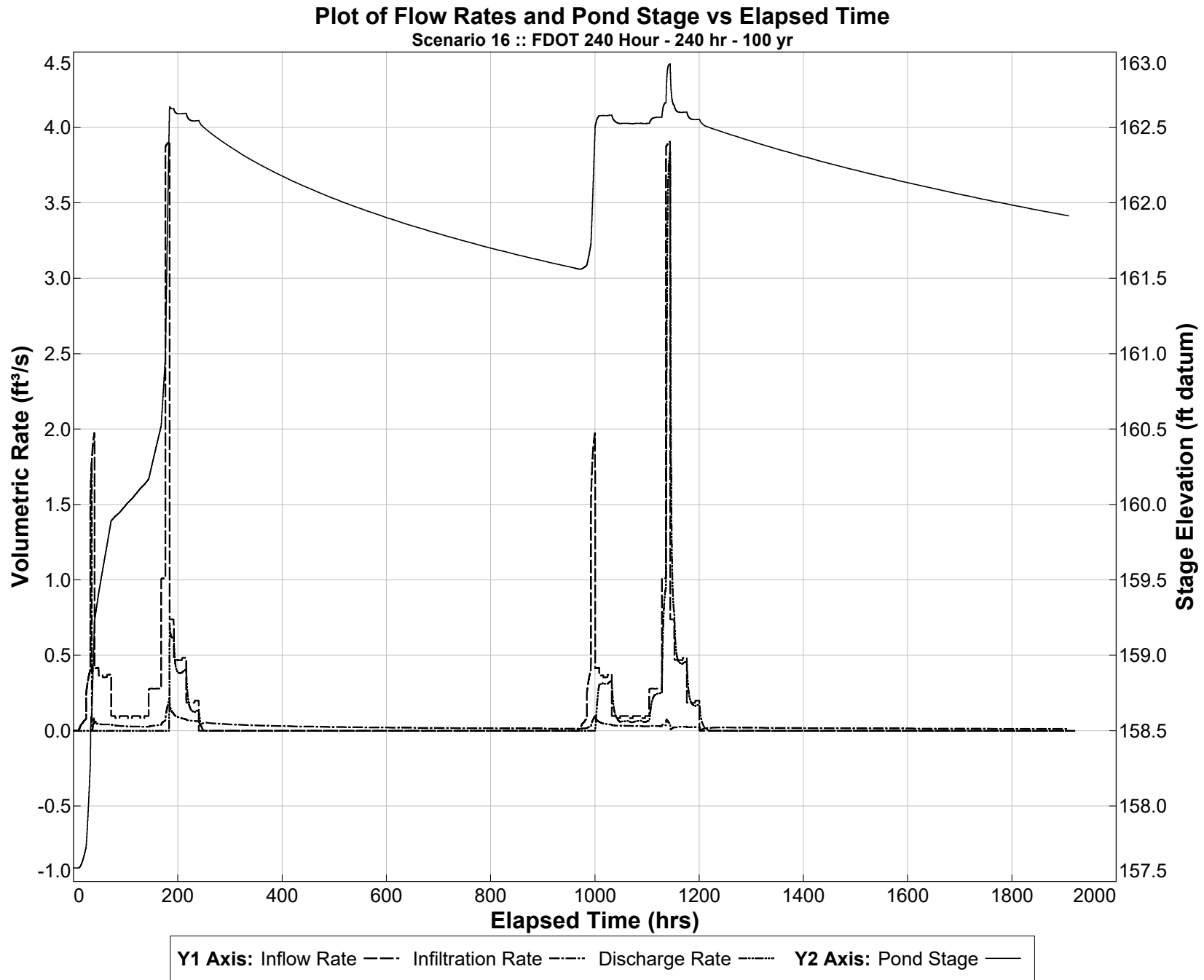
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	157.59		
Maximum	1048.380	162.84		
Inflow				
Rate - Maximum - Positive	159.996		2.9001	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1056.751			645253.5
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1776.766			645253.5
Infiltration				
Rate - Maximum - Positive	34.045		1.4403	
Rate - Maximum - Negative	1059.166		-0.0697	
Cumulative Volume - Maximum Positive	1776.766			185004.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1776.766			185004.6
Combined Discharge				
Rate - Maximum - Positive	1048.395		2.8341	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1092.766			264430.8
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1776.766			264430.8
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	1048.395		2.8341	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1092.766			264430.8
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1776.766			264430.8
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 16 :: FDOT 240 Hour - 240 hr - 100 yr

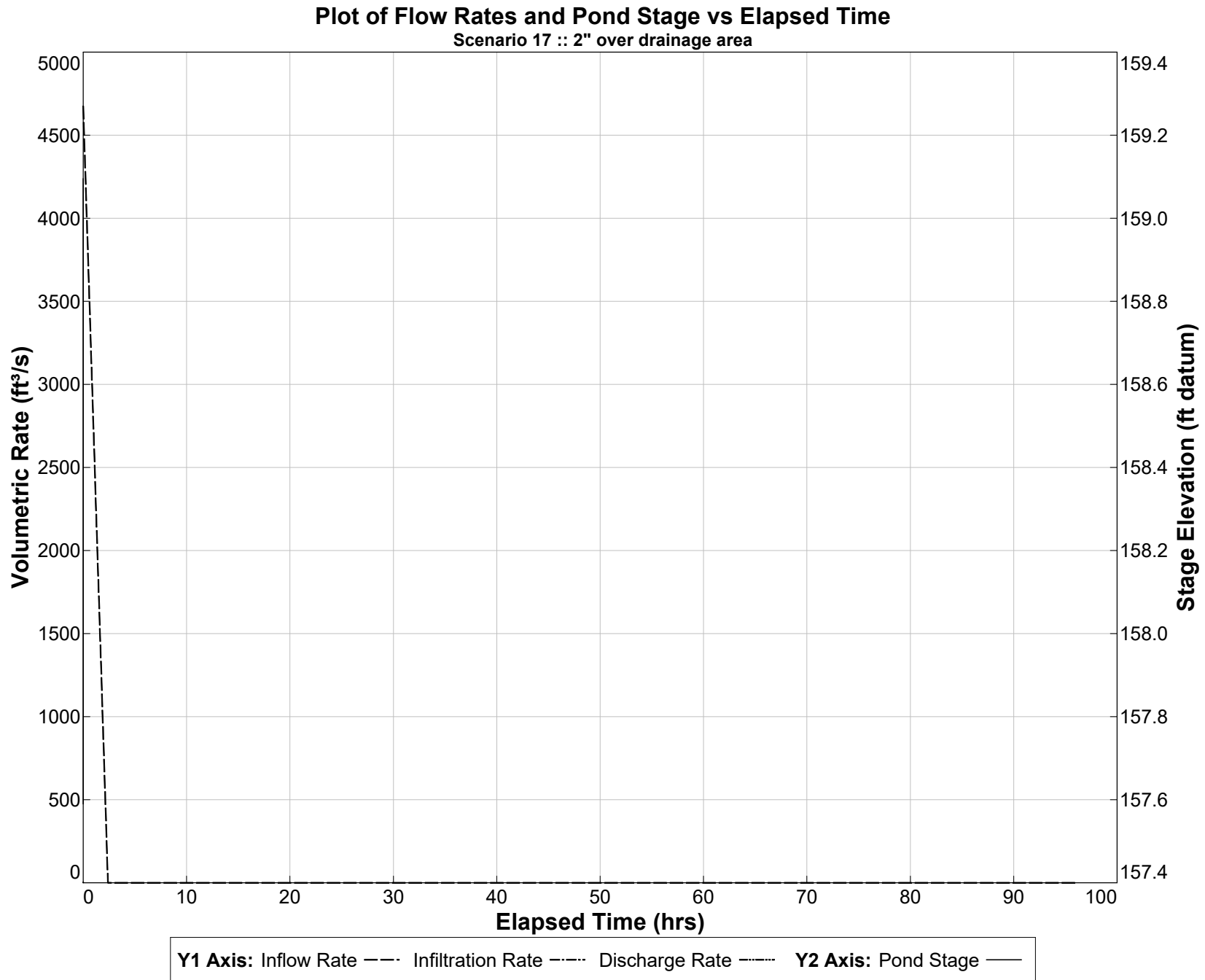
	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	157.59		
Maximum	1144.396	162.92		
Inflow				
Rate - Maximum - Positive	184.008		3.9060	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1200.760			751995.4
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1920.775			751995.4
Infiltration				
Rate - Maximum - Positive	34.771		1.7834	
Rate - Maximum - Negative	1203.175		-0.0037	
Cumulative Volume - Maximum Positive	1920.775			198028.3
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1920.775			198028.3
Combined Discharge				
Rate - Maximum - Positive	1144.396		3.8379	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1224.775			356439.3
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1920.775			356439.3
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	1144.396		3.8379	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	1224.775			356439.3
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	1920.775			356439.3
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.



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Summary of Results :: Scenario 17 :: 2" over drainage area

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	0.000	157.59		
Maximum	0.002	159.10		
Inflow				
Rate - Maximum - Positive	0.002		4675.8330	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			28055.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			28055.0
Infiltration				
Rate - Maximum - Positive	0.002		3.9313	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			23.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			28055.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 1 - simple weir				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	Dry		28055.0
72 Hour Stage and Infiltration Volume	72.000	Dry		28055.0



File Attachments for Item:

iv. SPR23-10, Petition submitted by Carol Chadwick (agent) for Affiliated Property Management (owner), for a Site Plan Review for Aspire Dental Addition, in the Commercial Intensive Zoning District, and located on Parcel 07604-102, which is regulated by the Land Development Regulations section 4.13.



GROWTH MANAGEMENT

205 North Marion Ave.
Lake City, FL 32055
Telephone: (386)719-5750
E-Mail:
growthmanagement@lcfla.com

FOR PLANNING USE ONLY

Application # SPR23-10

Application Fee \$200.00

Receipt No. 2023-00042843

Filing Date 3/31/23

Completeness Date _____

Site Plan Application

A. PROJECT INFORMATION

1. Project Name: Aspire Dental Addition
2. Address of Subject Property: 1788 SW Barnett Way, Lake City
3. Parcel ID Number(s): 05-45-17-076004-102
4. Future Land Use Map Designation: Commercial
5. Zoning Designation: CI
6. Acreage: 0.489
7. Existing Use of Property: Dental office
8. Proposed use of Property: Dental office
9. Type of Development (Check All That Apply):
 - ☒ Increase of floor area to an existing structure: Total increase of square footage 699
 - ☐ New construction: Total square footage _____
 - ☐ Relocation of an existing structure: Total square footage _____

B. APPLICANT INFORMATION

1. Applicant Status ☐ Owner (title holder) ☒ Agent
2. Name of Applicant(s): Carol Chadwick, PE Title: Civil Engineer
Company name (if applicable): _____
Mailing Address: 1208 SW Fairfax Glen
City: Lake City State: FL Zip: 32025
Telephone: (386) 680-1772 Fax: (_____) Email: ccpewyde@gmail.com

PLEASE NOTE: Florida has a very broad public records law. Most written communications to or from government officials regarding government business is subject to public records requests. Your e-mail address and communications may be subject to public disclosure.

3. If the applicant is agent for the property owner*.
Property Owner Name (title holder): Affiliated Property Management
Mailing Address: 14506 NW 11th Place
City: Newberry State: FL Zip: 32669
Telephone: (386) 752-8836 Fax: (_____) Email: aspire.dental@gmail.com

PLEASE NOTE: Florida has a very broad public records law. Most written communications to or from government officials regarding government business is subject to public records requests. Your e-mail address and communications may be subject to public disclosure.

*Must provide an executed Property Owner Affidavit Form authorizing the agent to act on behalf of the property owner.

C. ADDITIONAL INFORMATION

1. Is there any additional contract for the sale of, or options to purchase, the subject property?
If yes, list the names of all parties involved: _____
If yes, is the contract/option contingent or absolute: ☐ Contingent ☐ Absolute
2. Has a previous application been made on all or part of the subject property? ☐ Yes ☒ No
Future Land Use Map Amendment: ☐ Yes ☒ No
Future Land Use Map Amendment Application No. _____
Site Specific Amendment to the Official Zoning Atlas (Rezoning): ☐ Yes ☒ No
Site Specific Amendment to the Official Zoning Atlas (Rezoning) Application No. _____
Variance: ☐ Yes ☒ No
Variance Application No. _____
Special Exception: ☐ Yes ☒ No
Special Exception Application No. _____

D. ATTACHMENT/SUBMITTAL REQUIREMENTS

- ✓ 1. Vicinity Map – Indicating general location of the site, abutting streets, existing utilities, complete legal description of the property in question, and adjacent land use.
- ✓ 2. Site Plan – Including, but not limited to the following:
 - a. Name, location, owner, and designer of the proposed development.
 - b. Present zoning for subject site.
 - c. Location of the site in relation to surrounding properties, including the means of ingress and egress to such properties and any screening or buffers on such properties.
 - d. Date, north arrow, and graphic scale not less than one inch equal to 50 feet.
 - e. Area and dimensions of site (Survey).
 - f. Location of all property lines, existing right-of-way approaches, sidewalks, curbs, and gutters.
 - g. Access to utilities and points of utility hook-up.
 - h. Location and dimensions of all existing and proposed parking areas and loading areas.
 - i. Location, size, and design of proposed landscaped areas (including existing trees and required landscaped buffer areas).
 - j. Location and size of any lakes, ponds, canals, or other waters and waterways.
 - k. Structures and major features fully dimensioned including setbacks, distances between structures, floor area, width of driveways, parking spaces, property or lot lines, and percent of property covered by structures.
 - l. Location of trash receptacles.
 - m. For multiple-family, hotel, motel, and mobile home park site plans:
 - i. Tabulation of gross acreage.
 - ii. Tabulation of density.
 - iii. Number of dwelling units proposed.
 - iv. Location and percent of total open space and recreation areas.
 - v. Percent of lot covered by buildings.

- vi. Floor area of dwelling units.
 - vii. Number of proposed parking spaces.
 - viii. Street layout.
 - ix. Layout of mobile home stands (for mobile home parks only).
- ✓3. Stormwater Management Plan—Including the following:
 - a. Existing contours at one foot intervals based on U.S. Coast and Geodetic Datum.
 - b. Proposed finished elevation of each building site and first floor level.
 - c. Existing and proposed stormwater management facilities with size and grades.
 - d. Proposed orderly disposal of surface water runoff.
 - e. Centerline elevations along adjacent streets.
 - f. Water management district surface water management permit.
 - ✓4. Fire Department Access and Water Supply Plan: The Fire Department Access and Water Supply Plan must demonstrate compliance with Chapter 18 of the Florida Fire Prevention Code, be located on a separate signed and sealed plan sheet, and must be prepared by a professional fire engineer licensed in the State of Florida. The Fire Department Access and Water Supply Plan must contain fire flow calculations in accordance with the Guide for Determination of Required Fire Flow, latest edition, as published by the Insurance Service Office ("ISO") and/or Chapter 18, Section 18.4 of the Florida Fire Prevention Code, whichever is greater.
 - ✓5. Concurrency Impact Analysis: Concurrency Impact Analysis of impacts to public facilities. For commercial and industrial developments, an analysis of the impacts to Transportation, Potable Water, Sanitary Sewer, and Solid Waste impacts are required.
 - ✓6. Comprehensive Plan Consistency Analysis: An analysis of the application's consistency with the Comprehensive Plan (analysis must identify specific Goals, Objectives, and Policies of the Comprehensive Plan and detail how the application complies with said Goals, Objectives, and Policies).
 - ✓7. Legal Description with Tax Parcel Number (In Word Format).
 - ✓8. Proof of Ownership (i.e. deed).
 - ✓9. Agent Authorization Form (signed and notarized).
 - ✓10. Proof of Payment of Taxes (can be obtained online via the Columbia County Tax Collector's Office).
 - 11. Fee. The application fee for a Site and Development Plan Application is \$200.00. No application shall be accepted or processed until the required application fee has been paid.

NOTICE TO APPLICANT

All eleven (11) attachments are required for a complete application. Once an application is submitted and paid for, a completeness review will be done to ensure all the requirements for a complete application have been met. If there are any deficiencies, the applicant will be notified in writing. If an application is deemed to be incomplete, it may cause a delay in the scheduling of the application before the Planning & Zoning Board.

A total of ten (10) copies of proposed site plan application and all support materials must be submitted along with a PDF copy on a CD. See City of Lake City submittal guidelines for additional submittal requirements.

THE APPLICANT ACKNOWLEDGES THAT THE APPLICANT OR AGENT MUST BE PRESENT AT THE PUBLIC HEARING BEFORE THE PLANNING AND ZONING BOARD, AS ADOPTED IN THE BOARD RULES AND PROCEDURES. OTHERWISE THE REQUEST MAY BE CONTINUED TO A FUTURE HEARING DATE.

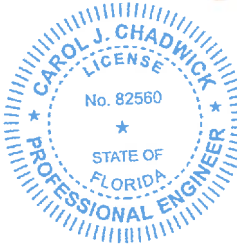
I hereby certify that all of the above statements and statements contained in any documents or plans submitted herewith are true and accurate to the best of my knowledge and belief.

Applicant/Agent Name (Type or Print)

Applicant/Agent Signature

Applicant/Agent Name (Type or Print)

Applicant/Agent Signature



Digitally signed by
Carol Chadwick

DN: c=US,
o=Florida,
dnQualifier=A014

10D0000017EB60
924CE0005954C,

cn=Carol
Chadwick

Date: 2023.03.31

12:30:53 -04'00' Date

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20____, by (name of person acknowledging).

(NOTARY SEAL or STAMP)

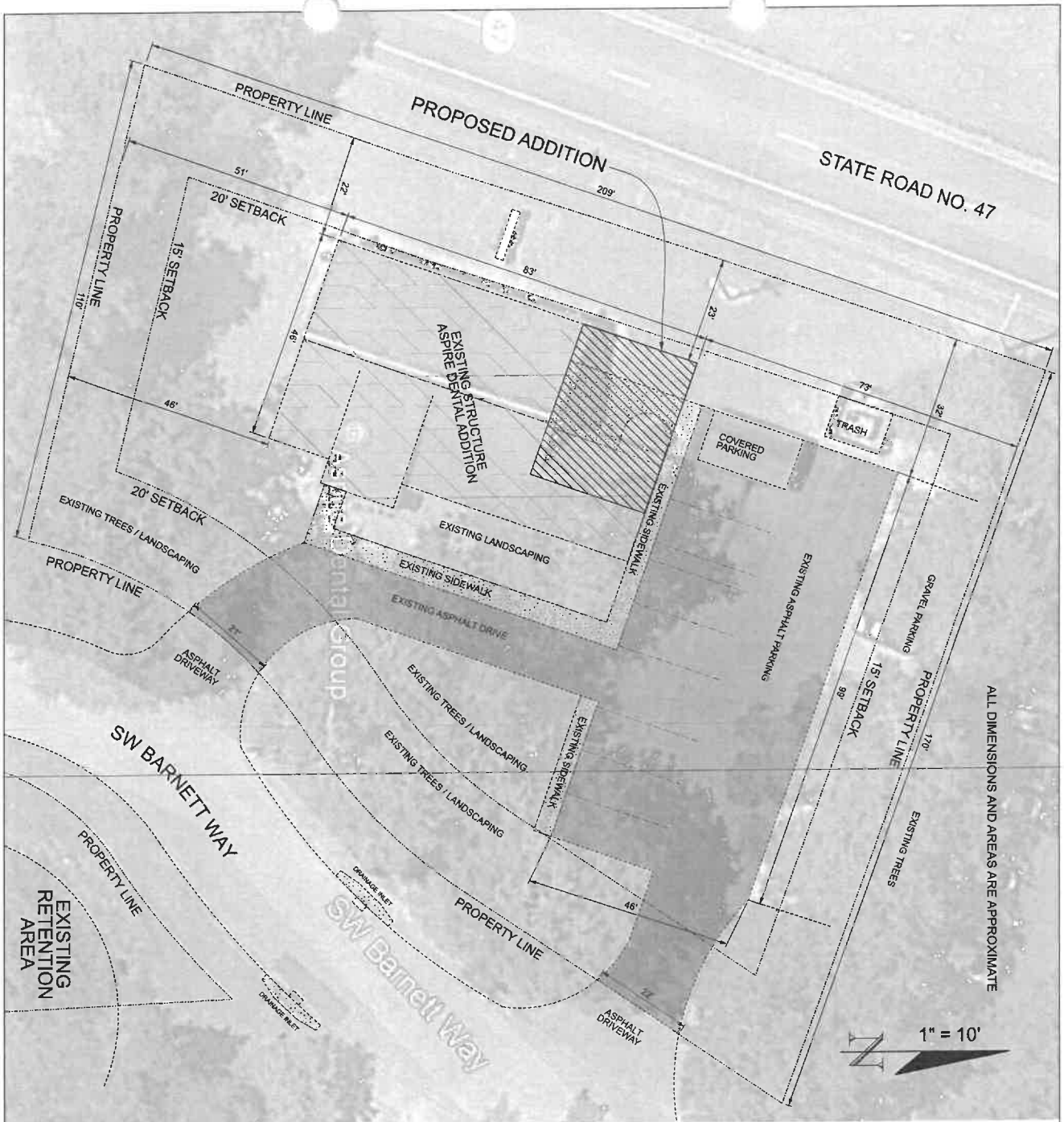
Signature of Notary

Printed Name of Notary

Personally Known _____ OR Produced Identification _____
Type of Identification Produced _____

City of Lake City – Growth Management Department
205 North Marion Ave, Lake City, FL 32055 ♦ (386) 719-5750





VICINITY MAP / SITE PLAN

LEGAL DESCRIPTION
LOT 2 OF SOUTHBANK PLACE AS PER PLAT THEREOF
RECORDED IN PLAT BOOK 6 PAGE 18 OF THE PUBLIC
RECORDS OF COLUMBIA COUNTY, FLORIDA.

EXISTING / PROPOSED ZONING - MEDICAL OFFICE
TOTAL SITE AREA = .689 ACRES
EXISTING / PROPOSED ASPHALT PARKING = 6354 SF
EXISTING / PROPOSED CONCRETE SIDEWALK = 738 SF
EXISTING STRUCTURE = 3278 SF
PROPOSED ADDITION = 699 SF

ASPIRE DENTAL ADDITION
1788 SW BARNETT WAY
COLUMBIA COUNTY, FL 32025

PLANS PREPARED BY:
CHRISTOPHER Q. DICKS, P.E. 64766
4037 SE CR 252, LAKE CITY, FL 32025

SHEET
1
OF
1

CAROL CHADWICK, P.E.

Civil Engineer

1208 S.W. Fairfax Glen

Lake City, FL 32025

307.680.1772

ccpewyo@gmail.com

www.carolchadwickpe.com

March 31, 2023

re: Aspire Dental Addition Drainage Memo

Per ERP-4-88-00236, each lot is permitted for 40% impervious area. Please refer to site plan for impervious area summary.

Lot size is 0.689 acres or 30013 s.f. Total impervious surface with this addition will be 11069 s.f. Total allowed impervious surfaces is 12005 s.f.

The proposed design and construction of this site shall not cause adverse impacts to:

- Existing surface water storage
- Conveyance capabilities
- Water quantity
- Flooding conditions
- Minimum flows and levels established by the State of Florida
- Water quality

Please contact me at 307.680.1772 if you have any questions.

Respectfully,



Digitally signed by Carol Chadwick
DN: c=US, o=Florida,
dnQualifier=A01410D0000017EB6
D924CE0005954C, cn=Carol
Chadwick
Date: 2023.03.31 12:30:30 -04'00'

Carol Chadwick, P.E.

CAROL CHADWICK, P.E.

Civil Engineer

1208 S.W. Fairfax Glen

Lake City, FL 32025

307.680.1772

ccpewyo@gmail.com

www.carolchadwickpe.com

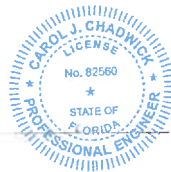
March 31, 2023

re: Aspire Dental Addition Fire Flow Report

The additional of 699 s.f. of building area will not require additional fire flow from the existing hydrant. Hydrant is located on SW Barnett Way on the northeast corner of the site.

Please contact me at 307.680.1772 if you have any questions.

Respectfully,



Digitally signed by Carol Chadwick

DN: c=US, o=Florida,

dnQualifier=A01410D0000017EB6

D924CE0005954C, cn=Carol

Chadwick

Date: 2023.03.31 12:30:19 -04'00'

Carol Chadwick, P.E.

CAROL CHADWICK, P.E.

Civil Engineer

1208 S.W. Fairfax Glen

Lake City, FL 32025

307.680.1772

ccpewyo@gmail.com

www.carolchadwickpe.com

March 31, 2023

re: Aspire Dental Addition Concurrency Impact Analysis

The site is an existing dental office. The business currently utilizes public sewer and water systems.

Criteria for analyses:

- Trip generation was calculated per the ITE Trip Generation Manual, 9th edition, ITE code 720
- Potable Water Analysis per Chapter 64E-6.008 Florida Administrative Code, Table 1
- Sanitary Sewer Analysis Chapter 64E-6.008 Florida Administrative Code, Table 1
- Environmental Engineering: Tampa Typical Solid Waste Generation Rates

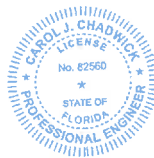
Summary of analyses:

- Trip generation: 43.82 ADT & 5.93 Peak PM trips
- Potable Water: 695 gallons per day
- Potable Water: 695 gallons per day
- Solid Waste: 2.98 c.y. per week

See attached Concurrency Worksheet.

Please contact me at 307.680.1772 if you have any questions.

Respectfully,



Digitally signed by Carol Chadwick
DN: c=US, o=Florida,
dnQualifier=A01410D0000017EB6D
924CE0005954C, cn=Carol Chadwick
Date: 2023.03.31 12:30:08 -04'00'

Carol Chadwick, P.E.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

CC Job #FL23105



REVISED CONCURRENCY WORKSHEET

Trip Generation Analysis

ITE Code	ITE Use	ADT Multiplier	PM Peak Multiplier	KSF	Total ADT	Total PM Peak
720	Medical Dental Office	11.01	1.49	3.98	43.82	5.93

*Per employee

Potable Water Analysis

Ch. 64E-6.008, F.A.C. Use	Ch. 64E-6.008, F.A.C. Gallons Per Day (GPD)	Ch. 64E-6.008, F.A.C. Multiplier*	Total (Gallons Per Day)
Medical Dental Office	250 + 15	250 + 13	695.00

* Multiplier is based upon Ch. 64E.6008, Florida Administrative Code and can vary from square footage, number of employees, number of seats, or etc. See Ch. 64E-6.008, F.A.C. to determine multiplier. (2 PRACTITIONERS & 13 EMPLOYEES)

Sanitary Sewer Analysis

Ch. 64E-6.008, F.A.C. Use	Ch. 64E-6.008, F.A.C. Gallons Per Day (GPD)	Ch. 64E-6.008, F.A.C. Multiplier*	Total (Gallons Per Day)
Medical Dental Office	250 + 15	250 + 13	695.00

* Multiplier is based upon Ch. 64E.6008, Florida Administrative Code and can vary from square footage, number of employees, number of seats, or etc. See Ch. 64E-6.008, F.A.C. to determine multiplier. (2 PRACTITIONERS & 13 EMPLOYEES)

Solid Waste Analysis

Use	Tons Per 100 s.f.	S.F.	Total (c.y. per week)
Medical Office	1.50	3977.00	2.98

CAROL CHADWICK, P.E.

Civil Engineer

1208 S.W. Fairfax Glen

Lake City, FL 32025

307.680.1772

ccpewyo@gmail.com

www.carolchadwickpe.com

March 31, 2023

re: Aspire Dental Addition Comprehensive Plan Consistency Analysis

The Aspire Dental Addition proposed site plan consistent with Lake City's Comprehensive Plan.

Future Land Use Element

GOAL 1 - IN RECOGNITION OF THE IMPORTANCE OF CONSERVING THE NATURAL RESOURCES AND ENHANCING THE QUALITY OF LIFE, THE CITY SHALL DIRECT DEVELOPMENT TO THOSE AREAS WHICH HAVE IN PLACE, OR HAVE AGREEMENTS TO PROVIDE, THE LAND AND WATER RESOURCES, FISCAL ABILITIES AND SERVICE CAPACITY TO ACCOMMODATE GROWTH IN AN ENVIRONMENTALLY ACCEPTABLE MANNER.

- Objective 1.1 The City shall continue to direct future population growth and associated urban development to urban development areas as established within this comprehensive plan.

Consistency: The subject property is an addition to an existing dental office.

- Policy 1.1.1 The City shall limit the location of higher density residential and high intensity commercial and industrial uses to areas adjacent to arterial or collector roads where public facilities are available to support such higher density or intensity. In addition, the City shall enable private subregional centralized potable water and sanitary sewer systems to connect to public regional facilities, in accordance with the objective and policies for the urban and rural areas within this future land use element of the comprehensive plan.

Consistency: The subject property is an addition to an existing dental office.

- Policy 1.1.2 The City's future land use plan map shall allocate amounts and mixes of land uses for residential, commercial, industrial, public and recreation to meet the needs of the existing and projected future populations and to locate urban land uses in a manner where public facilities may be provided to serve such urban land uses. Urban land uses shall be herein defined as residential, commercial and industrial land use categories.

Consistency: The commercial site is zoned C1.

- Policy 1.1.3 The City's future land use plan map shall base the designation of residential, commercial and industrial lands depicted on the future land use plan map upon acreage which can be reasonable expected to develop by the year 2023.

Consistency: The subject property is an addition to an existing dental office.

- Policy 1.1.4 The City shall continue to maintain standards for the coordination and siting of proposed urban development near agricultural or forested areas, or environmentally sensitive

□

areas (including but not limited to wetlands and floodplain areas) to avoid adverse impact upon existing land uses.

Consistency: The proposed use of the subject property is consistent with commercial properties and will not have any adverse environmental impacts on the existing land uses.

- Policy I.1.5 The City shall continue to regulate and govern future urban development within designated urban development areas in conformance with the land topography and soil conditions, and within an area which is or will be served by public facilities and services.

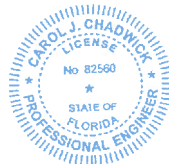
Consistency: No impacts to adjacent land topography or soil conditions will result due to a zooming or land use change of the subject property.

- Policy I.1.6 The City's land development regulations shall be based on and be consistent with the following land use classifications and corresponding standards for densities and intensities within the designated urban development areas of the City. For the purpose of this policy and comprehensive plan, the phrase "other similar uses compatible with" shall mean land uses that can co-exist in relative proximity to other uses in a stable fashion over time such that no other uses within the same land use classification are negatively impacted directly or indirectly by the use.

Consistency: The proposed commercial development is compatible with other similar uses in the area and can co-exist without negative impacts to other uses in relative proximity to the development over time.

Please contact me at 307.680.1772 if you have any questions.

Respectfully,



Digitally signed by Carol Chadwick
DN: c=US, o=Florida,
dnQualifier=A01410D0000017EB6
D924CE0005954C, cn=Carol
Chadwick
Date: 2023.03.31 12:29:45 -04'00'

Carol Chadwick, P.E.

PARCEL: 05-4S-17-07604-102

DESCRIPTION:

LOT 2 OF SOUTHBANK PLACE AS PER PLAT THEREOF RECORDED IN PLAT BOOK 6 PAGE 19 OF
THE PUBLIC RECORDS OF COLUMBIA COUNTY, FLORIDA

Columbia County Property Appraiser

Jeff Hampton

2023 Working Values

updated: 3/30/2023

Parcel: << 05-4S-17-07604-102 (28480) >>

Aerial Viewer Pictometry Google Maps

Owner & Property Info

Result: 1 of 0

Owner	AFFILIATED PROPERTY MANAGEMENT LLC 14506 NW 11TH PLACE NEWBERRY, FL 32669		
Site	1788 SW BARNETT WAY, LAKE CITY		
Description*	LOT 2 SOUTH BANK PLACE. 768-521, 859-1397, 880-2059, CD 884-2282, WD 1486-471.		
Area	0.689 AC	S/T/R	05-4S-17
Use Code**	PROFESS SVC/BLD (1900)	Tax District	1

*The Description above is not to be used as the Legal Description for this parcel in any legal transaction.
**The Use Code is a FL Dept. of Revenue (DOR) code and is not maintained by the Property Appraiser's office.
Please contact your city or county Planning and Zoning office for specific zoning information.

Property & Assessment Values

2022 Certified Values		2023 Working Values	
Mkt Land	\$67,626	Mkt Land	\$67,626
Ag Land	\$0	Ag Land	\$0
Building	\$195,579	Building	\$190,220
XFOB	\$8,551	XFOB	\$8,551
Just	\$271,756	Just	\$266,397
Class	\$0	Class	\$0
Appraised	\$271,756	Appraised	\$266,397
SOH Cap [?]	\$0	SOH Cap [?]	\$0
Assessed	\$271,756	Assessed	\$266,397
Exempt	\$0	Exempt	\$0
Total Taxable	county:\$271,756 city:\$271,756 other:\$0 school:\$271,756	Total Taxable	county:\$266,397 city:\$266,397 other:\$0 school:\$266,397



Sales History

Sale Date	Sale Price	Book/Page	Deed	V/I	Qualification (Codes)	RCode
4/19/2022	\$100	1486/0471	WD	I	U	11
5/18/1999	\$68,000	0880/2059	WD	V	U	01
5/28/1998	\$68,000	0859/1397	WD	V	Q	
10/27/1992	\$48,000	0768/0521	WD	V	U	04

Building Characteristics

Bldg Sketch	Description*	Year Blt	Base SF	Actual SF	Bldg Value
Sketch	OFFICE MED (5200)	1999	3136	3318	\$190,220

*Bldg Desc determinations are used by the Property Appraisers office solely for the purpose of determining a property's Just Value for ad valorem tax purposes and should not be used for any other purpose.

Extra Features & Out Buildings (Codes)

Code	Desc	Year Blt	Value	Units	Dims
0184	CONC BIN	1999	\$285.00	38.00	0 x 0
0260	PAVEMENT-ASPHALT	1999	\$6,175.00	6861.00	0 x 0
0166	CONC,PAVMT	1999	\$1,691.00	1127.00	0 x 0
0169	FENCE/WOOD	2012	\$100.00	1.00	0 x 0
0080	CARPORT F	2012	\$300.00	1.00	0 x 0

Land Breakdown

Code	Desc	Units	Adjustments	Eff Rate	Land Value
1910	MEDIC OFF (MKT)	30,056.000 SF (0.689 AC)	1.0000/1.0000 1.0000/ /	\$2 /SF	\$67,626

Search Result: 1 of 0

© Columbia County Property Appraiser | Jeff Hampton | Lake City, Florida | 386-758-1083

by: GrizzlyLogic.com



[Department of State](#) / [Division of Corporations](#) / [Search Records](#) / [Search by Entity Name](#) /

Detail by Entity Name

Florida Limited Liability Company
AFFILIATED PROPERTY MANAGEMENT, LLC

Filing Information

Document Number	L16000074743
FEI/EIN Number	59-3529574
Date Filed	04/18/2016
Effective Date	08/19/1998
State	FL
Status	ACTIVE
Last Event	CONVERSION
Event Date Filed	04/18/2016
Event Effective Date	NONE

Principal Address

14506 N.W. 11TH PL.
 NEWBERRY, FL 32669

Mailing Address

14506 N.W. 11TH PL.
 NEWBERRY, FL 32669

Registered Agent Name & Address

HARVEY, FRANKIE J
 14506 N.W. 11TH PL.
 NEWBERRY, FL 32669

Name Changed: 04/28/2017

Authorized Person(s) Detail

Name & Address

Title manager

HARVEY, FRANKIE J
 14506 N.W. 11TH PL.
 NEWBERRY, FL 32669

Annual Reports

Report Year	Filed Date
2020	02/04/2020

2021 02/10/2021
2022 03/31/2022

Document Images

03/31/2022 – ANNUAL REPORT	View image in PDF format
02/10/2021 – ANNUAL REPORT	View image in PDF format
02/04/2020 – ANNUAL REPORT	View image in PDF format
05/10/2019 – ANNUAL REPORT	View image in PDF format
04/27/2018 – ANNUAL REPORT	View image in PDF format
04/28/2017 – ANNUAL REPORT	View image in PDF format
04/18/2016 – Florida Limited Liability	View image in PDF format



GROWTH MANAGEMENT DEPARTMENT
205 North Marion Ave, Lake City, FL 32055
Phone: 386-719-5750
E-mail: growthmanagement@lcfla.com

AGENT AUTHORIZATION FORM

I, Robert Harvey (owner name), owner of property parcel
number _____ (parcel number), do certify that

the below referenced person(s) listed on this form is/are contracted/hired by me, the owner, or, is an officer of the corporation; or, partner as defined in Florida Statutes Chapter 468, and the said person(s) is/are authorized to sign, speak and represent me as the owner in all matters relating to this parcel.

Printed Name of Person Authorized	Signature of Authorized Person
1. <u>Gary Johnson</u>	1. <u>Gary Johnson</u>
2. <u>Heleen Tarr</u>	2. <u>H. Tarr</u>
3. <u>Carol Chadwick, PE</u>	3. <u>[Signature]</u>
4. _____	4. _____
5. _____	5. _____

I, the owner, realize that I am responsible for all agreements my duly authorized agent agrees with, and I am fully responsible for compliance with all Florida Statutes, City Codes, and Land Development Regulations pertaining to this parcel.

If at any time the person(s) you have authorized is/are no longer agents, employee(s), or officer(s), you must notify this department in writing of the changes and submit a new letter of authorization form, which will supersede all previous lists. Failure to do so may allow unauthorized persons to use your name and/or license number to obtain permits.

Owner Signature (Notarized) _____

Date 3-14-2023

NOTARY INFORMATION:

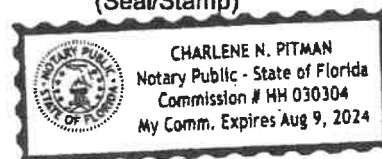
STATE OF: FLORIDA COUNTY OF: COLUMBIA

The above person, whose name is Robert J. Harvey,
personally appeared before me and is known by me or has produced identification
(type of I.D.) FLDL 1610-770-54-447-0 on this 14 day of March, 2023.

FLDL

Charlene N. Pitman
NOTARY'S SIGNATURE

(Seal/Stamp)



Columbia County Tax Collector

generated on 3/31/2023 11:04:33 AM EDT

Tax Record

Last Update: 3/31/2023 11:02:59 AM EDT

Register for eBill

Ad Valorem Taxes and Non-Ad Valorem Assessments

The information contained herein does not constitute a title search and should not be relied on as such.

Account Number R07604-102		Tax Type REAL ESTATE		Tax Year 2022	
Mailing Address AFFILIATED PROPERTY MANAGEMENT LLC 14506 NW 11TH PLACE NEWBERRY FL 32669		Property Address 1788 BARNETT LAKE CITY GEO Number 054S17-07604-102			
Exempt Amount See Below		Taxable Value See Below			
Exemption Detail NO EXEMPTIONS		Millage Code 001		Escrow Code	
Legal Description (click for full description) 05-4S-17 1900/1900.69 Acres LOT 2 SOUTH BANK PLACE. 768-521, 859-1397, 880-2059, CD 884-2282, WD 1466-471,					
Ad Valorem Taxes					
Taxing Authority	Rate	Assessed Value	Exemption Amount	Taxable Value	Taxes Levied
CITY OF LAKE CITY	4.9000	271,756	0	\$271,756	\$1,331.60
BOARD OF COUNTY COMMISSIONERS	7.8150	271,756	0	\$271,756	\$2,123.77
COLUMBIA COUNTY SCHOOL BOARD					
DISCRETIONARY	0.7480	271,756	0	\$271,756	\$203.28
LOCAL	3.2990	271,756	0	\$271,756	\$896.52
CAPITAL OUTLAY	1.5000	271,756	0	\$271,756	\$467.63
SUWANNEE RIVER WATER MGT DIST	0.3368	271,756	0	\$271,756	\$91.53
LAKE SHORE HOSPITAL AUTHORITY	0.0001	271,756	0	\$271,756	\$0.03
Total Millage		18.5989	Total Taxes		\$5,054.36
Non-Ad Valorem Assessments					
Code XLCF	Levying Authority CITY FIRE ASSESSMENT				Amount \$519.27
Total Assessments					\$519.27
Taxes & Assessments					\$5,573.63
If Paid By					Amount Due \$0.00
Date Paid 11/21/2022	Transaction PAYMENT	Receipt 1501182.0001		Item 2022	Amount Paid \$5,350.68

Prior Years Payment History

	Prior Year Taxes Due
NO DELINQUENT TAXES	

Project Summary

Project Name: Aspire Dental Addition

Project Number: SPR23-10

Parcel Number: 07604-102

Project Notes

- Project type: Site Plan Review
- Future land use is: Commercial
- Zoning designation is: Commercial Intensive
- Proposed use of the property: 699 square feet addition
- Land is conducive for use: A dental office is a conducive use, per the LDR section 4.13.2 and 4.12.2.5. However, per section 4.12.11.5, a dental office is required to have one (1) parking space for every 150 square feet of floor area. With the addition, the building would have 3,977 square feet of floor area. This would require 27 parking spaces. The site has eight paved parking spots and an undefined number of parking spots in a gravel area.
- See staff review for notes from directors and city staff for their comments.

Project Summary

Project SPR23-10 is for a site plan review and has been reviewed by city staff. Application is sufficient for review. After review of the petition the city staff has determined that the petition is not consistent with the land development regulations due to the fact of not having the required amount of parking. At this time the City has no other concerns.



DEPARTMENT OF GROWTH MANAGEMENT
205 North Marion Avenue
Lake City, Florida 32055
Telephone: (386) 719-5750
growthmanagement@lcfla.com

REVIEW REPORT TO PLANNING AND ZONING, BOARD OF
ADJUSTMENT AND HISTORICAL COMMITTEES' BY STAFF
FOR SITE PLAN REVIEW, SPECIAL EXCEPTIONS, VARIANCES, COMPREHENSIVE
PLAN AMENDMENTS/ ZONING AND CERTIFICATE OF APPROPRIATENESS

Date: 04/17/2023

Request Type: Site Plan Review (SPR) ☒ Special Exception (SE) ☐ Variances (V) ☐

Comprehensive Plan Amendment/Zoning (CPA/Z) ☐ Certificate of Appropriateness (COA) ☐

Project Number: SPR23-10

Project Name: Aspire Dental Addition

Project Address: 1788 SW Barnett Way, Lake City, FL

Project Parcel Number: 05-4S-17-07604-102

Owner Name: Affiliated Property Management

Owner Address: 14506 NW 11th Place, Newberry, FL 32669

Owner Contact Information: Telephone Number: 386-752-2836 Email: aspiredentalc@gmail.com

Owner Agent Name: Carol Chadwick

Owner Agent Address: 1208 SW Fairfax Glen, Lake City, FL 32025

Owner Agent Contact Information: Telephone: 307-680-1772 Email: ccpewyo@gmail.com

The City of Lake City staff has reviewed the application and documents provided for the above request and have determined the following.

Growth Management – Building Department, Planning and Zoning, Code Enforcement, Permitting

Building Department: Reviewed by: _____ **Date:** _____

Comments: _____

Planning and Zoning: Reviewed by: AS **Date:** 4/24/23

Comments: Per section 4.12.11.5 of the LDR, a dental office is required to have one parking space for every 150 square feet of floor space. The site is required to have 27 space based on proposed site plan.

Business License: Reviewed by: Marshall Sova Marshall Sova (Apr 18, 2023 12:02 EDT) **Date:** _____

Comments: _____

Code Enforcement: Reviewed by: Marshall Sova Marshall Sova (Apr 18, 2023 12:02 EDT) **Date:** _____

Comments: _____

Permitting: Reviewed by: AS **Date:** _____

Comments: _____

Utilities – Water, Sewer, Gas, Water Distribution/Collections, Customer Service

Water Department: Reviewed by: Michael Osborn Jr. Michael Osborn Jr. (Apr 21, 2023 12:55 EDT) **Date:** _____

Comments: _____

Sewer Department: Reviewed by: Cody Pridgeon Cody Pridgeon (Apr 18, 2023 13:03 EDT) **Date:** _____

Comments: See attached email from Cody Pridgeon

Gas Department: Reviewed by: Steve Brown Steve Brown (Apr 24, 2023 08:15 EDT) **Date:** _____

Comments: _____

Water Distribution/Collection: Reviewed by: Brian Scott Brian Scott (Apr 24, 2023 07:42 EDT) **Date:** _____

Comments: _____

Customer Service: Reviewed by: _____ **Date:** _____

Comments: _____

Public Safety – Public Works, Fire Department, Police Department

Public Works: Reviewed by:  **Date:** _____
Steve Brown (Apr 24, 2023 08:15 EDT)

Comments: _____

Fire Department: Reviewed by: *Dwight Booger* **Date:** _____

Comments: _____

Police Department: Reviewed by: _____ **Date:** _____

Comments: _____

Please provide separate pages for comments that will not fit in provided spaces and please label the pages for your department and for the project.

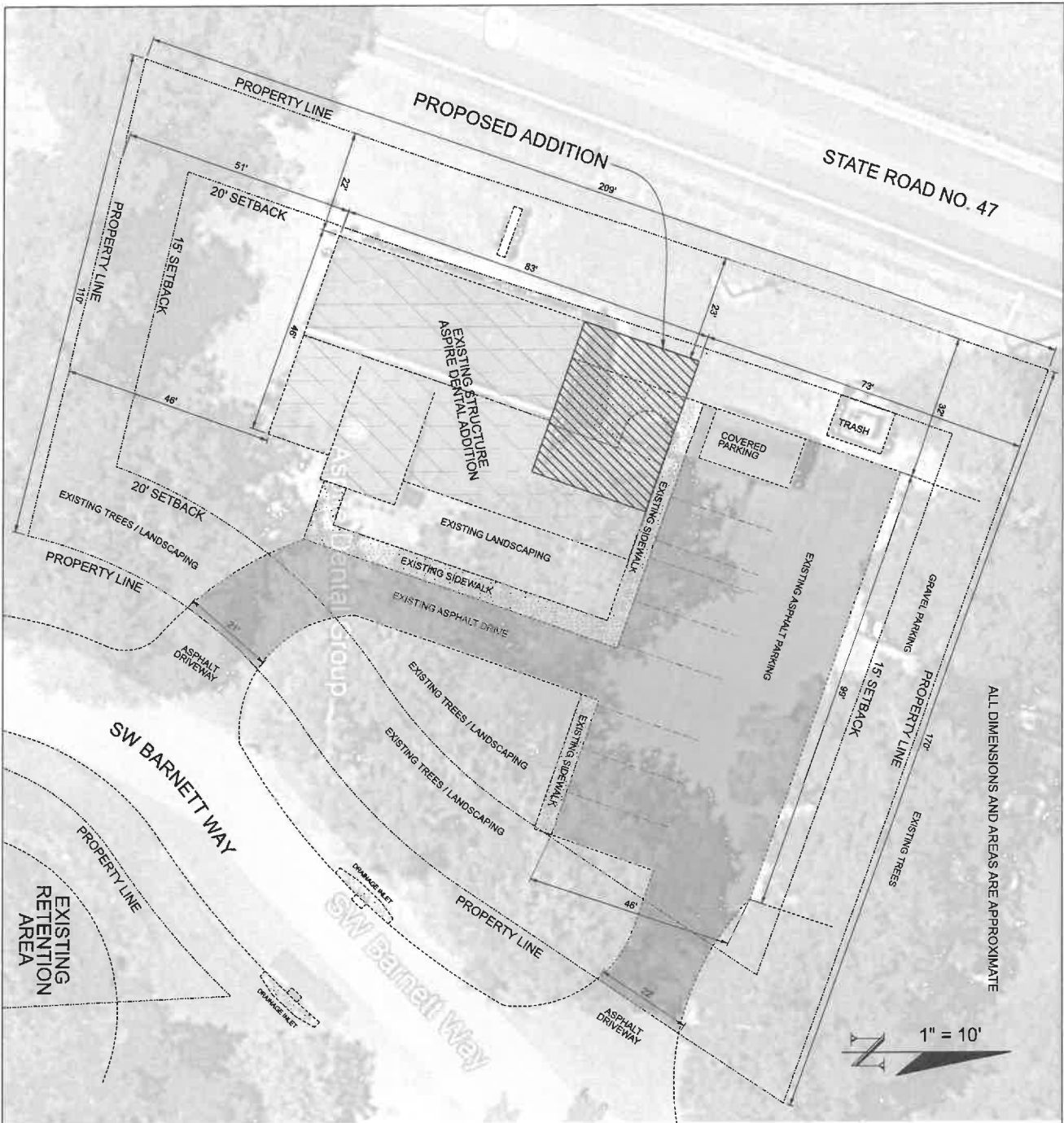
Angelo, Robert

From: Pridgeon, Cody
Sent: Tuesday, April 18, 2023 1:08 PM
To: Angelo, Robert
Cc: Pelham, Shasta; Johnson, Demetrius
Subject: Aspire Dental

Robert the adobe sign thin that was sent to me earlier wouldn't allow me to put in comments so I'm sending you this email. Any dental offices need to comply with City Ordinance No. 2020-2149. This requires them to have a dental amalgam separator on their waste stream prior to entering the City's collection system.

Cody Pridgeon
City of Lake City Wastewater Director
Office: (386)758-5455
Cell: (352)210-3086





VICINITY MAP / SITE PLAN

LEGAL DESCRIPTION
LOT 2, SOUTH HAVANA PLACE AS PER PLAT THEREOF
RECORDED IN BOOK 6, PAGE 18 OF THE PUBLIC
RECORDS OF COLUMBIA COUNTY, FLORIDA.

EXISTING / PROPOSED ZONING - MEDICAL OFFICE
TOTAL SITE AREA = .689 ACRES
EXISTING / PROPOSED ASPHALT PARKING = 6354 SF
EXISTING / PROPOSED CONCRETE SIDEWALK = 738 SF
EXISTING STRUCTURE = 3278 SF
PROPOSED ADDITION = 898 SF

SHEET
1
OF
1

ASPIRE DENTAL ADDITION
1788 SW BARNETT WAY
COLUMBIA COUNTY, FL 32025

PLANS PREPARED BY:
CHRISTOPHER Q. DICKS, P.E. 64766
4037 SE CR 252, LAKE CITY, FL 32025



*P&Z/HPA with ArcGIS Web AppBuilder

07604-102



Show search results for 076...



-82.641 30.165 Degrees

40ft

384

