Planning Commission Meeting Agenda

Wednesday, November 12, 2025 at 6:00 PM

The Tom Hardin Room – 100 Public Square, Mount Pleasant, TN

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1. **Call to Order**
2. **Pledge of Allegiance / Invocation**
3. **Roll Call**
   - **A.** John Hunter - *Chair*
     Jennifer Graham - *Vice Chair*
     Pam Johnston - *Secretary / City Commissioner*
     Kris Irvin - *Member*
     Cedric Hollis - *Member*
4. **Approval / Correction of Minutes from Prior Meetings**
   - **A.** 10-14-2025 P.C. meeting minutes
5. **Completion / Review of Unfinished Business from prior meeting**
6. **Special reports from other City Departments or Committees if applicable**
7. **New Business**

   (Comments from citizens may or may not be included, dependent on the issues.)
   - **A.** **Applicant:** Mark Smith, True Rail Enterprises, LLC has submitted a request for the review and consideration of a site development plan for a proposed industrial facility by True Rail Enterprises, LLC. The proposed site encompasses approximately 62.05 acres located along South Main Street. The applicant seeks approval of the site plan in accordance with the City of Mount Pleasant's zoning and subdivision regulations.
   - **B.** Resolution 2025-PC-12 — Approval of the 2026 Regular Planning Commission Meeting Schedule, covering the period from January 1, 2026 through December 31, 2026.
   - **C.** Set Public Hearing & Special Called Meeting for November 24, 2025, at 6:00 PM
8. **General comments from citizens (May be limited in time and/or number of comments.)**
9. **Board / Staff Comments / Adjournment**

Planning Commission Meeting Minutes

Tuesday, October 14, 2025 at 6:00 PM

The Tom Hardin Room – 100 Public Square, Mount Pleasant, TN

---

1. Call to Order

Chair John Hunter called the meeting to order.

2. Pledge of Allegiance / Invocation

Vice Chair Jennifer Graham led the pledge of allegiance and member Kris Irvin gave the invocation.

3. Roll Call

A. John Hunter - *Chair*

Jennifer Graham - *Vice Chair*

Pam Johnston - *Secretary / City Commissioner*

Kris Irvin - *Member*

Cedric Hollis - *Member*

City Manager Phillp Grooms, City Attorney Kori Bledsoe Jones, and City Planning Consultant Will Hager via Zoom were also present.

PRESENT
Chair John Hunter
Vice Chair Jennifer Graham
Member Kris Irvin

ABSENT
Secretary / City Commissioner Pam Johnston
Member Cedric Hollis

4. Approval / Correction of Minutes from Prior Meetings

A. Regular Session - 9-9-2025 & 10-12-2025

Motion made to approve the minutes from the previous meeting of 9-9-25. Motion carried.

Motion made by Member Irvin, Seconded by Vice Chair Graham.
Voting Yea: Chair Hunter, Vice Chair Graham, Member Irvin

Motion made to approve the minutes from 8-12-25 with corrections added, motion carried.

Notation: Agenda says 10-12-25 actual date of meeting was 8-12-25.

Motion made by Member Irvin, Seconded by Vice Chair Graham.
Voting Yea: Chair Hunter, Vice Chair Graham, Member Irvin

5. Completion / Review of Unfinished Business from prior meeting

None at this time.

6. Special reports from other City Departments or Committees if applicable

7. New Business

(Comments from citizens may or may not be included, dependent on the issues.)

A. Applicant, Meritage Homes has submitted an application for the installation of a traffic signal at the intersection of Zion Road and Polk Lane along Highway 243. The request is intended to address anticipated traffic flow and safety concerns associated with ongoing and future residential development in the area.

Motion made by Vice Chair Jennifer Graham to approve the application for installation of a traffic signal at the intersection of Polk Ln. and Zion Rd. member Kris Irvin seconded and the vote in favor was unanimous. Motion carried.

Motion made by Vice Chair Graham, Seconded by Member Irvin.
Voting Yea: Chair Hunter, Vice Chair Graham, Member Irvin

B. Applicant, Regent Homes, LLC has provided a Letter of Credit in the amount of $73,715.68 for sanitary sewer improvements in Sugar Creek Subdivision, Section 3. The applicant has requested to reduce the Letter of Credit down to 25 percent totaling $18,428.92.

Motion made to approve a reduction to the Letter of Credit down to 25 percent totaling $18,428.92 for the sanitary sewer improvements in Sugar Creek Subdivision as requested. The vote in favor was unanimous, motion carried.

Motion made by Vice Chair Graham, Seconded by Member Irvin.
Voting Yea: Chair Hunter, Vice Chair Graham, Member Irvin

C. Applicant, Regent Homes, LLC has provided a Letter of Credit in the amount of $72,696.51 for water system improvements in Sugar Creek Subdivision, Section 3. The applicant has requested to reduce the Letter of Credit down to 25 percent totaling $18,174.13.

Motion made to approve a reduction to the Letter of Credit down to 25 percent totaling $18,174.13 for water system improvements in Sugar Creek Subdivision as requested. The vote in favor was unanimous, motion carried.

Motion made by Vice Chair Graham, Seconded by Member Irvin.
Voting Yea: Chair Hunter, Vice Chair Graham, Member Irvin

D. Applicant, Regent Homes, LLC has provided a Letter of Credit in the amount of $79,365.25 for storm water improvements in Sugar Creek Subdivision, Section 3. The applicant has requested to reduce the Letter of Credit down to 25 percent totaling $19,841.31.

Motion made to approve the reduction of the Letter of Credit down to 25 percent totaling $19,841.31 for storm water improvements to Sugar Creek Subdivision as requested. The vote in favor was unanimous, motion carried.

Motion made by Vice Chair Graham, Seconded by Member Irvin.
Voting Yea: Chair Hunter, Vice Chair Graham, Member Irvin

E. Resolution 2025-PC-12 to set a public hearing is hereby scheduled for 6:00 PM on November 12, 2025 at the Tom Hardin Room at City Hall, 100 Public Square, Mount Pleasant, Tennessee on the proposed annexation of territory by owner consent.

Motion made to defer the November 12, 2025, public hearing. motion carried.

Motion made by Member Irvin, Seconded by Vice Chair Graham.
Voting Yea: Chair Hunter, Vice Chair Graham, Member Irvin

8. General comments from citizens (May be limited in time and/or number of comments.)

None at this time.

9. Board / Staff Comments / Adjournment

Motion made by member Kris Irvin to adjourn the meeting and Vice Chair Jennifer Graham seconded and motion carried.

Motion made by Vice Chair Graham, Seconded by Member Irvin.
Voting Yea: Chair Hunter, Vice Chair Graham, Member Irvin

REVISIONS

NO.	DATE	BY	DESCRIPTION

SITE DEVELOPMENT PLANS

OF

RAIL YARD AND SITE DEVELOPMENT

FOR

TRUE RAIL ENTERPRISES, LLC.

S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY
TAX MAP 150 PARCEL 063.11

OCTOBER 2025

CONTRACTOR'S NOTES:

THE CONTRACTOR'S WORK TO BE PERFORMED UNDER THIS PROJECT WILL CONSIST OF FURNISHING ALL EQUIPMENT, LABOR, MATERIALS, TOOLS AND SUPERVISION NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED NORTH STAR FACILITY AND OTHER RELATED WORK AS LISTED IN THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, UTILITY LOCATIONS, ELEVATIONS, EXISTING INVERTS PRIOR TO ORDERING ANY MATERIAL. IF A DISCREPANCY IS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR REPRESENTATIVE IMMEDIATELY.

ALL WORK SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL CODES AND LAWS. ALL NECESSARY LICENSES AND PERMITS NOT OBTAINED BY THE OWNER SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

ALL MATERIALS SHALL BE NEW UNLESS USED OR SALVAGED MATERIALS ARE AUTHORIZED BY OWNER.

THE CONCRETE SHALL HAVE A 4000 PSI MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS. MAXIMUM SLUMP SHALL BE 4 INCHES, UNLESS NOTED OTHERWISE.

ALL EXTERIOR CONCRETE SHALL BE FINISHED WITH A FINE HAIR BROOM.

ALL WORK PERFORMED SHALL BE IN THE BEST RECOGNIZED TRADE PRACTICES AND TO THE ENTIRE SATISFACTION OF THE OWNER.

ALL DESIGNATED GRASS AREAS WITHIN THE PROPERTY LINE SHALL BE SEEDED AND MULCHED.

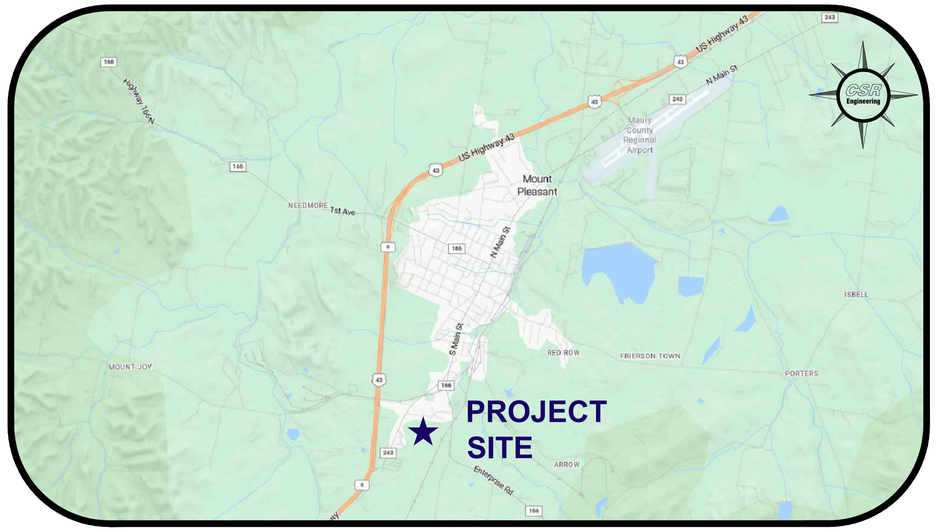
UTILITY COMPANIES:

NATURAL GAS -
CITY OF MOUNT PLEASANT
100 PUBLIC SQUARE
(931) 379-7717

WATER-
CITY OF MOUNT PLEASANT
100 PUBLIC SQUARE
(931) 379-7717

SEWER-
CITY OF MOUNT PLEASANT
100 PUBLIC SQUARE
(931) 379-7717

ELECTRIC -
MOUNT PLEASANT POWER SYSTEM
123 N. MAIN STREET
(931) 379-3233



LOCATION MAP

SCALE: 1"=3,000'

ZONED "IL"
LIGHT INDUSTRIAL DISTRICT
MINIMUM BUILDING SETBACKS
FRONT - 50'
REAR - 50'
SIDE - 50'

INDEX OF DRAWINGS

SHEET	DESCRIPTION
T1.0	TITLE SHEET
C1.0	EXISTING SITE PLAN
	PROPOSED
C2.0	OVERALL SITE PLAN
C2.1	ENLARGED SITE PLAN
C2.2	ENLARGED SITE PLAN
C3.0	GRADING PLAN AREA 1
C3.1	GRADING PLAN AREA 2
C3.2	GRADING PLAN AREA 3
C3.3	CUT AND FILL QUANTITIES
C3.4	EXISTING DRAINAGE MAP
C3.5	PROPOSED DRAINAGE MAP
C4.0	INITIAL EPSC PLAN
C4.1	INTERMEDIATE EPSC PLAN
C4.2	FINAL EPSC PLAN
C4.3	EPSC DETAILS
C4.4	SEDIMENT BASIN DETAILS
C5.0	UTILITY PLAN
C5.1	LIGHTING PLAN
C6.0	STORMWATER DETAILS
C7.0	SITE DETAILS
C8.0	SITE PROFILES
A-1-A-3	ARCHITECTURAL PLANS
L-1.0-L1.2	LANDSCAPING PLANS
	RAILROAD PLANS
RR1.	ESTIMATED QUANTITIES AND NOTES
RR2.	PROPOSED TRACK LAYOUTS - OVERALL
RR3.	PROPOSED SIDING TRACK - STA. 0+00 TO STA. 10+00
RR4.	PROPOSED SIDING TRACK - STA. 10+00 TO E.O.L.
RR5.	PROPOSED INDUSTRY TRACK 4 - STA. 0+00 TO STA. 7+00
RR6.	PROPOSED INDUSTRY TRACK 4 - STA. 7+00 TO E.O.L.
RR7.	PROPOSED TRACK 2 - PROFILE
RR8.	TYPICAL TRACK DETAILS

JASON LEE REYNOLDS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 108727
STATE OF TENNESSEE

CSR Engineering

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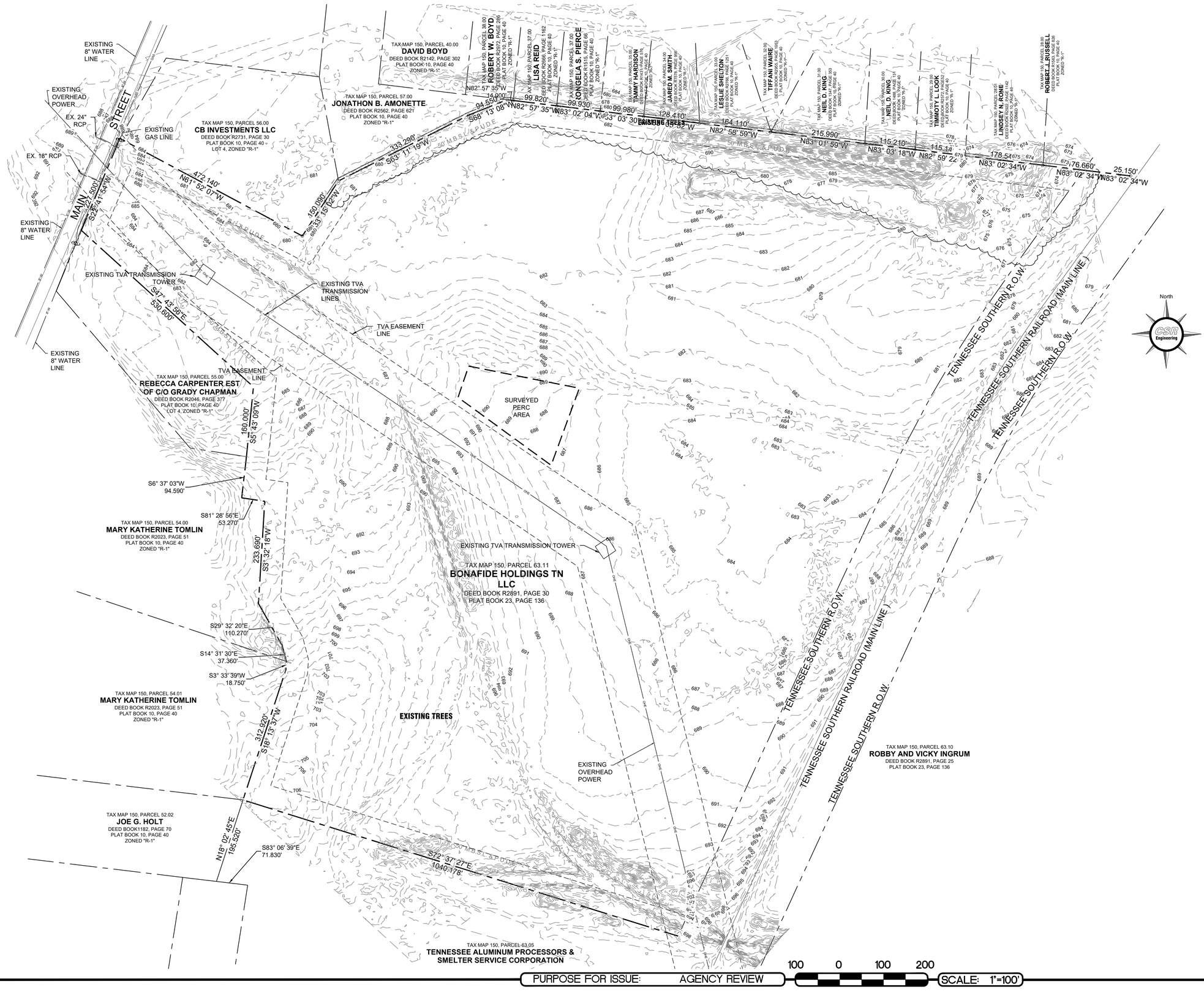
Pleasant View, TN 37146
P: 615.247.5381
F: 615.246.3815
jason.reynolds@csrengineers.com

TrueRail ENTERPRISES, LLC

True Rail Enterprises, LLC
Mark Smith
500 1st Avenue
Mt. Pleasant, TN 38474
P: 931.325.5570
C: 423.244.6057
mark@truerail.com

Tennessee 811
Know what's below. Call before you dig.

PURPOSE FOR ISSUE: AGENCY REVIEW



PURPOSE FOR ISSUE: AGENCY REVIEW

SCALE: 1"=100'

CSR Engineering

CSR Engineering, Inc.
2010 Highway 49E
Pleasant View, TN 37146
P: 615.212.2389
F: 615.246.3815
www.csrengineers.com

TrueRail™ ENTERPRISES, LLC

EXISTING SITE PLAN

OF

BULK STORAGE RAILYARD

FOR

TRUE RAIL ENTERPRISES, LLC

S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

JASON LEE REYNOLDS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 108727
STATE OF TENNESSEE

REVISIONS

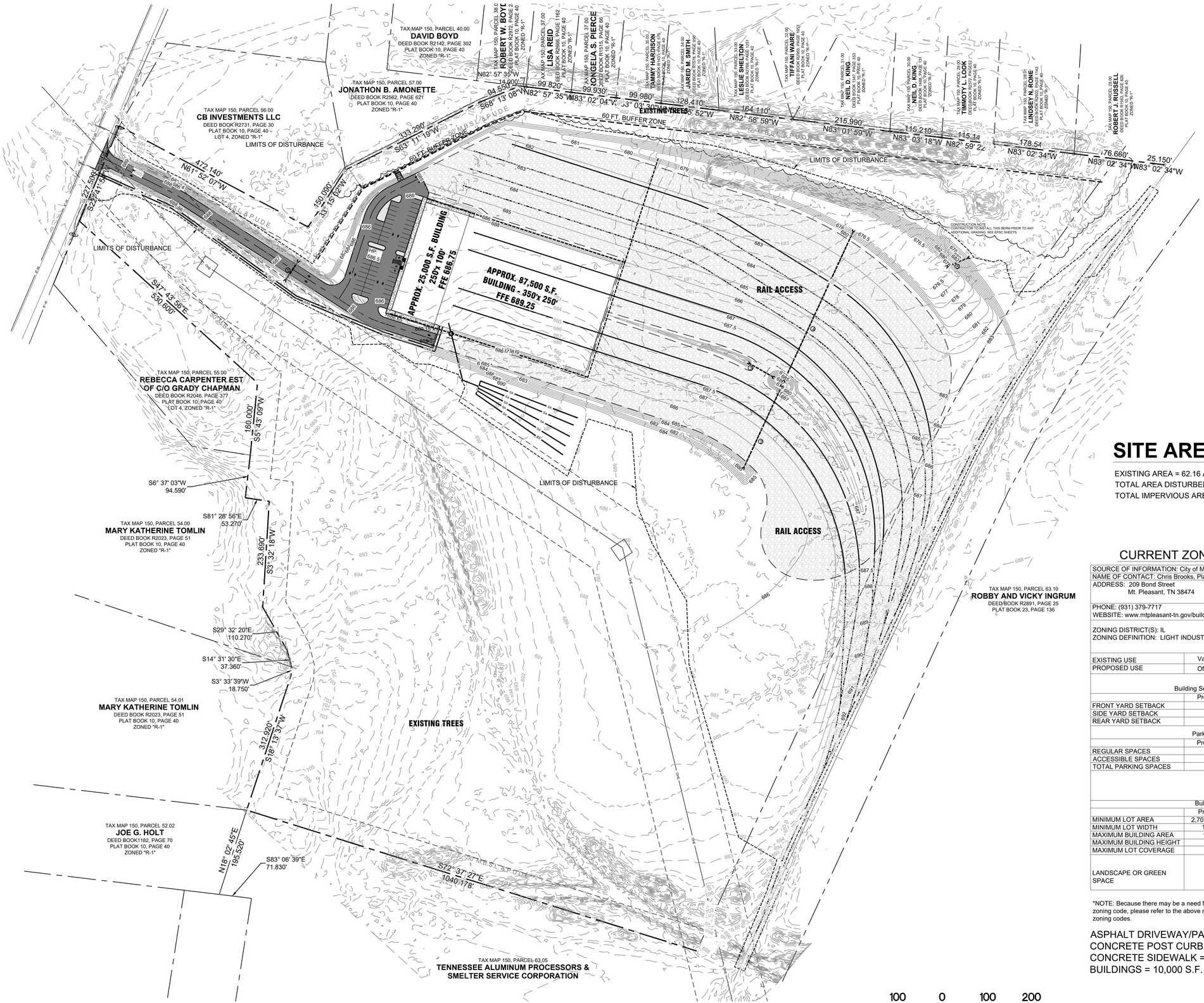
NO.	DATE	BY	DESCRIPTION

DESIGNER MSS
REVIEWER JLR

PROJECT 23-040

DATE 10-31-2025

SHEET **C1.0**



SITE AREA

EXISTING AREA = 62.16 ACRES (2,707,846 S.F.)
TOTAL AREA DISTURBED = 30.42 ACRES (1,325,234 S.F.)
TOTAL IMPERVIOUS AREA = 3.83 ACRES (166,705 S.F.)

CURRENT ZONING INFORMATION

SOURCE OF INFORMATION: City of Mt. Pleasant and Planning Department	
NAME OF CONTACT: Chris Brooks, Planning Director	
ADDRESS: 209 Bond Street Mt. Pleasant, TN 38474	
PHONE: (931) 379-7717 WEBSITE: www.mtpleasant-tn.gov/building-planning	
ZONING DISTRICT(S): IL ZONING DEFINITION: LIGHT INDUSTRIAL	TAX MAP 150, PARCEL 063.11
EXISTING USE	Vacant - Undeveloped
PROPOSED USE	Office, Warehouse, and Maintenance Facility

Building Setback Requirements

	Proposed	Required	Notes
FRONT YARD SETBACK	225'	50'	
SIDE YARD SETBACK	350'	50'	
REAR YARD SETBACK	780'	50'	

Parking Tabulation

	Proposed	Required	Notes
REGULAR SPACES	57	62	
ACCESSIBLE SPACES	3	3	
TOTAL PARKING SPACES	60	65	

Bulk Restrictions

	Proposed	Required	Notes
MINIMUM LOT AREA	2,707,846 S.F.	40,000 S.F.	
MINIMUM LOT WIDTH	1230 FT.	100 FT.	
MAXIMUM BUILDING AREA	1.26%	50% MAX.	
MAXIMUM BUILDING HEIGHT	39 FT.	60 FT.	
MAXIMUM LOT COVERAGE		-	
LANDSCAPE OR GREEN SPACE			See "Landscaping Plan"

*NOTE: Because there may be a need for further interpretation of the applicable zoning code, please refer to the above referenced municipality and the applicable zoning codes.

ASPHALT DRIVEWAY/PARKING = 43,487 S.F.
CONCRETE POST CURB = 1,938 S.F.
CONCRETE SIDEWALK = 4,815 S.F.
BUILDINGS = 10,000 S.F. OFFICE & 102,500 S.F.WH

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100 0 100 200 SCALE: 1"=100'

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OVERALL SITE PLAN
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MAURY COUNTY

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COMMERCE
10-31-25
No. 108727
STATE OF TENNESSEE

REVISIONS

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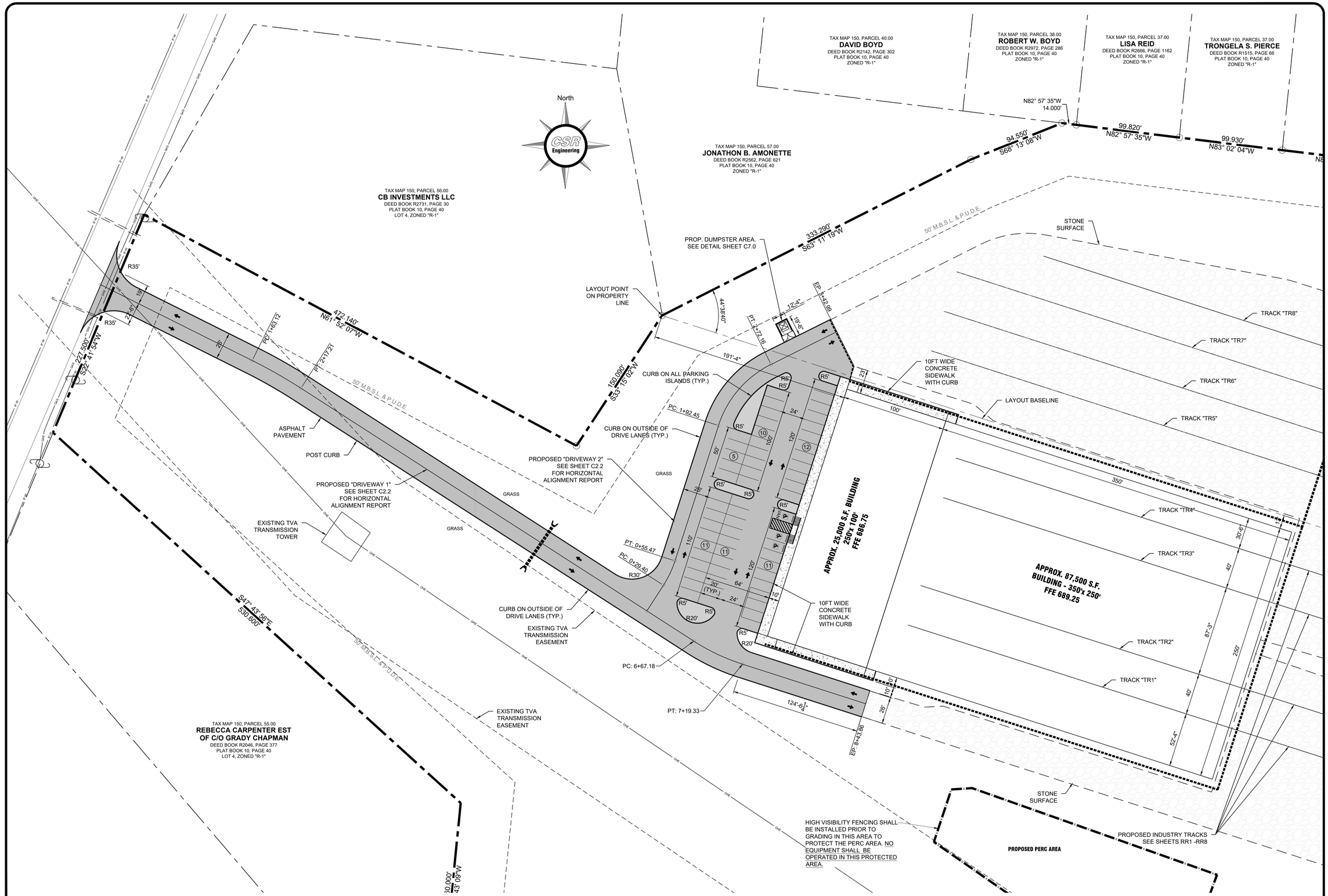
DESIGNER MSS
REVIEWER JLR
PROJECT 23-040
DATE 10-31-2025
SHEET C2.0



PURPOSE FOR ISSUE: AGENCY REVIEW

40 0 40 80

SCALE: 1"=40'

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REVIEWER JLR

PROJECT 23-040

DATE 10-31-2025

SHEET C2.1

R1431, PAGE 575
OK 10, PAGE 40
NED "R-1"

TAX MAP 150, PARCEL 34.00
JARED M. SMITH
DEED BOOK R1578, PAGE 956
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 33.00
LESLIE SHELTON
DEED BOOK R2766, PAGE 1251
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 32.00
TIFFANI WAIRE
DEED BOOK R2955, PAGE 1053
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 31.00
NEIL D. KING
DEED BOOK 1347, PAGE 353
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 30.00
NEIL D. KING
DEED BOOK 1488, PAGE 131
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 29.00
TIMMOTY L. LOOK
DEED BOOK R2572, PAGE52
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 28.01
LINDSEY N. RONE
DEED BOOK R2922, PAGE 1142
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 28.00
ROBERT J. RUSSELL
DEED BOOK R1563, PAGE 826
PLAT BOOK 10, PAGE 40
ZONED "R-1"

9.980'
03' 30"W
128.410'
N83° 05' 52"W
164.110'
N82° 58' 59"W
215.990'
N83° 01' 59"W
115.210'
N83° 03' 18"W
115.140'
N82° 59' 22"W
178.540'
N83° 02' 34"W
176.660'
N83° 02' 34"W
25.150'
N83° 02' 34"W

50' M.B.S.L. & P.U.D.E.

North

STONE SURFACE

TRACK "TR7"
TRACK "TR8"
TRACK "TR6"
TRACK "TR5"
TRACK "TR4"
TRACK "TR3"
TRACK "TR2"
TRACK "TR1"

RAIL ACCESS

R 724'
R 200'
R 378'
R 100'
R 100'

PROPOSED INDUSTRY TRACKS
SEE SHEETS RR1 - RR8

PROPOSED INDUSTRY TRACKS
SEE SHEETS RR1 -RR8

PROPOSED
MAINLINE SIDING
SEE SHEETS
RR1-RR8

STA. 18+50 "PROPOSED S
INSTALL
1-RH NO. 10 TURNOUT
END "PROPOSED SIDING

RAIL ACCESS

"Driveway 1"
Horizontal Alignment Report

Begin Driveway 1
N 433,347.5470 E 1,605,756.3945 0+00.00

Line (1)
S63° 25' 31"E 163.12'
N 433,274.5725 E 1,605,902.2812 1+63.12
Line (1)

Curve (2)
BC N 433.274.5725 E 1,605,902.2812 1+63.12
CTR N 432,827.3971 E 1,605,678.5980
PI N 433,262.4620 E 1,605,926.4919

Direction Back S63° 25' 31"E
Radius 500.00'
Delta 6°11'53"(RT)
Length 54.09'
Tangent 27.07'
Chord Direction S60° 19' 34"E Distance 54.06'
Direction Ahead S57° 13' 37"E

EC N 433,247.8083 E 1,605,949.2535 2+17.21
Curve (2)

Line (3)
S57° 13' 37"E 449.98'
N 433,004.2318 E 1,606,327.6026 6+67.18
Line (3)

Curve (4)
BC N 433.004.2318 E 1,606,327.6026 6+67.18
CTR N 433,172.3963 E 1,606,435.8649
PI N 432,990.0367 E 1,606,349.6520

Direction Back S57° 13' 37"E
Radius 200.00'
Delta 14°56'23"(LT)
Length 52.15'
Tangent 26.22'
Chord Direction S64° 41' 49"E Distance 52.00'
Direction Ahead S72° 10' 01"E

EC N 432,982.0058 E 1,606,374.6156 7+19.33
Curve (4)

Line (5)
S72° 10' 01"E 124.53'
N 432,943.8693 E 1,606,493.1612 8+43.86
Line (5)

N 432,943.8693 E 1,606,493.1612 8+43.86
End Driveway 1

****

Alignment Length: 843.86'

****

"Driveway 2"
Horizontal Alignment Report

Begin Driveway 2
N 433,044.2824 E 1,606,265.3917 0+00.00

Line (1)
N32° 46' 23"E 25.90'
N 433,066.0561 E 1,606,279.4093 0+25.90
Line (1)

Curve (2)
BC N 433,066.0561 E 1,606,279.4093 0+25.90
CTR N 433,336.7116 E 1,605,858.9981
PI N 433,121.1794 E 1,606,314.8970

Direction Back N32° 46' 23"E
Radius 500.00'
Delta 14°56'23"(LT)
Length 130.37'
Tangent 65.56'
Chord Direction N25° 18' 11"E Distance 130.00'
Direction Ahead N17° 49' 59"E

EC N 433,183.5883 E 1,606,334.9742 1+56.27
Curve (2)

Line (3)
N17° 49' 59"E 24.14'
N 433,206.5723 E 1,606,342.3682 1+80.41
Line (3)

Non-Tangent Radial Bearing N72° 43' 57"W
Curve (4)
BC N 433,206.5723 E 1,606,342.3682 1+80.41
CTR N 433,176.8797 E 1,606,437.8909
PI N 433,247.3498 E 1,606,355.0437

Direction Back N17° 16' 03"E
Radius 100.03'
Delta 46°14'03"(RT)
Length 80.72'
Tangent 42.70'
Chord Direction N40° 23' 05"E Distance 78.55'
Direction Ahead N63° 30' 06"E

EC N 433,266.4023 E 1,606,393.2599 2+61.13
Curve (4)

Line (5)
Non-Tangent Radial Bearing N26° 29' 54"W
N63° 30' 19"E 80.63'
N 433,302.3731 E 1,606,465.4227 3+41.76
Line (5)

N 433,302.3731 E 1,606,465.4227 3+41.76
End Driveway 2

****

Alignment Length: 341.76'

****

PURPOSE FOR ISSUE: AGENCY REVIEW

50 0 50 100

SCALE: 1"=50'

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JASON LEE REYNOLDS
REGISTERED ENGINEER
AGRICULTURE
10
COMMERCE
No. 108727
STATE OF TENNESSEE

REVISIONS

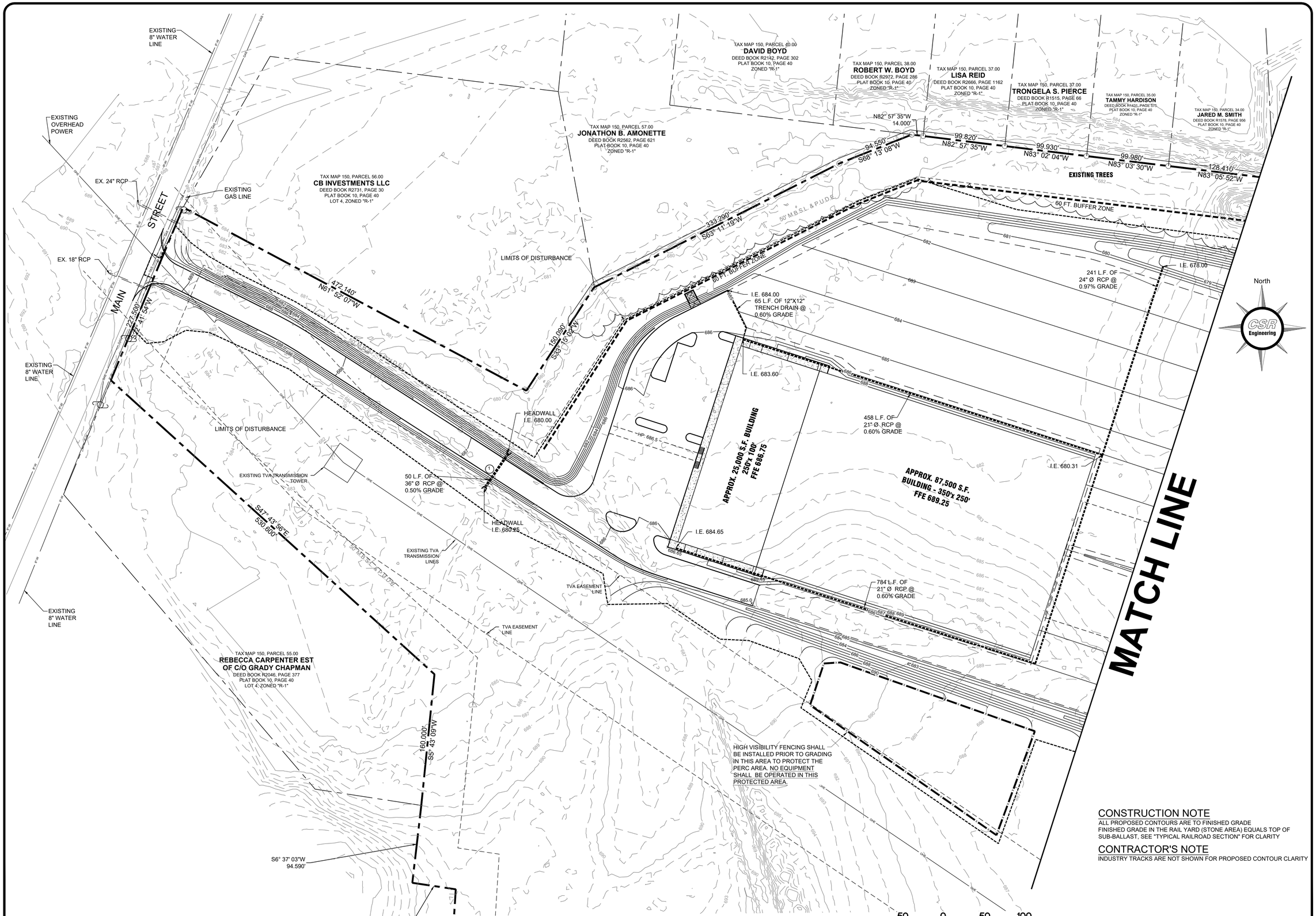
NO.	DATE	BY	DESCRIPTION

DESIGNER MSS
REVIEWER JLR

PROJECT 23-040

DATE 10-31-2025

SHEET C2.2



CONSTRUCTION NOTE

ALL PROPOSED CONTOURS ARE TO FINISHED GRADE
FINISHED GRADE IN THE RAIL YARD (STONE AREA) EQUALS TOP OF SUB-BALLAST, SEE "TYPICAL RAILROAD SECTION" FOR CLARITY

CONTRACTOR'S NOTE

INDUSTRY TRACKS ARE NOT SHOWN FOR PROPOSED CONTOUR CLARITY

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SCALE: 1"=50'

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TrueRail ENTERPRISES, LLC

GRADING PLAN AREA 1

OF

BULK STORAGE RAILYARD

FOR

TRUE RAIL ENTERPRISES, LLC

S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

JASON LEE REYNOLDS
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No. 108727
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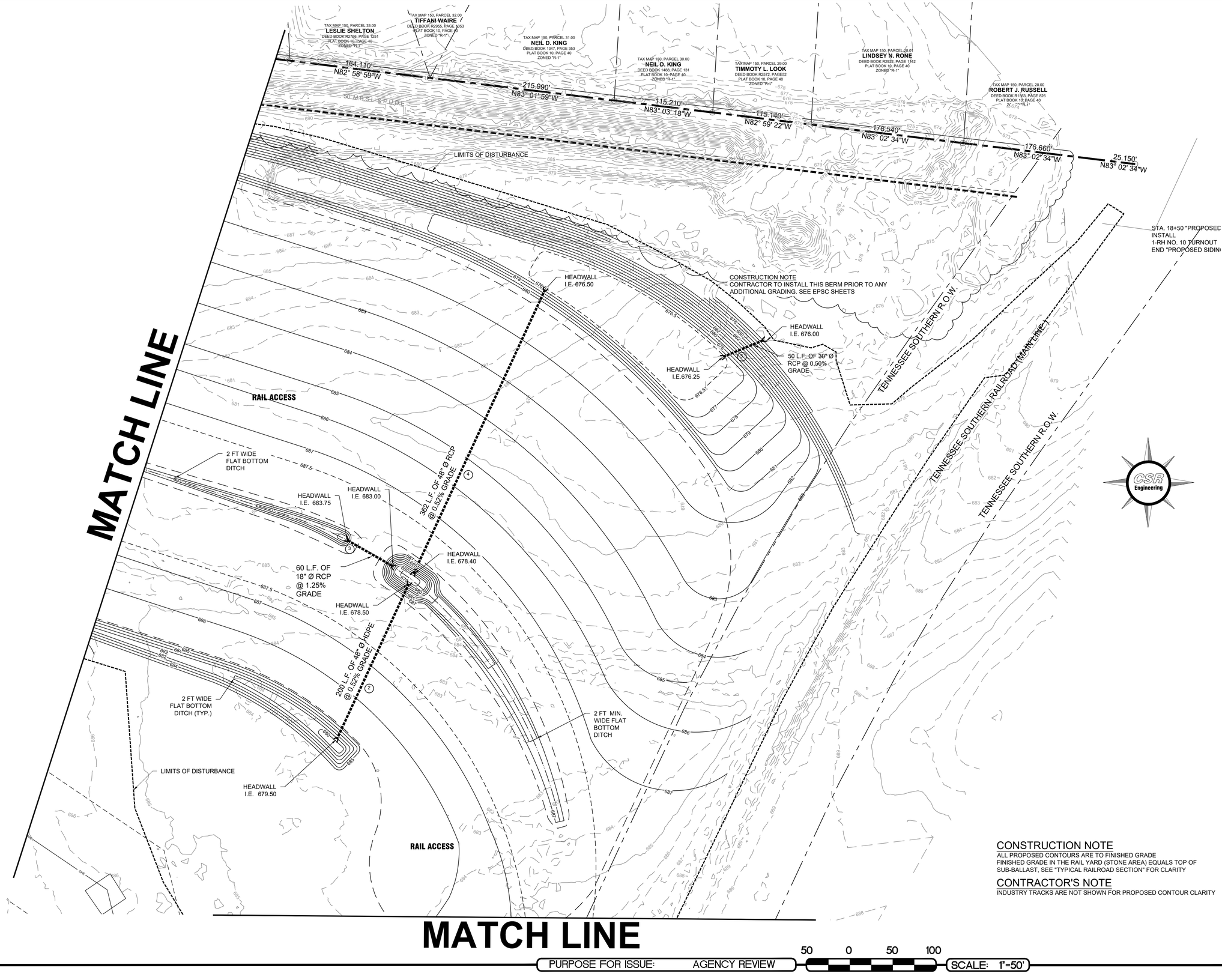
SHEET C3.0



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ALL PROPOSED CONTOURS ARE TO FINISHED GRADE
FINISHED GRADE IN THE RAIL YARD (STONE AREA) EQUALS TOP OF SUB-BALLAST, SEE "TYPICAL RAILROAD SECTION" FOR CLARITY

CONTRACTOR'S NOTE
INDUSTRY TRACKS ARE NOT SHOWN FOR PROPOSED CONTOUR CLARITY

PURPOSE FOR ISSUE: AGENCY REVIEW

50 0 50 100

SCALE: 1"=50'

CSR Engineering
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TrueRail™ ENTERPRISES, LLC

GRADING PLAN AREA 2
OF
BULK STORAGE RAILYARD
FOR
TRUE RAIL ENTERPRISES, LLC
S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

JASON LEE REYNOLDS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 108727
STATE OF TENNESSEE

REVISIONS

NO.	DATE	BY	DESCRIPTION

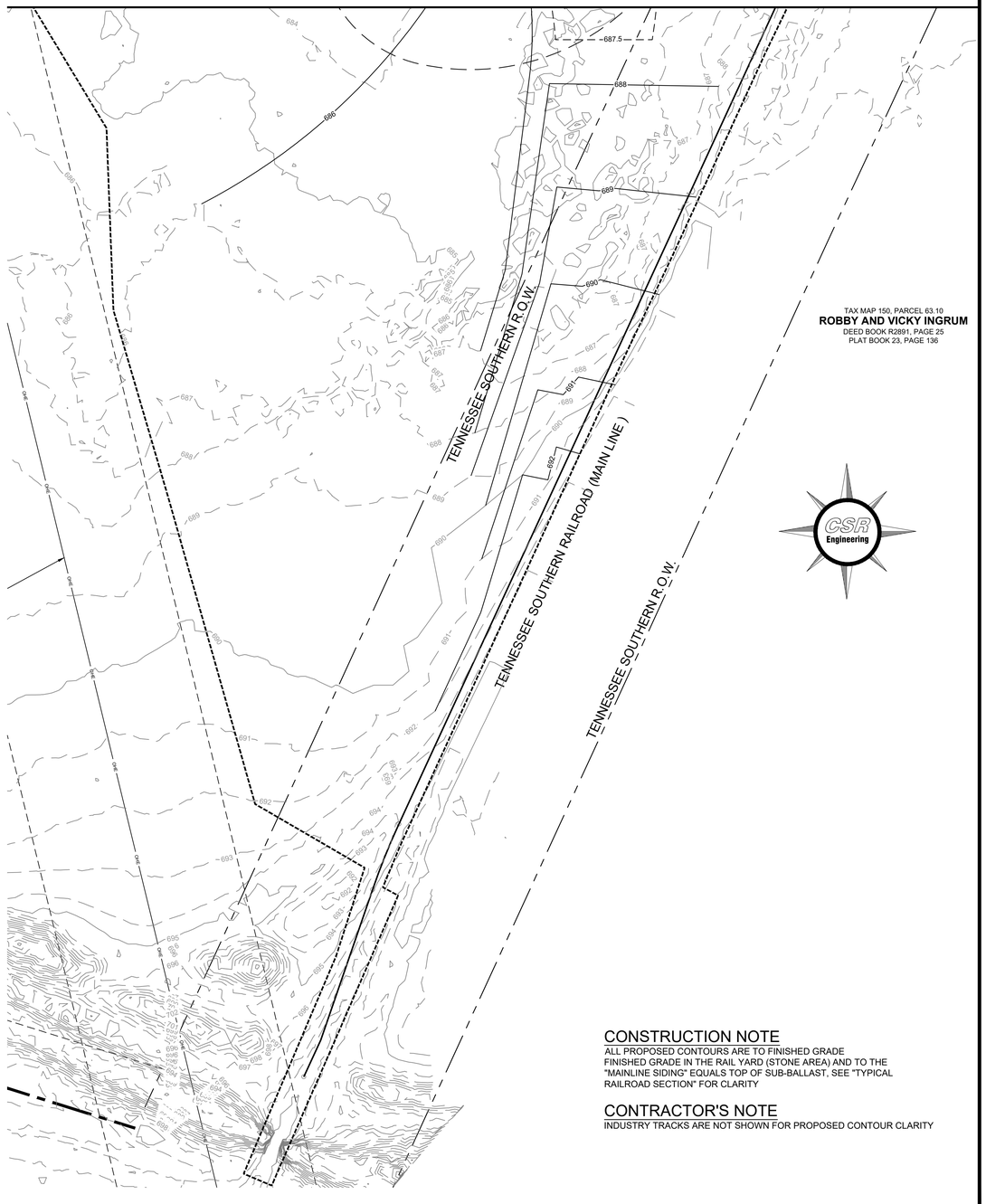
DESIGNER MSS
REVIEWER JLR

PROJECT 23-040

DATE 10-31-2025

SHEET C3.1

MATCH LINE



CONSTRUCTION NOTE

ALL PROPOSED CONTOURS ARE TO FINISHED GRADE
FINISHED GRADE IN THE RAIL YARD (STONE AREA) AND TO THE "MAINLINE SIDING" EQUALS TOP OF SUB-BALLAST, SEE "TYPICAL RAILROAD SECTION" FOR CLARITY

CONTRACTOR'S NOTE

INDUSTRY TRACKS ARE NOT SHOWN FOR PROPOSED CONTOUR CLARITY

PURPOSE FOR ISSUE: AGENCY REVIEW

50 0 50 100

SCALE: 1"=50'

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GRADING PLAN AREA 3
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MAURY COUNTY

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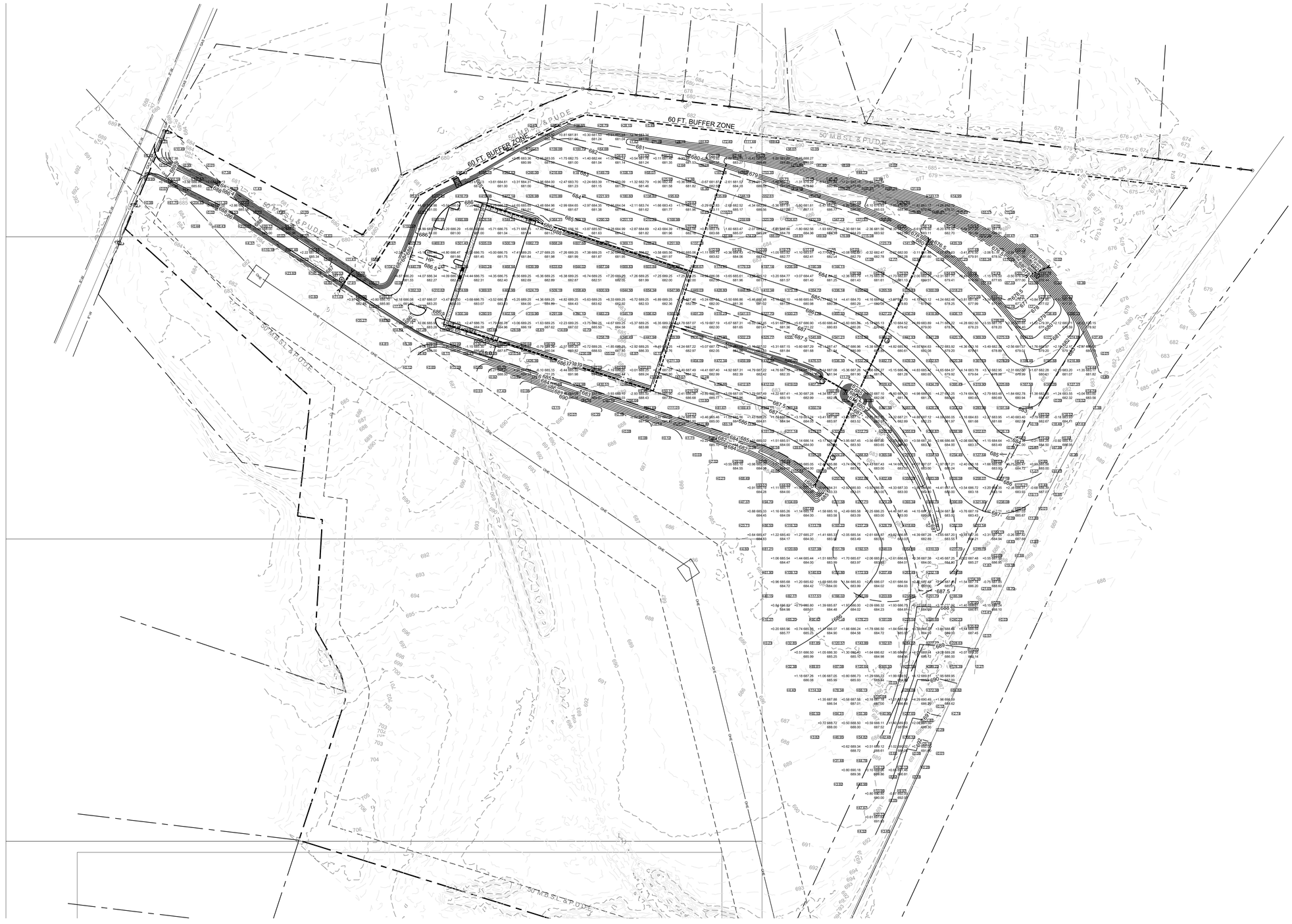
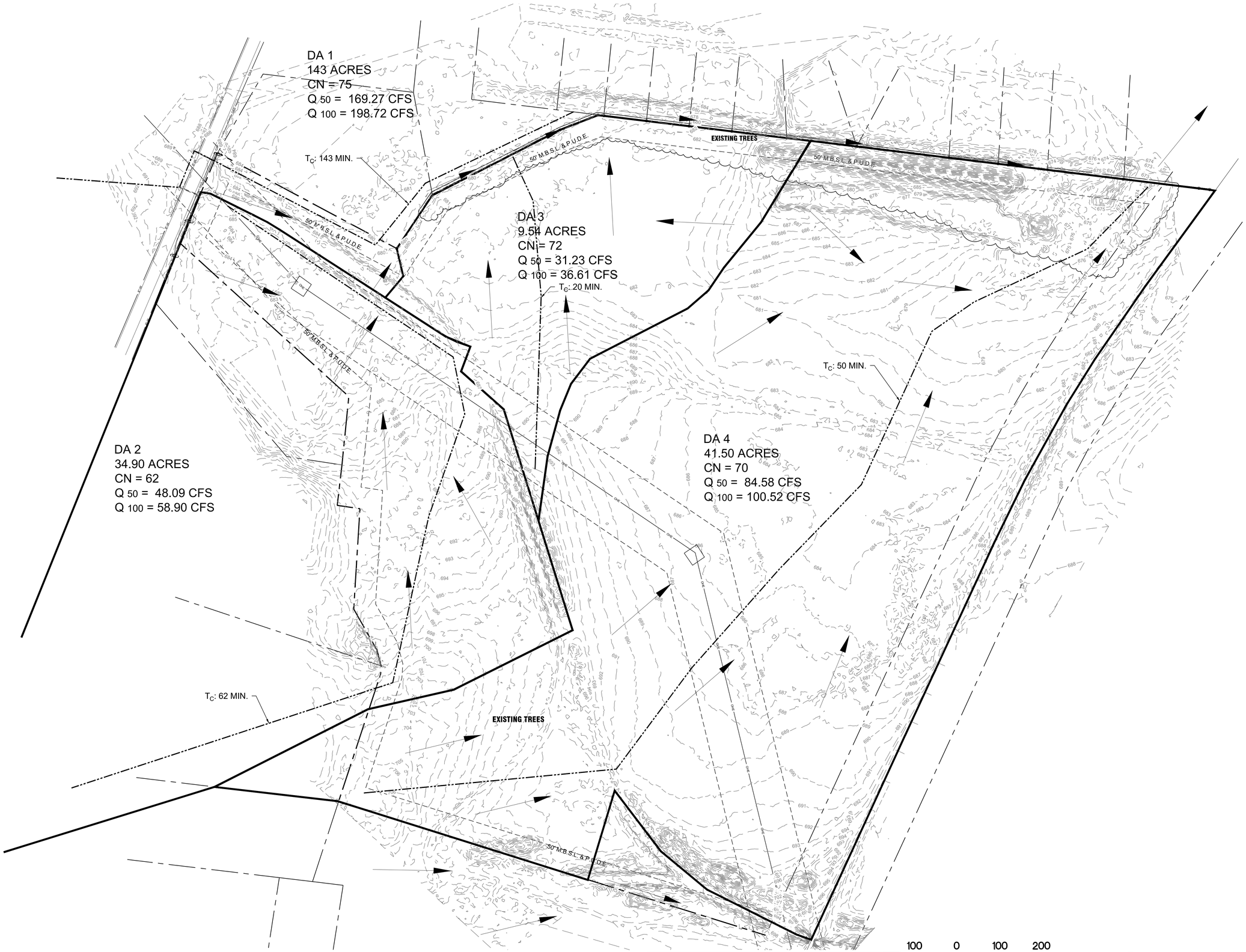
REVIEWER JLR

PROJECT 23-040

DATE 10-31-2025

SHEET **C3.2**


60 FT. BUFFER ZONE
50 M.B.S.L. & P.U.D.E.
50 M.B.S.L. & P.U.D.E.
50 M.B.S.L. & P.U.D.E.



PURPOSE FOR ISSUE: AGENCY REVIEW

100 0 100 200

SCALE: 1"=100'

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TrueRail™ ENTERPRISES, LLC

EXISTING DRAINAGE MAP
OF
BULK STORAGE RAILYARD
FOR
TRUE RAIL ENTERPRISES, LLC
S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

JASON LEE REYNOLDS
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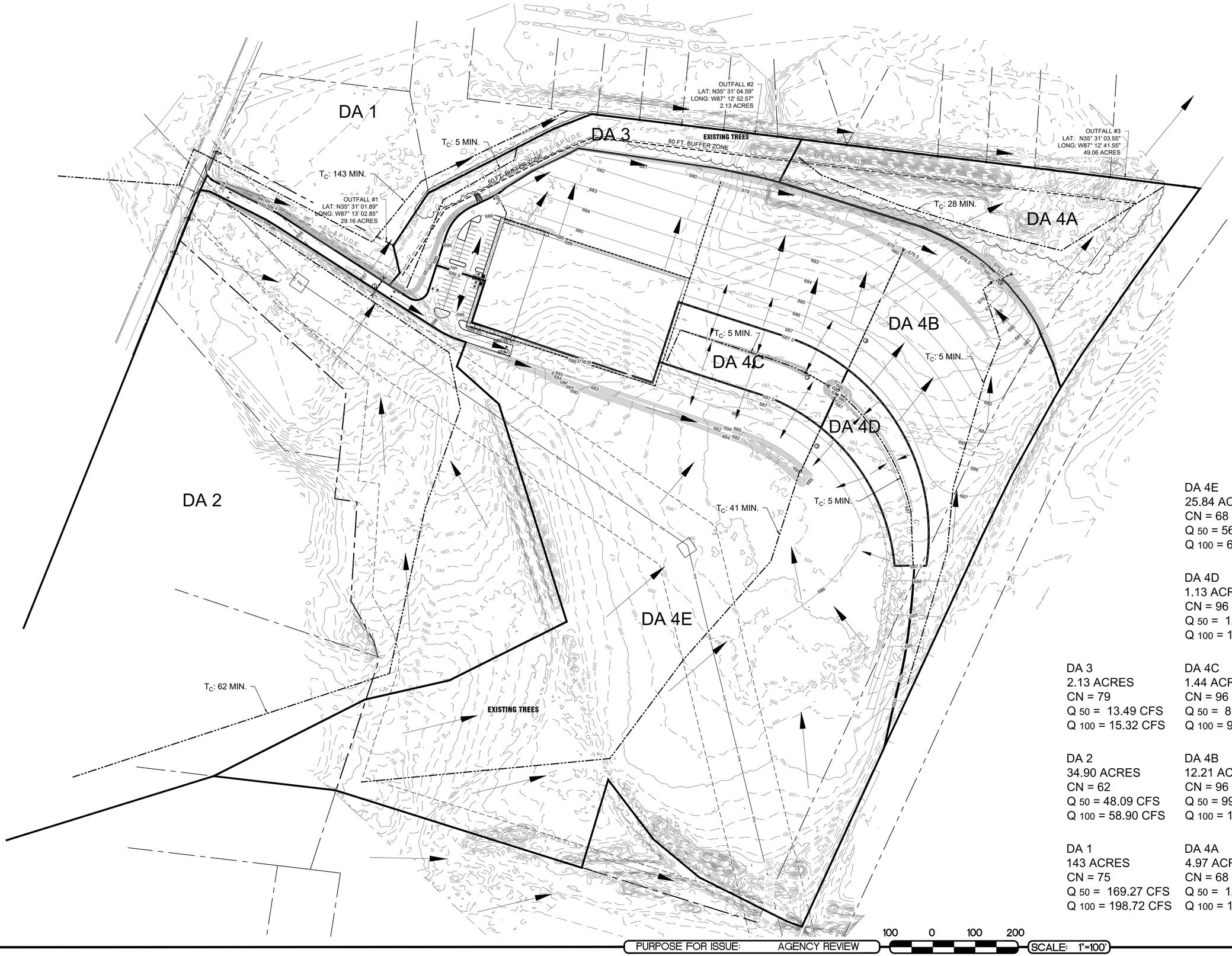
DESIGNER MSS
REVIEWER JLR

PROJECT 23-040

DATE 10-31-2025

SHEET C3.4



DA 4E
25.84 ACRES
CN = 68
Q 50 = 56.24 CFS
Q 100 = 67.28 CFS

DA 4D
1.13 ACRES
CN = 96
Q 50 = 12.02 CFS
Q 100 = 13.22 CFS

DA 3
2.13 ACRES
CN = 79
Q 50 = 13.49 CFS
Q 100 = 15.32 CFS

DA 4C
1.44 ACRES
CN = 96
Q 50 = 8.86 CFS
Q 100 = 9.74 CFS

DA 2
34.90 ACRES
CN = 62
Q 50 = 48.09 CFS
Q 100 = 58.90 CFS

DA 4B
12.21 ACRES
CN = 96
Q 50 = 99.20 CFS
Q 100 = 109.07 CFS

DA 1
143 ACRES
CN = 75
Q 50 = 169.27 CFS
Q 100 = 198.72 CFS

DA 4A
4.97 ACRES
CN = 68
Q 50 = 12.40 CFS
Q 100 = 14.78 CFS

PURPOSE FOR ISSUE: AGENCY REVIEW

100 0 100 200

SCALE: 1"=100'

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TrueRail™ ENTERPRISES, LLC

PROPOSED DRAINAGE MAP

OF

BULK STORAGE RAILYARD

FOR

TRUE RAIL ENTERPRISES, LLC

S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

JASON LEE REYNOLDS
REGISTERED ENGINEER
AGRICULTURE
COMM # 0-0
COMM # 0-0
No. 108727
STATE OF TENNESSEE

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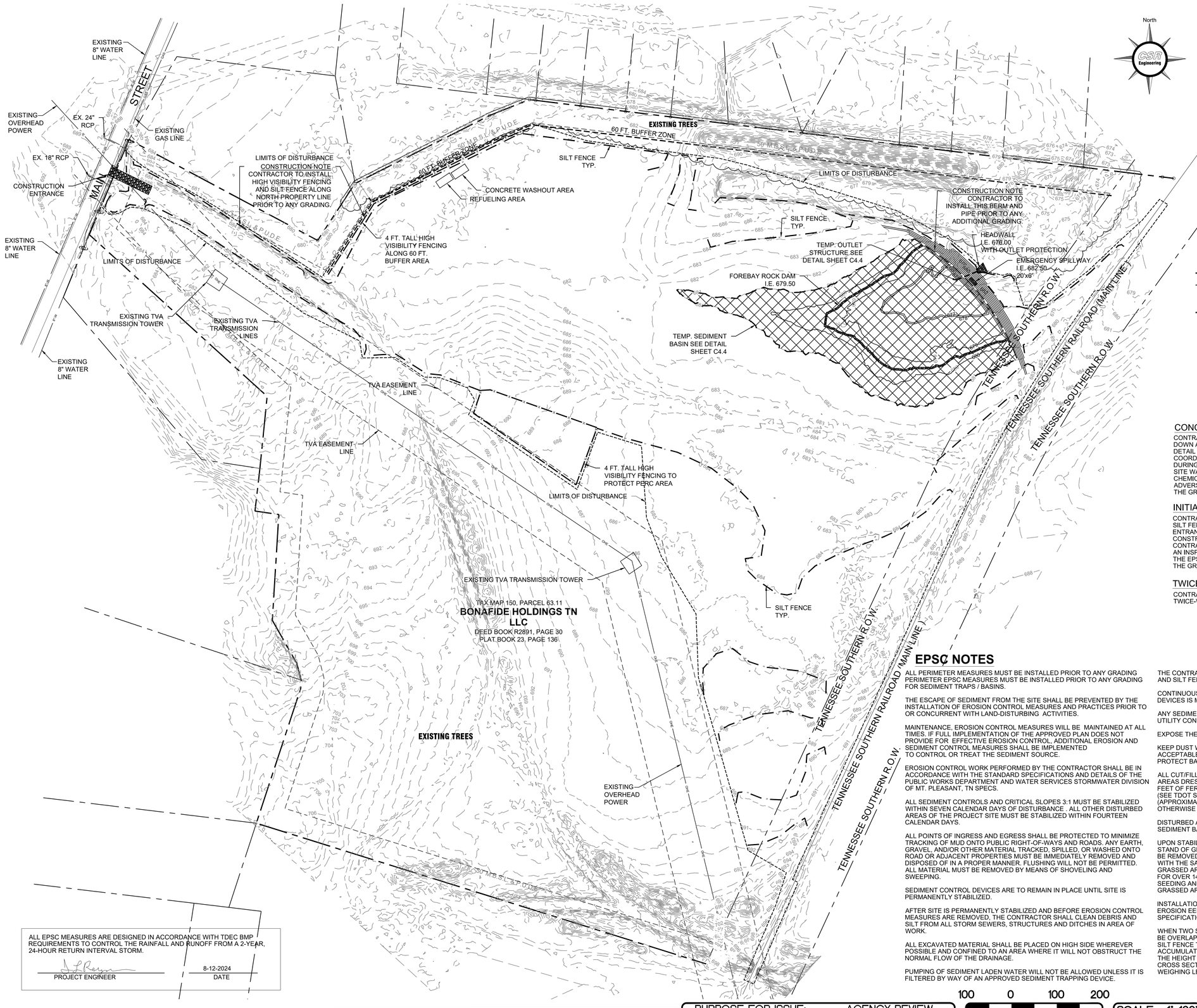
REVIEWER JLR

PROJECT 23-040

DATE 10-31-2025

SHEET C3.5



EPSC LEGEND

- TEMPORARY ROCK CHECK DAM (TCP-12)
- TEMPORARY INLET PROTECTION (CATCH BASIN) (TCP-24)
- SILT FENCE WITH WIRE BACKING AND STEEL POSTS (TCP-13)
- HIGH VISIBILITY CONSTRUCTION FENCE
- TEMPORARY INLET PROTECTION (OUTLET STRUCTURE) (TCP-14)
- TEMPORARY SEDIMENT TUBE (TCP-14)
- PERMANENT RIPRAP OUTLET PROTECTION (PESC-07)
- PERMANENT STABILIZATION (SOD)
- PERMANENT STABILIZATION, EROSION CONTROL BLANKET (CURLEX II, OR EQUAL) (TCP-09)
- PERMANENT STABILIZATION (RIP-RAP LINING)

CONCRETE WASHDOWN NOTE

CONTRACTOR TO PROVIDE AN AREA FOR CONCRETE WASH DOWN AND EQUIPMENT FUELING IN ACCORDANCE WITH CP-10 DETAIL ON SHEET C4.3, RESPECTIVELY. CONTRACTOR TO COORDINATE EXACT LOCATION WITH NPDES DEPARTMENT DURING PRECONSTRUCTION MEETING. CONTROL OF OTHER SITE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CHEMICALS, LITTER, AND SANITARY WASTES THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY IS ALSO REQUIRED BY THE GRADING PERMITTEE

INITIAL EPSC PHASE NOTE

CONTRACTOR SHALL INSTALL ALL EPSC MEASURES INCLUDING SILT FENCE, SEDIMENT TUBES, CHECK DAMS AND CONSTRUCTION ENTRANCE FOR THIS PHASE PRIOR TO COMMENCING ANY TYPE OF CONSTRUCTION. ONCE INSTALLATION IS COMPLETE THE CONTRACTOR SHALL CONTACT THE CITY OF MT. PLEASANT FOR AN INSPECTION. ONCE THE CITY OF MT. PLEASANT HAS APPROVED THE EPSC MEASURES, THEN THE CONTRACTOR MAY REQUEST THE GRADING PERMIT.

TWICE WEEKLY INSPECTIONS

CONTRACTOR SHALL BE RESPONSIBLE FOR THE REQUIRED TWICE-WEEKLY EPSC INSPECTIONS UNDER THE "TDEC NOC".

EPSC NOTES

ALL PERIMETER MEASURES MUST BE INSTALLED PRIOR TO ANY GRADING PERIMETER EPSC MEASURES MUST BE INSTALLED PRIOR TO ANY GRADING FOR SEDIMENT TRAPS / BASINS.

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO OR CONCURRENT WITH LAND-DISTURBING ACTIVITIES.

MAINTENANCE, EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

EROSION CONTROL WORK PERFORMED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND DETAILS OF THE PUBLIC WORKS DEPARTMENT AND WATER SERVICES STORMWATER DIVISION OF MT. PLEASANT, TN SPECS.

ALL SEDIMENT CONTROLS AND CRITICAL SLOPES 3:1 MUST BE STABILIZED WITHIN SEVEN CALENDAR DAYS OF DISTURBANCE . ALL OTHER DISTURBED AREAS OF THE PROJECT SITE MUST BE STABILIZED WITHIN FOURTEEN CALENDAR DAYS.

ALL POINTS OF INGRESS AND EGRESS SHALL BE PROTECTED TO MINIMIZE TRACKING OF MUD ONTO PUBLIC RIGHT-OF-WAYS AND ROADS. ANY EARTH, GRAVEL, AND/OR OTHER MATERIAL TRACKED, SPILLED, OR WASHED ONTO ROAD OR ADJACENT PROPERTIES MUST BE IMMEDIATELY REMOVED AND DISPOSED OF IN A PROPER MANNER. FLUSHING WILL NOT BE PERMITTED. ALL MATERIAL MUST BE REMOVED BY MEANS OF SHOVELING AND SWEEPING.

SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL SITE IS PERMANENTLY STABILIZED.

AFTER SITE IS PERMANENTLY STABILIZED AND BEFORE EROSION CONTROL MEASURES ARE REMOVED, THE CONTRACTOR SHALL CLEAN DEBRIS AND SILT FROM ALL STORM SEWERS, STRUCTURES AND DITCHES IN AREA OF WORK.

ALL EXCAVATED MATERIAL SHALL BE PLACED ON HIGH SIDE WHEREVER POSSIBLE AND CONFINED TO AN AREA WHERE IT WILL NOT OBSTRUCT THE NORMAL FLOW OF THE DRAINAGE.

PUMPING OF SEDIMENT LADEN WATER WILL NOT BE ALLOWED UNLESS IT IS FILTERED BY WAY OF AN APPROVED SEDIMENT TRAPPING DEVICE.

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR KEEPING FILTERS AND SILT FENCES CLEAR OF SEDIMENT BUILDUP DURING CONSTRUCTION.

CONTINUOUS INSPECTION AND MAINTENANCE OF THE SEDIMENT CONTROL DEVICES IS MANDATORY.

ANY SEDIMENT CONTROL DEVICES DISTURBED DURING SITE GRADING AND UTILITY CONSTRUCTION MUST BE RESTORED IMMEDIATELY.

EXPOSE THE SMALLEST AREAS OF SOIL FOR AS SHORT A TIME AS POSSIBLE.

KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE MEANS. USE TEMPORARY VEGETATION AND / OR MULCH TO PROTECT BARE AREAS FROM EROSION DURING CONSTRUCTION.

ALL CUT/FILL AREAS TO HAVE A MINIMUM OF 6-INCH DEPTH TOPSOIL COVER. AREAS DRESSED WITH TOPSOIL WILL RECEIVE 12 POUNDS PER 1000 SQUARE FEET OF FERTILIZER, 8 POUNDS OR MORE OF SEED PER 1000 SQUARE FEET (SEE TDOT SEED CHART) AND A STRAW MULCH OF 70% - 80% COVERAGE (APPROXIMATELY 125 POUNDS PER 1000 SQUARE FEET) EXCEPT AS OTHERWISE DETERMINED BY PLAN.

DISTURBED AREAS ARE TO BE GRADED TO DRAIN AS INDICATED ON PLAN TO SEDIMENT BARRIERS DURING AND UPON COMPLETION OF CONSTRUCTION.

UPON STABILIZATION OF THE PROJECT SITE WITH A GOOD (ACCEPTABLE) STAND OF GRASS AND/OR GROUND COVER, THE EPSC INSTALLATIONS WILL BE REMOVED AND THE AREA DISTURBED WILL BE SEEDED AND MULCHED WITH THE SAME TREATMENT AS OTHER NEW GRASSED AREAS OF THE PROJECT. ANY AREAS THAT ARE LEFT DISTURBED FOR OVER 14 DAYS, THE CONTRACTOR SHALL STABILIZE WITH TEMPORARY SEEDING AND MULCHING, WITH THE SAME TREATMENT AS OTHER NEW GRASSED AREAS OF THE PROJECT.

INSTALLATION LOCATION AND CONNECTIONS BETWEEN TWO SECTIONS OF EROSION EELS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

WHEN TWO SECTIONS OF SILT FENCE ARE JOINED TOGETHER,THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS. SILT FENCE TO BE FASTENED SECURELY EVERY 6' ALONG POST. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN IT REACHES 50% OF THE HEIGHT OF THE FABRIC. WOOD POSTS, 2"x2" HARDWOOD WITH MIN. CROSS SECTION AREA OF 3 INCHES. STEEL POST, EITHER T OR U TYPE, NOT WEIGHING LESS THAN 1 LB./L.F. SILT FENCE.

ALL EPSC MEASURES ARE DESIGNED IN ACCORDANCE WITH TDEC BMP REQUIREMENTS TO CONTROL THE RAINFALL AND RUNOFF FROM A 2-YEAR, 24-HOUR RETURN INTERVAL STORM.

J. L. Reynolds — 8-12-2024

PROJECT ENGINEER — DATE

PURPOSE FOR ISSUE: AGENCY REVIEW

SCALE: 1"=100'

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CIVIL
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No. 109727
STATE OF TENNESSEE

REVISIONS

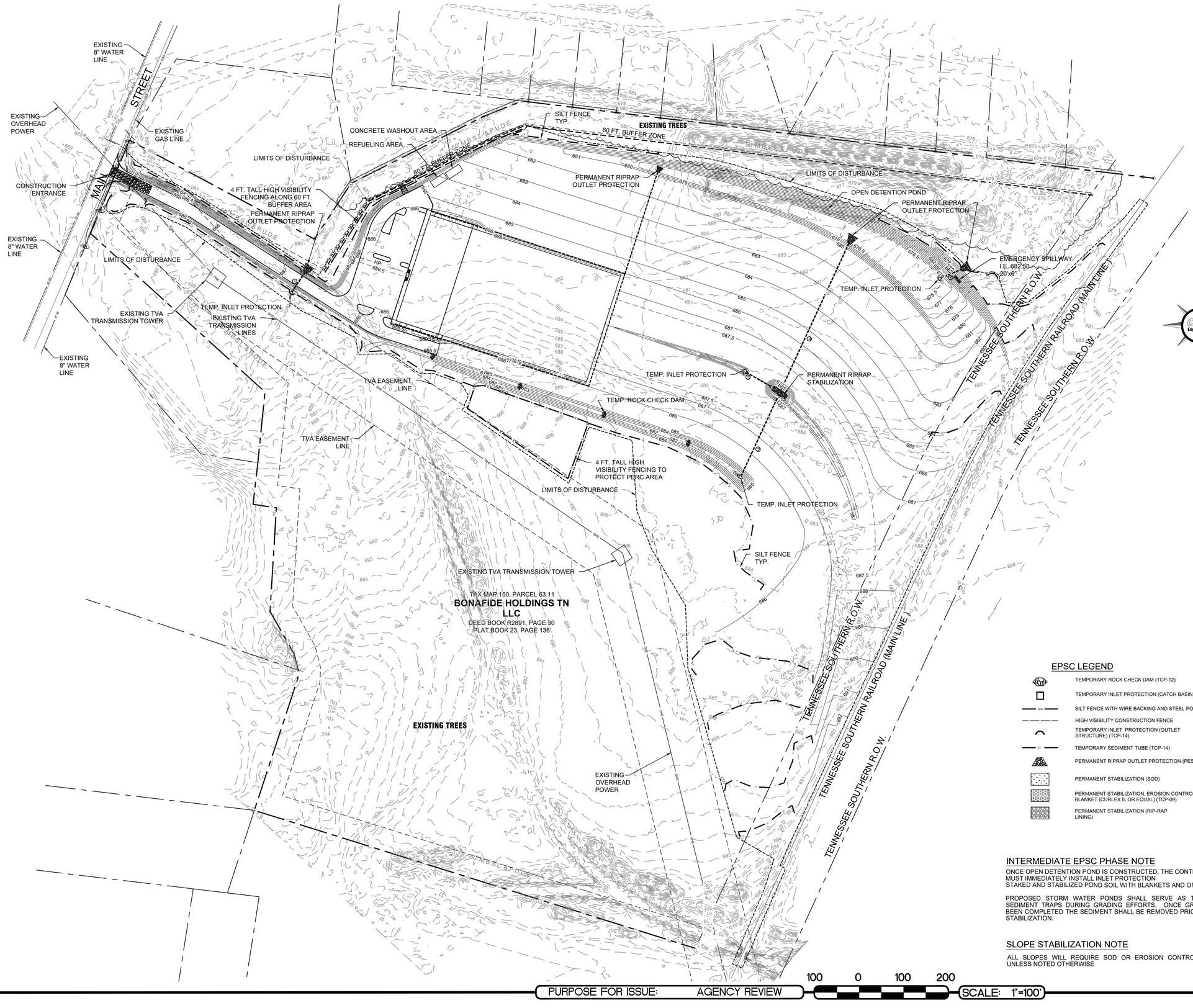
NO.	DATE	BY	DESCRIPTION

DESIGNER MSS
REVIEWER JLR

PROJECT 23-040

DATE 10-31-2025

SHEET C4.0



EPSC LEGEND

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- PERMANENT STABILIZATION (RIP-RAP LINING)

INTERMEDIATE EPSC PHASE NOTE

ONCE OPEN DETENTION POND IS CONSTRUCTED, THE CONTRACTOR MUST IMMEDIATELY INSTALL INLET PROTECTION STAKED AND STABILIZED POND SOIL WITH BLANKETS AND OR SOD.

PROPOSED STORM WATER PONDS SHALL SERVE AS TEMPORARY SEDIMENT TRAPS DURING GRADING EFFORTS. ONCE GRADING HAS BEEN COMPLETED THE SEDIMENT SHALL BE REMOVED PRIOR TO FINAL STABILIZATION.

SLOPE STABILIZATION NOTE

ALL SLOPES WILL REQUIRE SOD OR EROSION CONTROL MATTING, UNLESS NOTED OTHERWISE

PURPOSE FOR ISSUE: AGENCY REVIEW

100 0 100 200

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REVIEWER JLR

PROJECT 23-040

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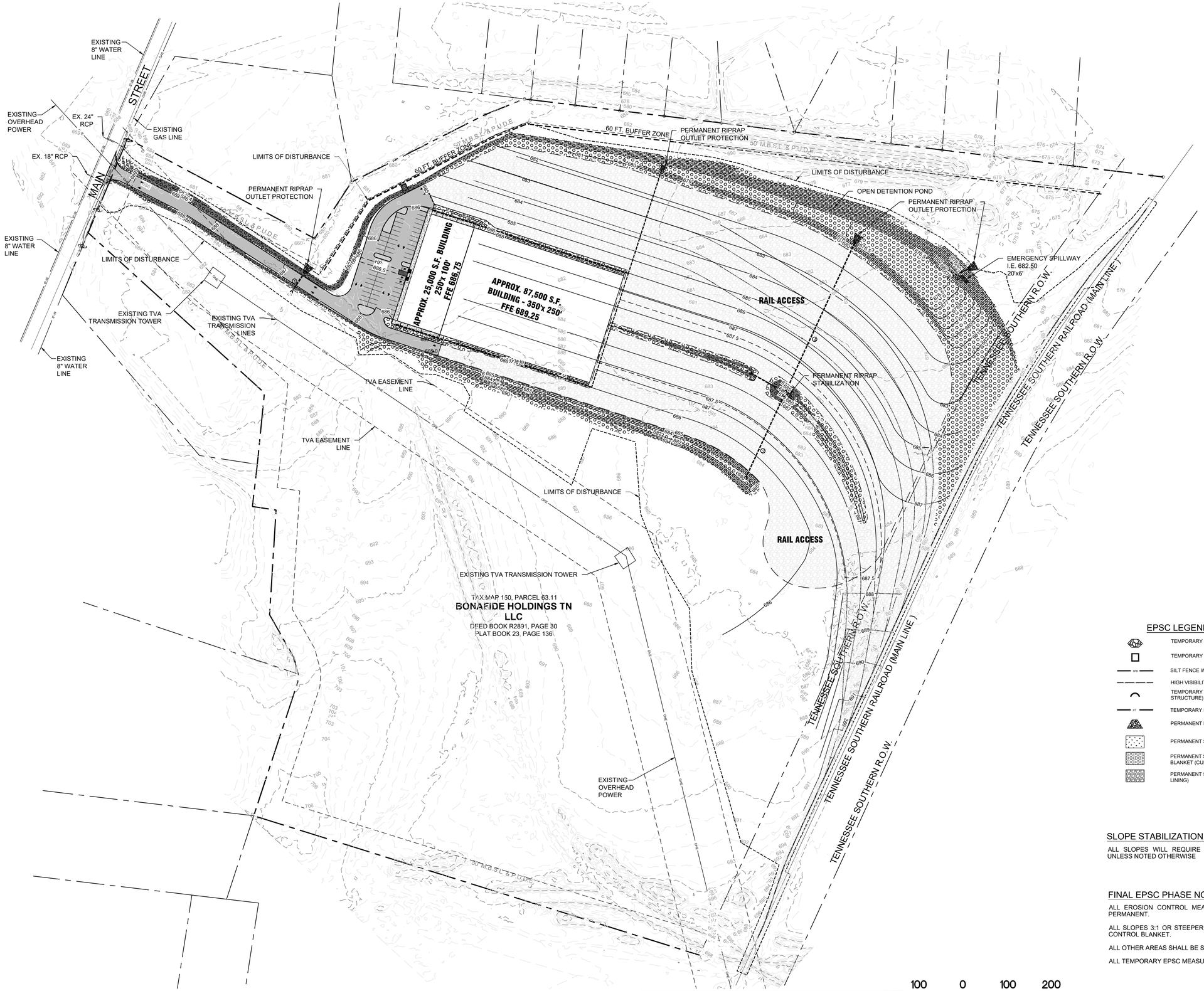
SHEET C4.1



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SLOPE STABILIZATION NOTE

ALL SLOPES WILL REQUIRE SOD OR EROSION CONTROL MATTING, UNLESS NOTED OTHERWISE

FINAL EPSC PHASE NOTE

ALL EROSION CONTROL MEASURES SHOWN IN THIS PHASE ARE PERMANENT.

ALL SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH EROSION CONTROL BLANKET.

ALL OTHER AREAS SHALL BE STABILIZED WITH SEED/STRAW.

ALL TEMPORARY EPSC MEASURES SHOULD BE REMOVED.

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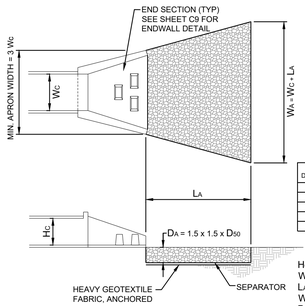
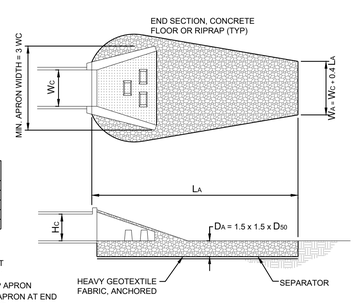
SHEET C4.2



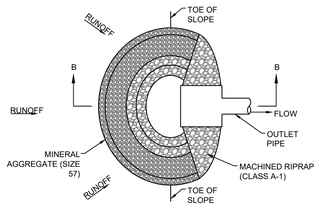
TAILWATER < 0.5 Hc AND ASSUMING FULL CULVERT FLOW (LOW TAILWATER CONDITIONS)

PIPE DIAMETER	APRON LENGTH	RIP-RAP D_{50} MIN.
15"	10'	6"
18"	10'	6"
24"	16'	8"
30"	20'	8"
36"	20'	10"

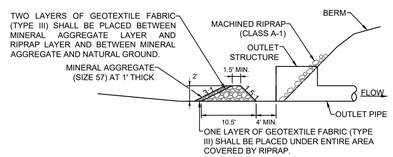
Hc = HEIGHT OF CULVERT
Wc = WIDTH OF CULVERT
LA = LENGTH OF RIP-RAP APRON
WA = WIDTH OF RIP-RAP APRON AT END
D_{50} = MEDIAN RIP-RAP SIZE
D_{MAX} = MAXIMUM SIZE OF RIP-RAP = 1.5 D_{50}
DA = DEPTH OF RIP-RAP APRON = 1.5 D_{MAX}
SEPARATOR = GEOTEXTILE UNDERLAYMENT OR GRAVEL FILTER BLANKET



TAILWATER > 0.5 Hc AND ASSUMING FULL CULVERT FLOW (HIGH TAILWATER CONDITIONS)

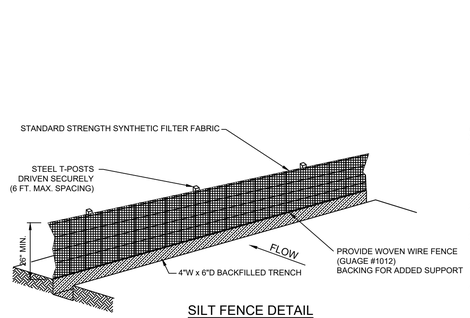


PLAN VIEW



SECTION B-B

INLET PROTECTION (OUTLET STRUCTURE) (TCP-24)



SILT FENCE DETAIL

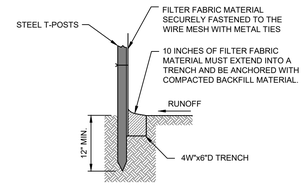
NOT TO SCALE

SILT FENCE NOTES

1. FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.
2. USE METAL TIES TO SECURE SILT FENCE TO METAL FENCE.
3. SILT FENCE SHALL COMPLY WITH THE TN. DEPT. OF ENVIRONMENT AND CONSERVATION EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
4. INSTALL PERIMETER SILTATION CONTROL PRIOR TO APPLICATION OF GRADING PERMIT.

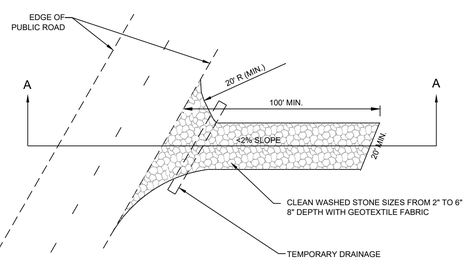
SILT FENCE MAINTENANCE PLAN

1. CARE SHALL BE TAKEN TO MINIMIZE THE MOVEMENT OF SEDIMENT INTO ALL STORM DRAIN APPURTENANCES AND PUBLIC ROADS UNTIL THE IMPERVIOUS MATERIAL (ROAD/PARKING AREA SURFACE) IS APPLIED.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATIONAL INTEGRITY FOLLOWING EVERY RUNOFF PRODUCING RAINFALL BUT IN NO CASE LESS THAN EVERY WEEK. ANY NECESSARY REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN THE MEASURE'S PERFORMANCE AS DESIGNATED.
3. SEDIMENT WILL BE REMOVED FROM THE UPSTREAM FACE OF SILT FENCE WHEN IT REACHES A MAXIMUM SIX-INCH (6") DEPTH AT THE FENCE. THE FENCE WILL BE REPLACED AS NECESSARY TO MAINTAIN A BARRIER.

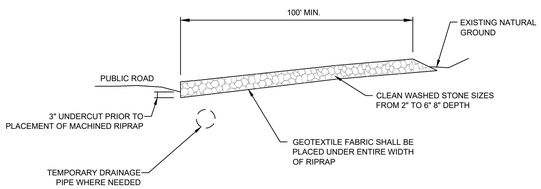


SECTION

SILT FENCE DETAILS (TPC-13)

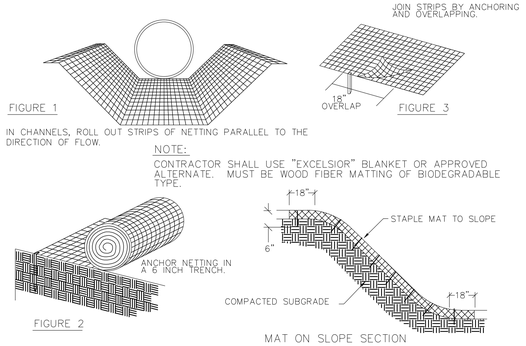


PLAN VIEW OF TEMPORARY CONSTRUCTION ENTRANCE



SECTION A-A

CONSTRUCTION ENTRANCE DETAIL (METRO TCP-03-1)

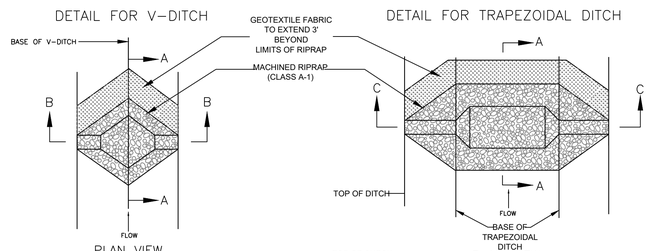


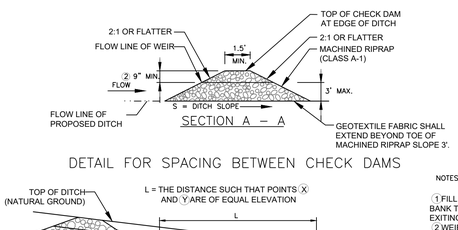
EROSION CONTROL MATTING DETAIL

NOT TO SCALE

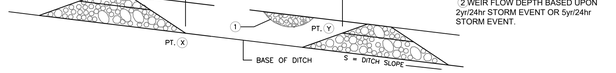
INSTALLATION INSTRUCTIONS: FOR DITCH & SLOPES

1. SEED (PER SPEC) BEFORE PLACEMENT OF MATTING. ROLL STRIPS OUT PARALLEL TO THE DIRECTION OF WATER FLOW, OR DOWN SLOPE. (SEE FIGURE 1)
2. START LAYING THE NET FROM THE TOP OF THE CHANNEL OR SLOPE AND UNROLL IT DOWN THE GRADE. ALLOW MATTING TO LAY LOOSELY ON THE SOIL BUT WITHOUT WRINKLES- DO NOT STRETCH.
3. TO SECURE THE NET, BURY THE UP-SLOPE END IN A TRENCH NO LESS THAN 6" DEEP, COVER WITH SOIL AND TAMP FIRMLY (SEE FIGURE 2). STAPLE THE MAT EVERY 12" ACROSS THE TOP END AND EVERY 3' AROUND THE EDGES AND BOTTOM. WHERE 2 STRIPS OF NET ARE LAID SIDE BY SIDE, THE ADJACENT EDGES SHOULD BE OVERLAPPED 3 INCHES AND STAPLED TOGETHER. EACH STRIP OF MATTING SHOULD ALSO BE STAPLED DOWN THE CENTER, EVERY 3'. DO NOT STRETCH THE MAT WHEN APPLYING STAPLES.
4. TO JOIN TWO STRIPS, CUT A TRENCH TO ANCHOR THE END OF THE NEW MAT. OVERLAP THE END OF THE PREVIOUS ROLL 18" (SEE FIGURE 2), AND STAPLE EVERY 12" JUST BELOW THE ANCHOR SLOT.
5. INSPECT PERIODICALLY AND AFTER EACH RAINSTORM UNTIL VEGETAION IS COMPLETELY ESTABLISHED.
6. ERODED OR EXPOSED AREAS SHOULD BE SEEDED AND STABILIZED WITH MULCH AS QUICKLY AS POSSIBLE.





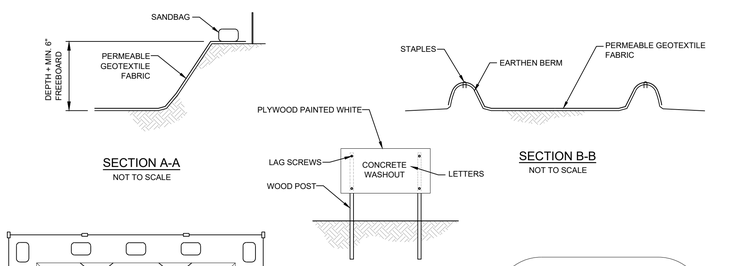
DETAIL FOR SPACING BETWEEN CHECK DAMS

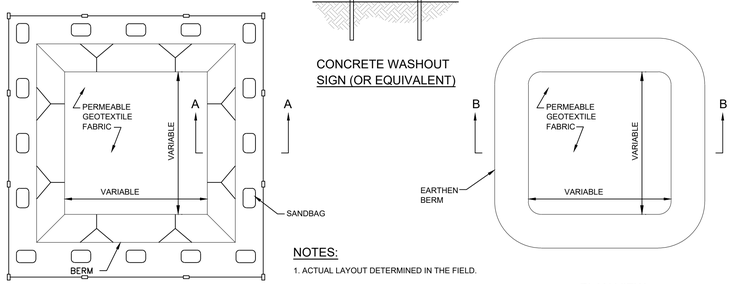


NOTES:

1. FILL LOW AREAS ALONG TOP OF BANK TO PREVENT BACKWATER FROM EXITING DITCH.
2. WEIR FLOW DEPTH BASED UPON 2yr/24hr STORM EVENT OR 5yr/24hr STORM EVENT.

CHECK DAM DETAIL (TCP-12-6)





CONCRETE WASHOUT SIGN (OR EQUIVALENT)

NOTES:

1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. SIGNAGE IDENTIFYING THE CONCRETE WASHOUT AREA SHALL BE INSTALLED WITHIN 5FT OF THE WASHOUT FACILITY.

CONCRETE WASHDOWN AREA DETAIL (CP-10)

CSR Engineering
CSR Engineering, Inc.
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TrueRail™ ENTERPRISES, LLC

EPSC DETAILS
OF
BULK STORAGE RAILYARD
FOR
TRUE RAIL ENTERPRISES, LLC
S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

JASON LEE REYNOLDS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 108727
STATE OF TENNESSEE

REVISIONS

NO.	DATE	BY	DESCRIPTION

DESIGNER MSS
REVIEWER JLR

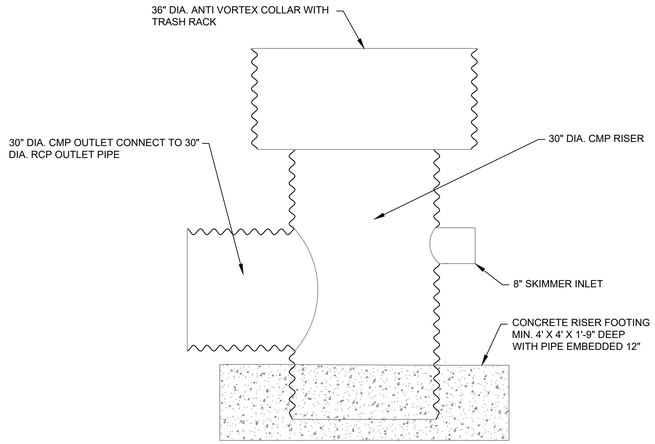
PROJECT 23-040

DATE 10-31-2025

SHEET **C4.3**

PURPOSE FOR ISSUE: AGENCY REVIEW

SCALE: NONE

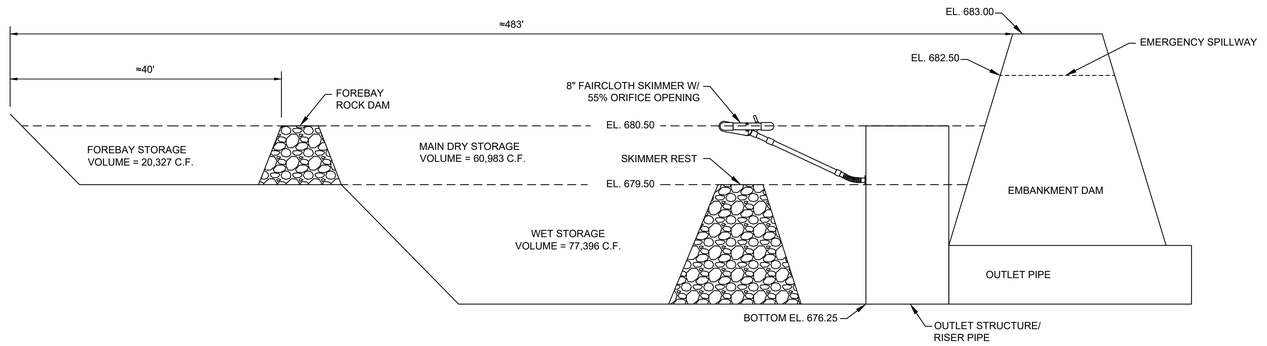


TEMPORARY OUTLET CONTROL STRUCTURE

NOT TO SCALE

NOTE: PERMANENT OUTLET STRUCTURE MAY BE USED IN LIEU OF A TEMPORARY STRUCTURE PROVIDED ANY ORIFICES BELOW THE WET POOL ELEVATION ARE COVERED.

STORAGE REQUIREMENTS (41.50 ACRES):
WET STORAGE= 1,809 C.F./ACRE= 75,074 C.F.
MAIN DRY STORAGE= 1,357 C.F./ACRE= 56,316 C.F.
FOREBAY STORAGE= 452 C.F./ACRE= 18,758 C.F.



TEMPORARY SEDIMENT BASIN DESIGN PARAMETERS

NOT TO SCALE

NOTE: SKIMMER REST TYPICALLY CONSTRUCTED WITH RIP-RAP. ALTERNATE SKIMMER REST SHALL BE ACCEPTED GIVEN ELEVATION REMAINS AT 679.50.

SEDIMENT BASIN CONVERSION NOTES:

1. TEMPORARY SEDIMENT BASIN TO BE CONVERTED TO DETENTION POND AFTER GRADING IS COMPLETED.
2. TEMPORARY OUTLET CONTROL STRUCTURE SHALL BE REMOVED AND REPLACED WITH HEADWALL.
3. ANY REMAINING SEDIMENT SHALL BE REMOVED AND DISPOSED OF PROPERLY PRIOR TO FINAL SITE STABILIZATION.
4. DETENTION POND TO BE STABILIZED WITH EROSION CONTROL BLANKET.

SEDIMENT BASIN CONSTRUCTION NOTES:

1. CLEAR, GRUB, AND STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT. REMOVE ALL SURFACE SOIL CONTAINING HIGH AMOUNTS OF ORGANIC MATTER, AND STOCKPILE IT OR DISPOSE OF IT PROPERLY. HAUL ALL OBJECTIONABLE MATERIAL TO THE DESIGNATED DISPOSAL AREA.
2. ENSURE THAT FILL MATERIAL FOR THE EMBANKMENT IS FREE OF ROOTS, WOODY VEGETATION, ORGANIC MATTER, AND OTHER OBJECTIONABLE MATERIAL. PLACE THE FILL IN LIFTS NOT TO EXCEED 9 INCHES, AND MACHINE COMPACT IT. OVERFILL THE EMBANKMENT 6 INCHES TO ALLOW FOR SETTLEMENT.
3. CONSTRUCT THE OUTLET SECTION IN THE EMBANKMENT. PROTECT THE CONNECTION BETWEEN THE RIPRAP AND THE SOIL FROM PIPING BY USING GEOTEXTILE FABRIC BETWEEN THE RIP RAP AND SOIL. PLACE THE FILTER FABRIC BETWEEN THE SOIL AND RIP RAP. EXTEND THE FABRIC ACROSS THE SPILLWAY FOUNDATION AND SIDES TO THE TOP OF THE DAM.
4. CLEAR THE SEDIMENT TRAP STORAGE ZONE AREA BELOW THE ELEVATION OF THE CREST OF THE SPILLWAY TO FACILITATE CLEANOUT.
5. ALL CUT AND FILL SLOPES MUST BE 2:1 OR FLATTER.
6. ENSURE THAT THE STONE SECTION OF THE EMBANKMENT HAS A MINIMUM BOTTOM WIDTH OF 3 FEET AND MAXIMUM SIDE SLOPES OF 1:1 THAT EXTEND TO THE BOTTOM OF THE SPILLWAY SECTION.
7. CONSTRUCT THE MINIMUM FINISHED STONE SPILLWAY BOTTOM WIDTH, AS SHOWN ON THE PLANS, WITH 3:1 SIDE SLOPES EXTENDING TO THE TOP OF THE OVER FILLED EMBANKMENT. THE WEIR MUST BE LEVEL AND CONSTRUCTED TO THE WIDTH NOTED ON THE PLANS.
8. MATERIAL USED IN THE STONE SECTION SHOULD BE A WELL GRADED MIXTURE OF STONE WITH A D50 SIZE OF 9 INCHES (CLASS A-1). THE STONE CAN BE MACHINE PLACED AND THE SMALLER STONES WORKED INTO THE VOIDS OF THE LARGER STONES.
9. RUNOFF SHOULD BE DISCHARGED INTO THE TRAP IN A MANNER TO PREVENT EROSION. USE TEMPORARY SLOPE DRAINS OR DIVERSIONS WITH OUTLET PROTECTION TO DIVERT RUNOFF TO THE UPPER END OF THE STORAGE AREA TO IMPROVE TRAP EFFICIENCY. AVOID DISCHARGING RUNOFF OVER UNPROTECTED STEEP SIDE SLOPES.
10. ENSURE THAT THE STONE SPILLWAY OUTLET SECTION EXTENDS DOWNSTREAM PAST THE TOE OF THE EMBANKMENT UNTIL STABLE CONDITIONS ARE REACHED AND OUTLET VELOCITY IS ACCEPTABLE FOR THE RECEIVING SYSTEM. KEEP THE EDGES OF THE STONE SECTION FLUSH WITH THE SURROUNDING GROUND.
11. STABILIZE THE EMBANKMENT AND ALL DISTURBED AREAS ABOVE THE SEDIMENT POOL AND DOWNSTREAM FROM THE TRAP IMMEDIATELY AFTER CONSTRUCTION.
12. INSTALL AT LEAST TWO POROUS BAFFLES AS SPECIFIED IN SECTION 7.33 OF TDEC 4TH EDITION HANDBOOK.
13. THE EMBANKMENT SHOULD BE NO TALLER THAN SIX (6) FEET. SIDE SLOPES MUST BE 2:1 OR FLATTER AND STABILIZED AS SOON AS CONSTRUCTION ON THE TRAP HAS BEEN COMPLETED. KEEP THE CREST OF THE SPILLWAY OUTLET 0.5 FEET BELOW THE SETTLED TOP OF THE EMBANKMENT. EMBANKMENTS MUST HAVE A MINIMUM TOP WIDTH OF 3 FEET. MACHINE COMPACT EMBANKMENTS.

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SEDIMENT BASIN DETAILS

OF

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S MAIN STREET
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MAURY COUNTY

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STATE OF TENNESSEE

REVISIONS

NO.	DATE	BY	DESCRIPTION

DESIGNER MSS
REVIEWER JLR

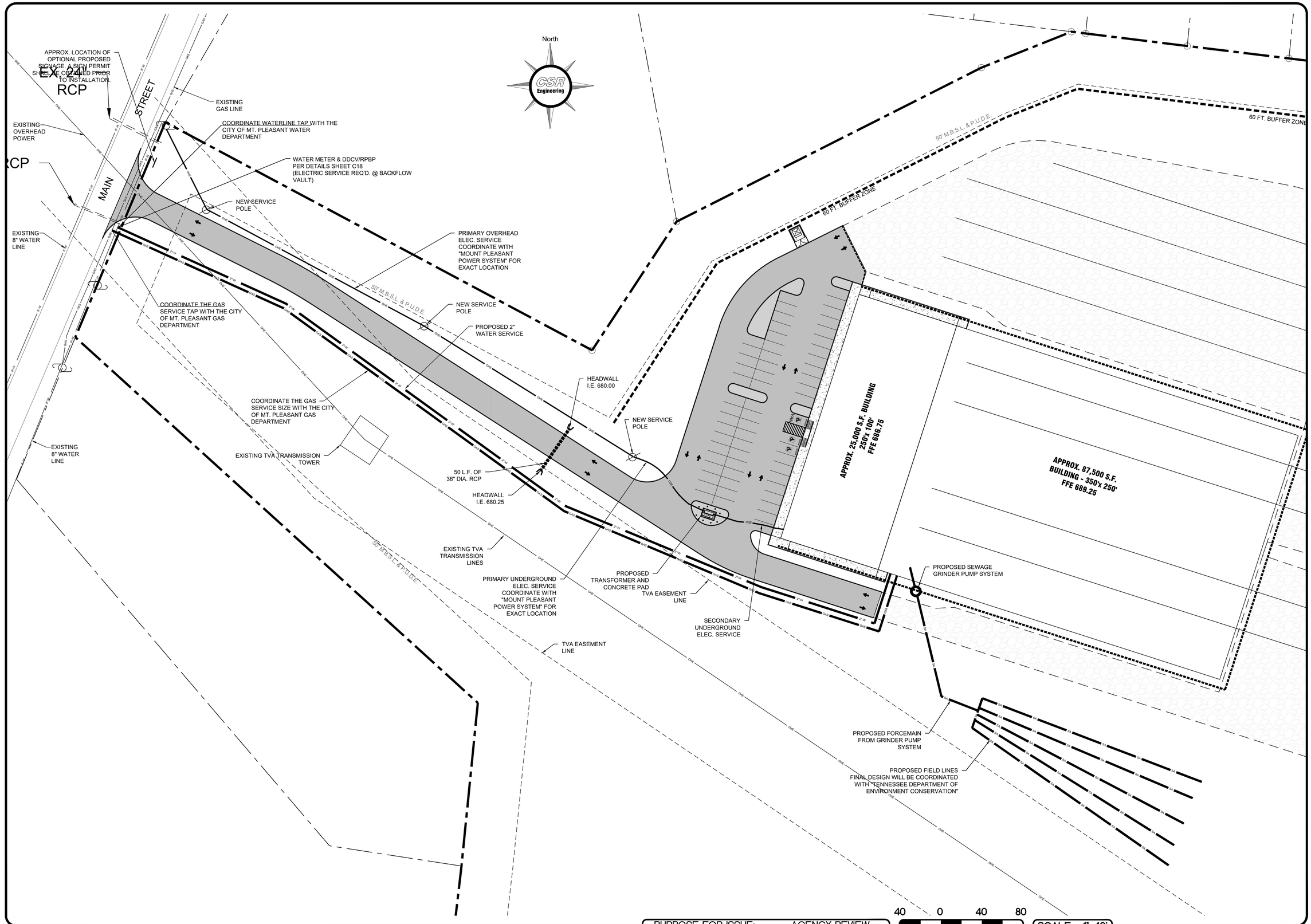
PROJECT 23-040

DATE 10-31-2025

SHEET C4.4

PURPOSE FOR ISSUE: AGENCY REVIEW

SCALE: NONE



PURPOSE FOR ISSUE: AGENCY REVIEW

40 0 40 80

SCALE: 1"=40'

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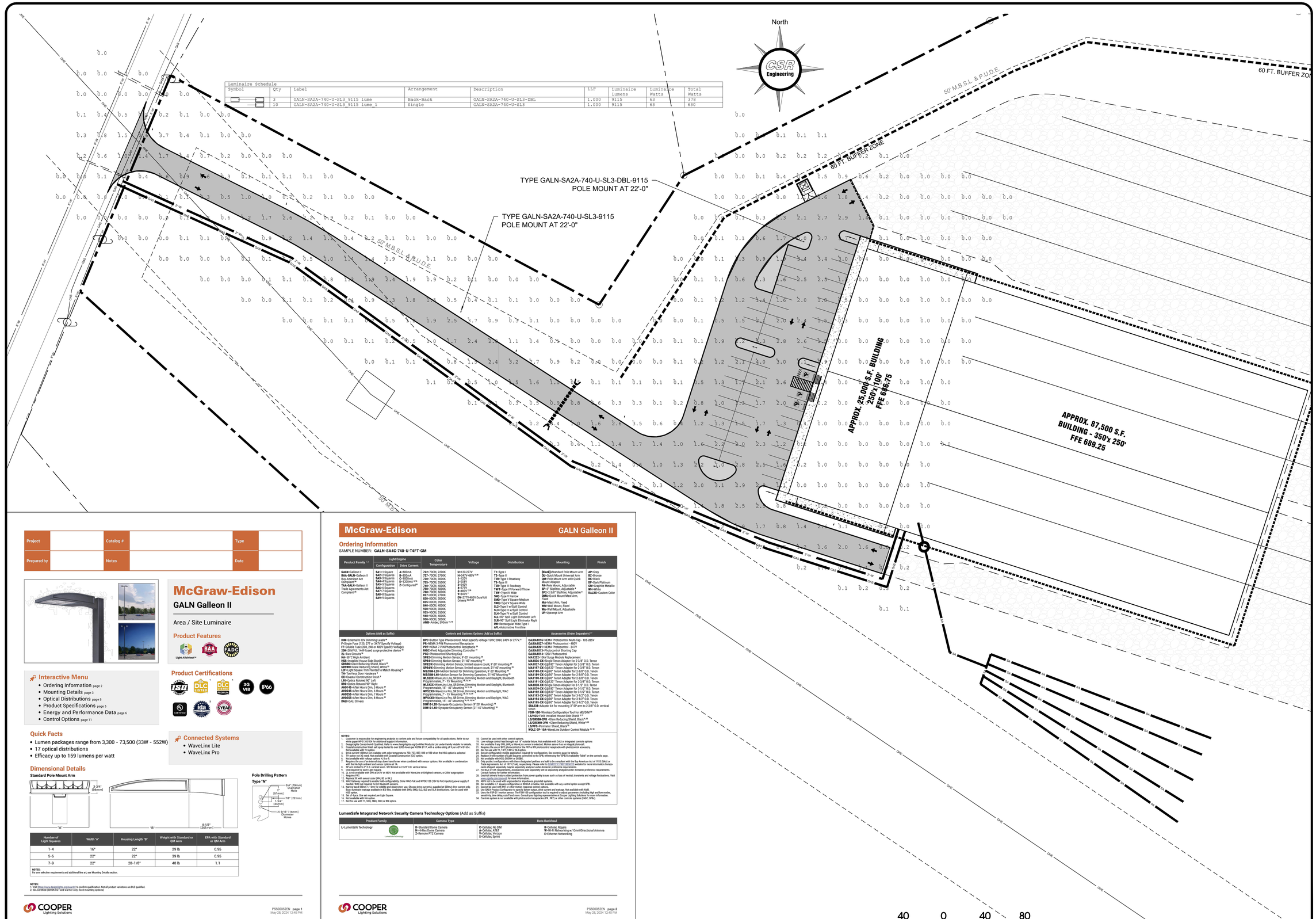
NO.	DESCRIPTION	DATE	BY

DESIGNER MSS
REVIEWER JLR

PROJECT 23-040

DATE 10-31-2025

SHEET C5.0



Project		Catalog #		Type	
Prepared by		Notes		Date	

McGraw-Edison

GALN Galleon II

Area / Site Luminaire

Product Features

Light Architect™

Product Certifications

Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Optical Distributions page 5
- Product Specifications page 5
- Energy and Performance Data page 6
- Control Options page 11

Quick Facts

- Lumen packages range from 3,300 - 73,500 (33W - 552W)
- 17 optical distributions
- Efficacy up to 159 lumens per watt

Connected Systems

- WaveLinx Lite
- WaveLinx Pro

Dimensional Details

Standard Pole Mount Arm

Pole Drilling Pattern

Type "N"

Number of Light Squares	Width "A"	Housing Length "B"	Weight with Standard or QM Arm	EPA with Standard or QM Arm
1-4	16"	22"	29 lb	0.95
5-6	22"	22"	39 lb	0.95
7-9	22"	28-1/8"	48 lb	1.1

NOTES:
For arm selection requirements and additional line art, see Mounting Details section.

NOTES:
1. Visit https://www.designlights.org/search/ to confirm qualification. Not all product variations are DLC qualified.
2. IDA Certified (3000K CCT and warmer only, fixed mounting options)

McGraw-Edison

GALN Galleon II

Ordering Information

SAMPLE NUMBER: **GALN-SA4C-740-U-T4FT-GM**

Product Family [1,2]	Light Engine: Configuration	Light Engine: Drive Current	Color Temperature	Voltage	Distribution	Mounting	Finish
GALN=Galleon II **BAA-GALN**=Galleon II Buy American Act Compliant [3a] **TAA-GALN**=Galleon II Trade Agreements Act Compliant [3b]	**SA1**=1 Square **SA2**=2 Squares **SA3**=3 Squares **SA4**=4 Squares **SA5**=5 Squares **SA6**=6 Squares **SA7**=7 Squares **SA8**=8 Squares **SA9**=9 Squares	**A**=600mA **B**=800mA **C**=1000mA **D**=1200mA [4,5,6] **Z**=Configured*	**722**=70CRI, 2200K **727**=70CRI, 2700K **730**=70CRI, 3000K **735**=70CRI, 3500K **740**=70CRI, 4000K **750**=70CRI, 5000K **760**=70CRI, 6000K **827**=90CRI, 2700K **830**=90CRI, 3000K **835**=90CRI, 3500K **840**=90CRI, 4000K **930**=90CRI, 3000K **935**=90CRI, 3500K **940**=90CRI, 4000K **950**=90CRI, 5000K **AMB**=Amber, 590nm [4, 16]	**U**=120-277V **H**=347V-480V [7,39] **1**=120V **2**=208V **3**=240V **4**=277V **8**=480V [7,8] **MV**=347V-480V Dual-Volt Drivers [39, 40, 56]	**T1**=Type I **T2**=Type II **T3**=Type II Roadway **T3S**=Type III **T3R**=Type IV Roadway **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **SNQ**=Type V Narrow **SMQ**=Type V Square Medium **SWQ**=Type V Square Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **AFL**=Automotive Frontline	**[Blank]**=Standard Pole Mount Arm **QU**=Quick Mount Universal Arm **QM**=Quick Mount Arm with Quick Mount Adapter **PA**=Pole Mount, Adjustable **SP**=3" Slipfitter, Adjustable [9] **SP3**=3-3/8" Slipfitter, Adjustable [9] **QMA**=Quick Mount Mast Arm, Adjustable **MA**=Mast Arm, Fixed **WM**=Wall Mount, Fixed **WA**=Wall Mount, Adjustable **UP**=Upswept Arm	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White **RAL5X**=Custom Color

Options (Add as Suffix)	Controls and Systems Options (Add as Suffix)	Accessories (Order Separately) [37]
DIM=External 0-10V Dimming Leads [10] **F**=Single Fuse (120, 277 or 347V Specify Voltage) **FF**=Double Fuse (208, 240 or 480V Specify Voltage) **HS**=Field Install Style Tuned surge protective device [11] **2L**=Two Circuits [12] **HA**=50°C High Ambient **HSS**=Installed House Side Shield [13] **GRSBK**=Glare Reducing Shield, Black [14] **GRSWH**=Glare Reducing Shield, White [14] **LCF**=Light Square Trim Painted to Match Housing [15] **TW**=Tool-less Door Hardware [16] **CC**=Coastal Construction finish [17] **L90**=Optics Rotated 90° Left **R90**=Optics Rotated 90° Right **AHD14S**=After Hours Dim, 5 Hours [18] **AHD24S**=After Hours Dim, 6 Hours [18] **AHD25S**=After Hours Dim, 7 Hours [18] **AHD35S**=After Hours Dim, 8 Hours [18] **DALD**=DALI Drivers	**BPC**=Button Type Photocontrol. Must specify voltage 120V, 208V, 240V or 277V. [19] **PR**=NEMA 3-PIN Photocontrol Receptacle **PH7**=NEMA 7-PIN Photocontrol Receptacle [20] **PSC**=Photocontrol Stand-Alone Dusk to Dawn Controller [21] **PSC**=Photocontrol Shorting Cap **SPD3**=Dimming Motion Sensor, 9'-20' mounting [22] **SPD4**=Dimming Motion Sensor, 21'-40' mounting [22] **SPD2/X**=Dimming Motion Sensor, limited square count, 9'-20' mounting [22] **SPD4/X**=Dimming Motion Sensor, limited square count, 21'-40' mounting [22] **MS/DIM-L20**=Motion Sensor for Dimming Operation, 9'-20' Mounting [23] **MS/DIM-L40**=Motion Sensor for Dimming Operation, 21'-40' Mounting [23] **WLSXEX**=WaveLinx Lite, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 7'-15' Mounting [24, 25, 26] **WLSXEX**=WaveLinx Lite, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 15'-40' Mounting [24, 25, 26] **WPSXEX**=WaveLinx Pro, SR Driver, Dimming Motion and Daylight, WAC Programmable, 7'-15' Mounting [24, 25, 26, 54] **WPSXEX**=WaveLinx Pro, SR Driver, Dimming Motion and Daylight, WAC Programmable, 15'-40' Mounting [24, 25, 26, 54] **DIM10-L20**=Synapse Occupancy Sensor (9'-20' Mounting) [24] **DIM10-L40**=Synapse Occupancy Sensor (21'-40' Mounting) [24]	**GAJRA1016**=NEMA Photocontrol Multi-Tap - 105-285V **GAJRA1027**=NEMA Photocontrol - 480V **GAJRA1201**=NEMA Photocontrol - 347V **GAJRA1277**=Photocontrol Shorting Cap **GAJRA1516**=120V Photocontrol **MA1252**=10kV Surge Module Replacement **MA1026-XX**=Single Tenon Adapter for 2-3/8" O.D. Tenon **MA1027-XX**=@180° Tenon Adapter for 2-3/8" O.D. Tenon **MA1197-XX**=@120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1188-XX**=@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1189-XX**=@60° Tenon Adapter for 2-3/8" O.D. Tenon **MA1190-XX**=@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1191-XX**=@120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1028-XX**=Single Tenon Adapter for 3-1/2" O.D. Tenon **MA1039-XX**=@180° Tenon Adapter for 3-1/2" O.D. Tenon **MA1192-XX**=@120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1193-XX**=@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1194-XX**=@60° Tenon Adapter for 3-1/2" O.D. Tenon **MA1195-XX**=@90° Tenon Adapter for 3-1/2" O.D. Tenon **SRA258**=Adapter kit for mounting 3" SP arm to 2-3/8" O.D. vertical tenon **FSIR-100**=Wireless Configuration Tool for MS/DIM [38] **LSHSS**=Field Installed House Side Shield [13] **LSGRSBK**=Glare Reducing Shield, Black [14] **LSGRSWH**=Glare Reducing Shield, White [14] **LSPPS**=Perimeter Shield, Black [9] **WGLC-7P-10A**=WaveLinx Outdoor Control Module [41, 54]

NOTES:
1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP1130109EN for additional support information.
2. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
3. a. Buy American Act Compliant when ordered to one 5,000 hours per ASTM A123, with a zinc coating of 4 per ASTM D1654. Not available with TA option.
4. Drive current 1200mA not available with color temperatures 722, 727, 827, 830 or 930 when the HSS option is selected
5. Not available with Coastal Construction (CC) option. Not available with Coastal Construction (CC) option.
6. Not available with voltage options H, 8 or U.
7. Requires the use of an internal step down transformer when combined with exterior options. Not available in combination with 2L, DALD, PR, PSC, SPD3, SPD4, WLSXEX, WPSXEX.
8. SP arm limited to 3" O.D. vertical tenon. SP3 limited to 3-3/8" O.D. vertical tenon.
9. One required for each Light Square.
10. 2L is not available with SPA or 347V or 480V. Not available with WaveLinx or Enlighted sensors, or 20kV surge option
11. Replace XX with sensor color (WH, BZ or BK.).
12. WAC Gateway required to enable field configurability. Order WAC-PoE and WPOE-120 (12V to PoE injector) power supply if needed. WAC not required for UC Bluetooth sensors.
13. Not available with 2L option. Not available in Canada. Not available with CC option.
14. Exact luminaire wattage available in IES files. Available with SNQ, SMQ, SLL, SLR and SLX distributions. Can be used with HSS option.
15. Not available with 2L. One set required per Light Square.
16. Not available with HA option.
17. Not for use with T1, SNQ, SMQ or RW optics.
18. Cannot be used with other control options.
19. Low voltage control lead brought out 18" outside fixture. Not available with DALI or integrated controls options
20. Not available if any SPB, LWK, or WaveLinx sensor is selected. Motion sensor has an integral photocell.
21. Not available with PR, PH7, PSC, or any sensor option. Requires PSC or PR photocontrol receptacle with photocontrol accessory.
22. Not for use with T1, T4FT, T4W or SL4 optics.
23. Sensor configuration module application required for configuration. See controls page for details.
24. Not available with HSS, SRA258 or GRSBK. Color temperature controlled by the SPB, referencing the "SPB/X Availability Table" on the controls page.
25. Not available with HSS, GRSWH or GRSBK.
26. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act (TAA). Refer to our white paper WP1130109EN or WP1130110EN, respectively, available for more information.Components shipped separately may be separately analyzed under domestic preference requirements.
27. For BAA or TAA requirements, Accessories sold separately will be separately analyzed under domestic preference requirements.
28. Not available with other fusing options.
29. Consult factory for further surge protection from power quality issues such as loss of neutral, transients and voltage fluctuations. Visit www.eatondrivetechnology.com for more information.
30. ASSY not to be used with ungrounded or impedance grounded systems.
31. Not available in 1-square configuration at 800mA or below. Not available with any control option except SPB.
32. Use GALN-Product Configurator to specify luminaire configuration.
33. Use GALN-Product Configurator to specify lumen output, drive current and wattage. Not available with AMB.
34. Uses the FSIR-21 1 motion sensor. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, photocontrol thresholds, time delays and ramp rates. Refer to the sensor configuration tool user guide for more information.
35. Controls system is not available with photocontrol receptacle (PR, PR7) or other controls systems (RSEC, SPA4).

LumenSafe Integrated Network Security Camera Technology Options (Add as Suffix)

Product Family	Camera Type	Data Backhaul
L=LumenSafe Technology	**D**=Standard Dome Camera **H**=Hi-Res Dome Camera **Z**=Remote PTZ Camera	**C**=Cellular, No SIM **A**=Cellular, AT&T **V**=Cellular, Verizon **S**=Cellular, Sprint **R**=Cellular, Rogers **W**=Wi-Fi Networking w/ Omni-Directional Antenna **E**=Ethernet Networking

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JASON LEE REYNOLDS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 130577
STATE OF TENNESSEE
10-31-2025

REVISIONS

NO.	DATE	BY	DESCRIPTION

DESIGNER MSS
REVIEWER JLR

PROJECT 23-040

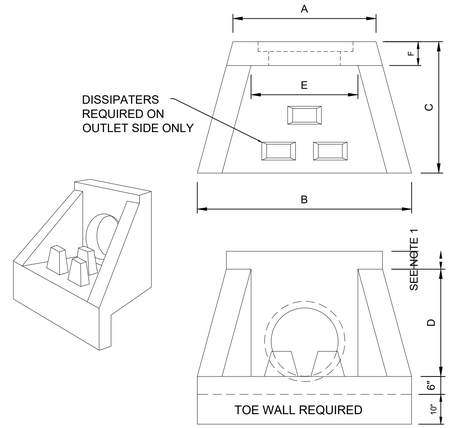
DATE 10-31-2025

SHEET **C5.1**

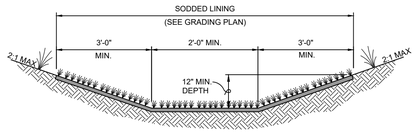
PURPOSE FOR ISSUE: AGENCY REVIEW

PIPE SIZE	AW 12"-15"-18"	BW 24"	CW 30"-36"-42"	DW 48"-54"-60"
A	32"	48"	80"	97.25"
B	48"	72"	102"	120"
C	30"	44"	54"	56"
D	26"	36"	54"	60"
E	24"	36"	64"	83"
F	6"	8"	8"	8"
MAX. OPENING	26"	32"	55"	78"
WT/LB	1,380	3,100	8,100	11,400

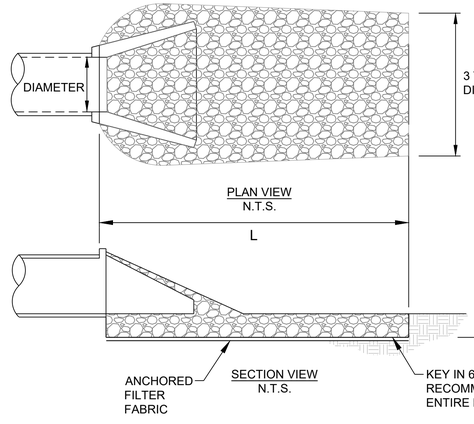
NOTE 1:
0" FOR AW HEADWALL
6" FOR BW & CW HEADWALL
6" TO 27 " FOR DW HEADWALL



PRECAST ENDWALL STRUCTURES - "EW"



SODDED DITCH DETAIL



PIPE DIAMETER	APRON LENGTH	RIP-RAP D_{50} MIN.
15"	10'	6"
18"	10'	6"
24"	16'	8"
30"	20'	8"
36"	20'	10"

PERMANENT OUTLET PROTECTION (PESC-07)

PURPOSE FOR ISSUE: AGENCY REVIEW

SCALE: NONE

CSR Engineering
CSR Engineering, Inc.
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Pleasant View, TN 37146
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F: 615.246.3815
www.csrengineers.com

TrueRail™ ENTERPRISES, LLC

STORMWATER DETAILS
OF
BULK STORAGE RAILYARD
FOR
TRUE RAIL ENTERPRISES, LLC
S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

JASON LEE REYNOLDS
REGISTERED ENGINEER
AGRICULTURE
CIVIL
COMMERCE
No. 108727
STATE OF TENNESSEE

REVISIONS

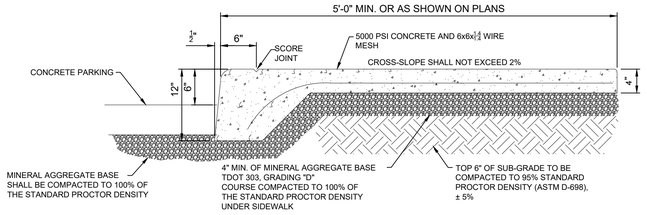
NO.	DATE	BY	DESCRIPTION

DESIGNER MSS
REVIEWER JLR

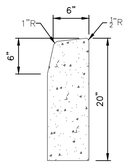
PROJECT 23-040

DATE 10-31-2025

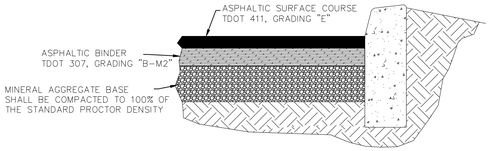
SHEET **C6.0**



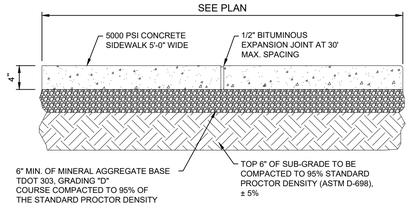
TYPICAL SIDEWALK DETAIL



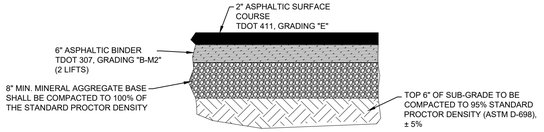
POST CURB DETAIL



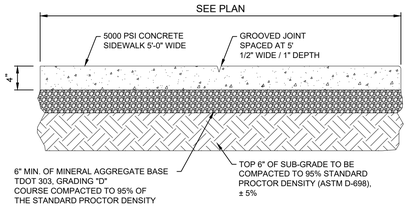
ASPHALT AND POST CURB DETAIL



EXPANSION / CONTRACTION JOINT DETAIL



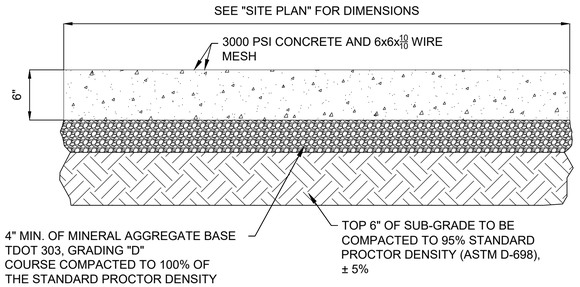
HEAVY DUTY ASPHALT DETAIL



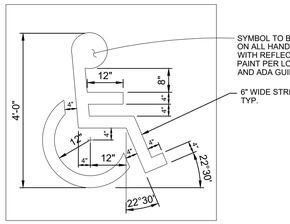
SIDEWALK CONTROL JOINT DETAIL

1. THE SHOWN SECTIONS PRESENTS THE MINIMUM DESIGN THICKNESS AND, AS SUCH, PERIODIC MAINTENAN PLACEMENT OF THE CRUSHED STONE THE AREAS SHOULD BE THOROUGHLY PROOFROLLED. FOR DUMPSTE SHOULD BE LARGE ENOUGH TO SUPPORT THE CONTAINER AND TIPPING AXLE OF THE REFUSE TRUCK.
2. AN ADEQUATE NUMBER OF LONGITUDINAL AND TRANSVERSE CONTROL JOINTS SHOULD BE PLACED IN THE ACE AND/OR AASHTO REQUIREMENTS. CONTROL JOINTS SHOULD BE ¼ OF THE DEPTH OF THE CONCRETE, A SLAB CAN SUPPORT THE WEIGHT OF A MAN AND SAW (USUALLY 24 HOURS). EXPANSION (ISOLATION) JOIN ONLY BE USED TO ISOLATE FIXED OBJECTS ABUTTING OR WITHIN THE PAVED AREA.
3. SEALING OF CONSTRUCTION JOINTS IS ESSENTIAL TO LONG TERM PERFORMANCE OF CONCRETE PAVEMENT SEALANT DESIGNED ESPECIALLY FOR PAVEMENTS SUBJECT TO TRUCK AND CAR TRAFFIC TO PROTECT SUBGR SOON AS POSSIBLE (IN ACCORDANCE WITH SEALANT MANUFACTURER'S INSTRUCTIONS) TO MINIMIZE INFIL
4. ALL AREAS WITH TRACTOR TRAILER TRAFFIC SHALL BE CONSTRUCTED WITH HEAVY DUTY PAVEMENT.

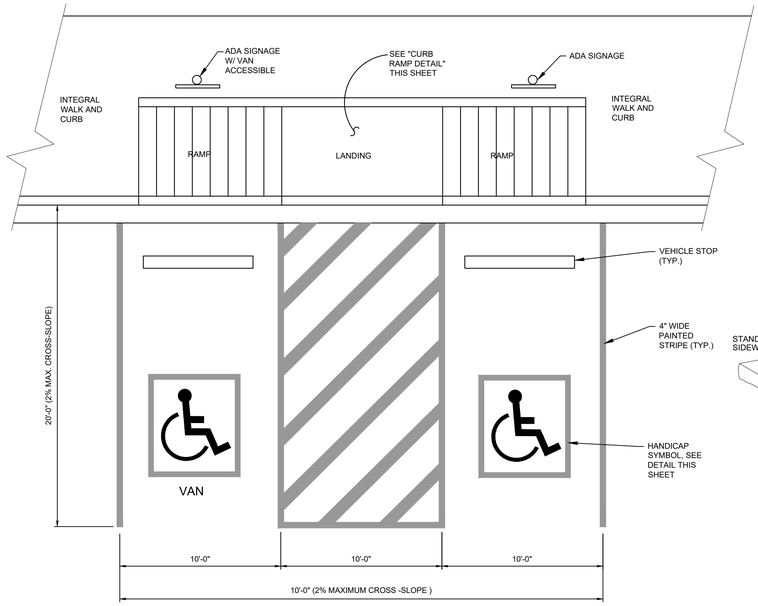
CONCRETE SIDEWALK DETAILS



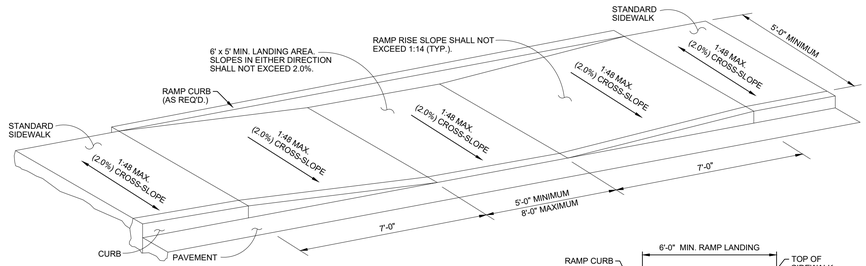
CONCRETE PAVEMENT DETAIL



HANDICAP SYMBOL AND SIGNAGE DETAIL
NO SCALE



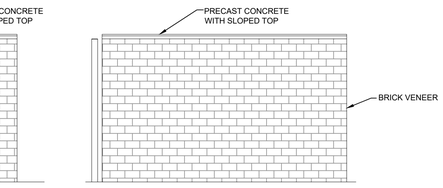
TYPICAL HANDICAP PARKING DETAIL
OMIT RAMPS FOR FLUSH AREAS

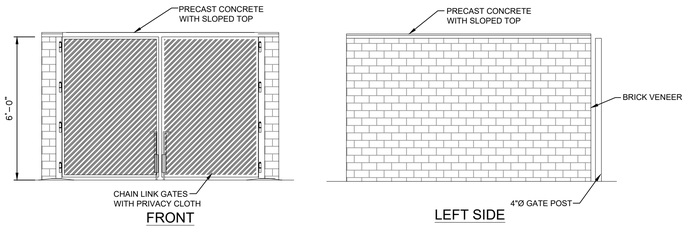


CURB RAMP SHALL MEET ALL FEDERAL, STATE AND LOCAL CODES AND SPECIFICATIONS.
SURFACES SHALL MEET THE GUIDELINES OF THE "ADA STANDARDS" MOST CURRENT ADDITION FOR ACCESSIBILITY.
THE GUTTER SLOPE SHALL NOT EXCEED 1:20 ADJACENT TO THE RAMP.

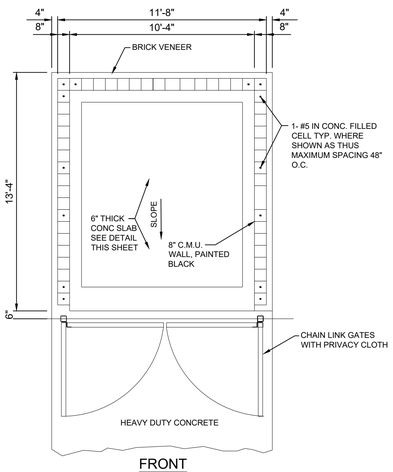
CURB RAMP DETAIL
NO SCALE

SECTION THRU CENTERLINE OF LANDING





ELEVATIONS



FRONT

DUMPSTER AREA PLAN

CSR Engineering
CSR Engineering, Inc.
2010 Highway 49E
Pleasant View, TN 37146
P: 615.212.2389
F: 615.246.3815
www.csrengineers.com

TrueRail™ ENTERPRISES, LLC

SITE DETAILS
OF
BULK STORAGE RAILYARD
FOR
TRUE RAIL ENTERPRISES, LLC
S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

JASON LEE REYNOLDS
REGISTERED ENGINEER
AGRICULTURE
COMM # 87-C
No. 108727
STATE OF TENNESSEE

REVISIONS

NO.	DATE	BY	DESCRIPTION

DESIGNER MSS
REVIEWER JLR

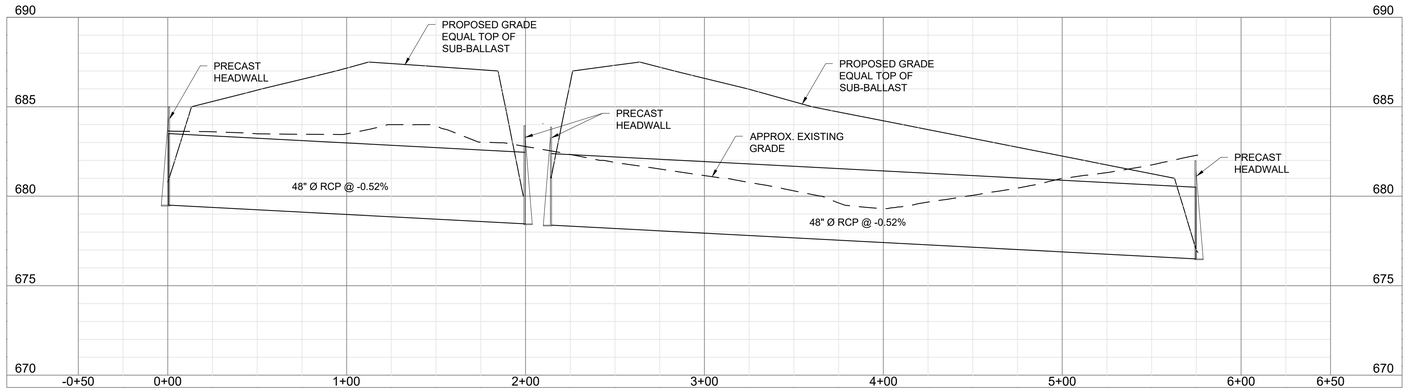
PROJECT 23-040

DATE 10-31-2025

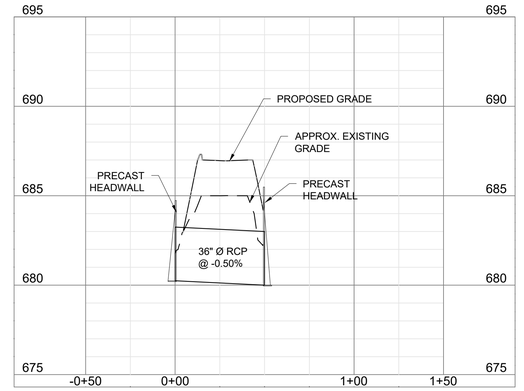
SHEET C7.0

PURPOSE FOR ISSUE: AGENCY REVIEW

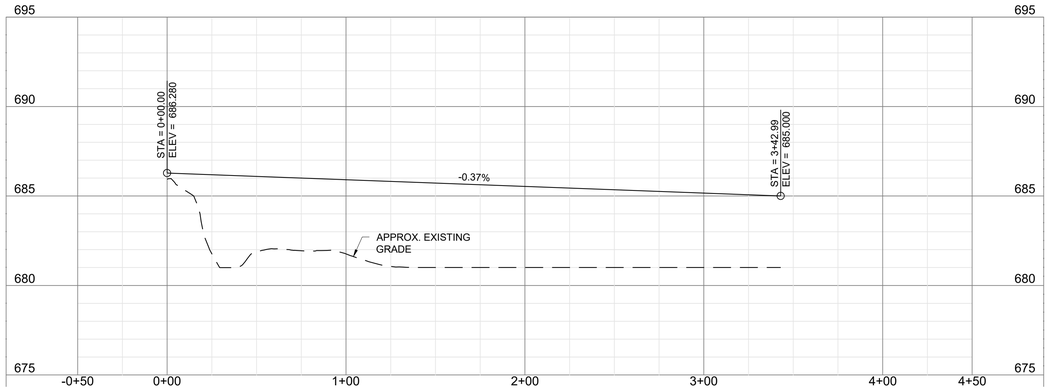
SCALE: NONE



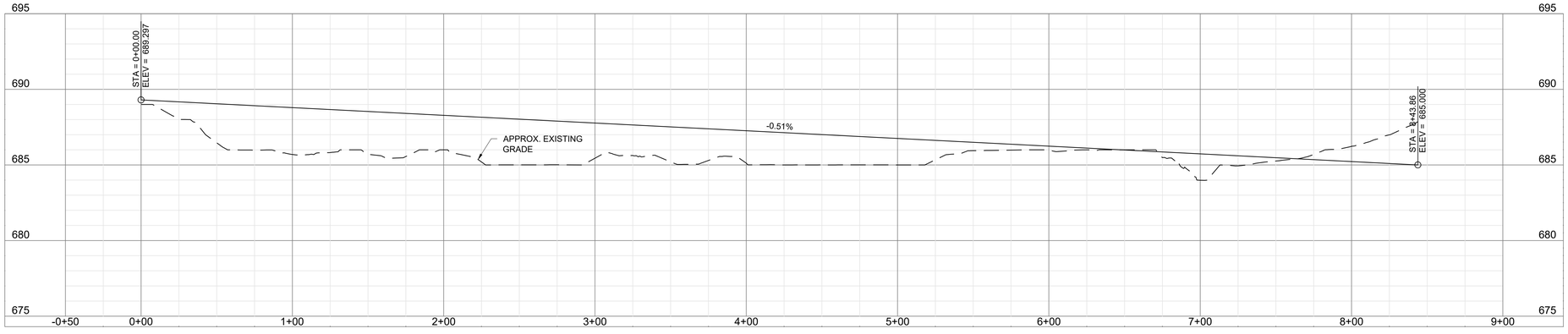
YARD PIPES 2 AND 4 PROFILE



PIPE 1 ACROSS DRIVEWAY 1



DRIVEWAY 2



DRIVEWAY 1

CSR Engineering

CSR Engineering, Inc.
2010 Highway 49E
Pleasant View, TN 37146
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F: 615.246.3815
www.csrengineers.com

TrueRail™ ENTERPRISES, LLC

SITE PROFILES

OF

BULK STORAGE RAILYARD

FOR

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S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

JASON LEE REYNOLDS
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 108727
STATE OF TENNESSEE

REVISIONS

NO.	DATE	BY	DESCRIPTION

DESIGNER MSS
REVIEWER JLR

PROJECT 23-040

DATE 10-31-2025

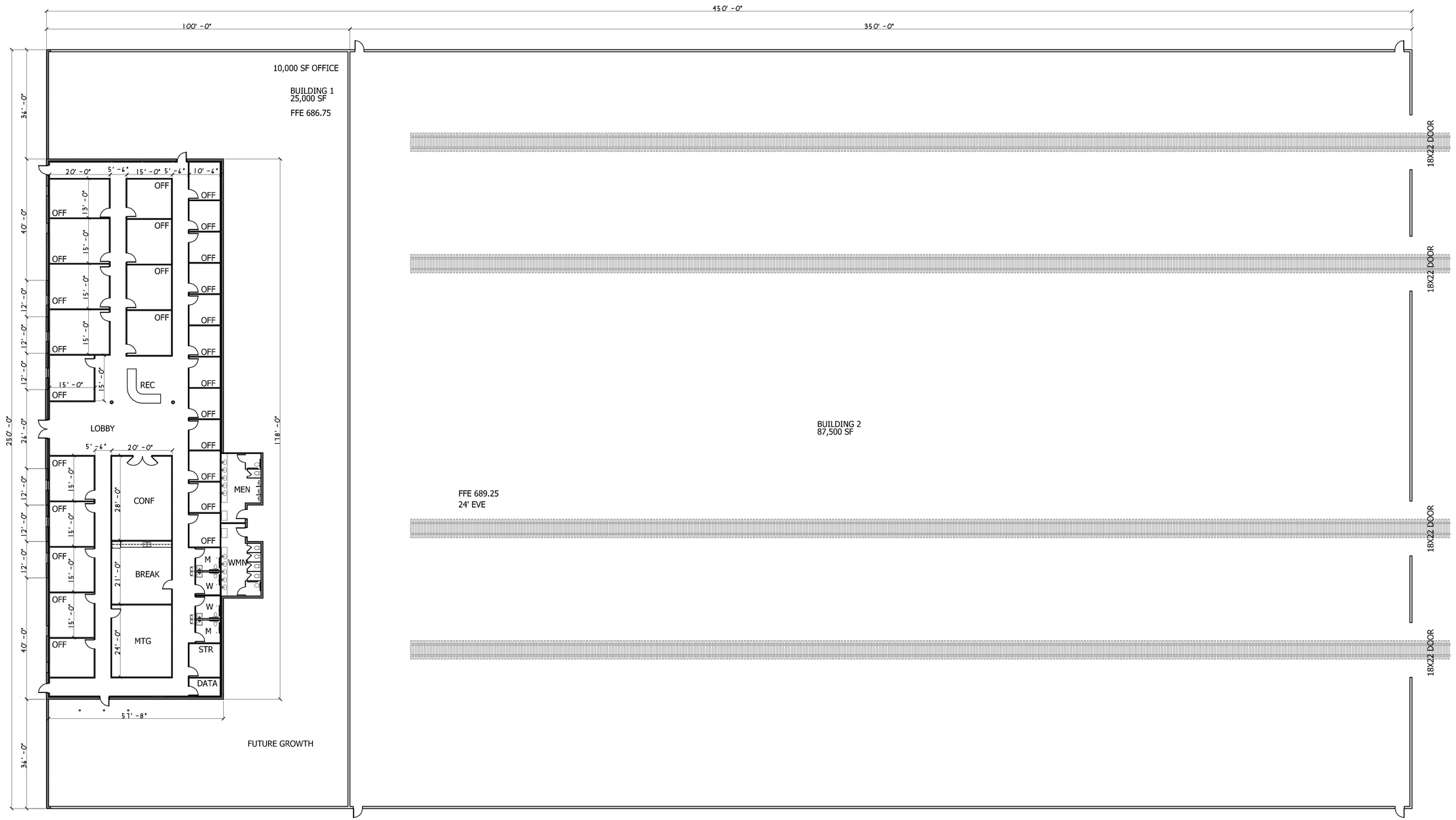
SHEET **C8.0**

PURPOSE FOR ISSUE: AGENCY REVIEW

40 0 40 80

SCALE: 1"=40'

PRELIMINARY
NOT FOR
CONSTRUCTION



FLOOR PLAN

112,500 SF

0 5 10 20

N

JOHN F. WERNE
REGISTERED ARCHITECT
AGRICULTURE
COMMERCE
No. 2 0 9 8 4
STATE OF TENNESSEE
2/10/25

JOHN F. WERNE
ARCHITECT
1020 OWEN COURT, ASHLAND CITY, TENNESSEE 37015 615-792-3866 iwerne3@gmail.com

True Rail Enterprises, LLC

MT Pleasant, TN

DESIGNER

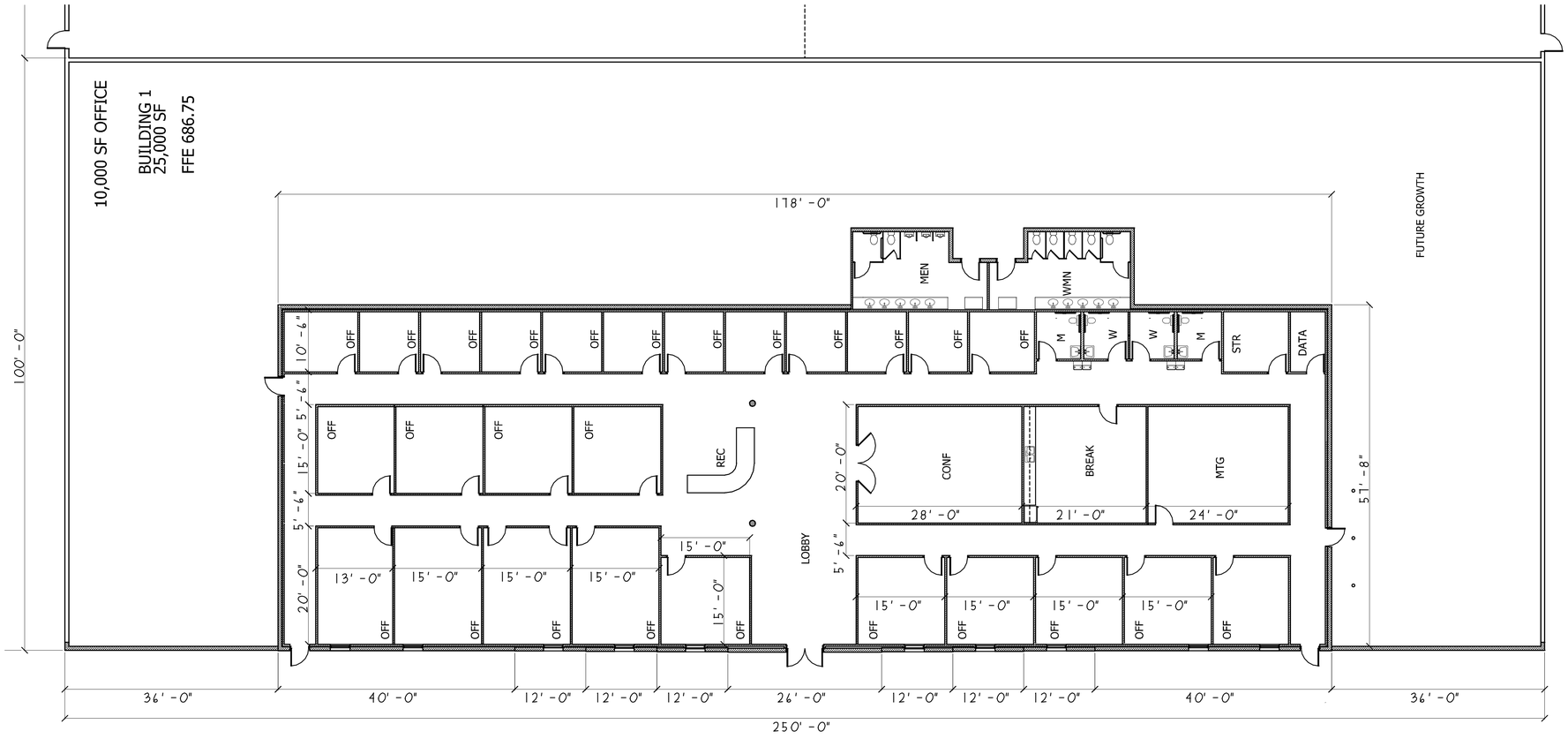
REVIEWER

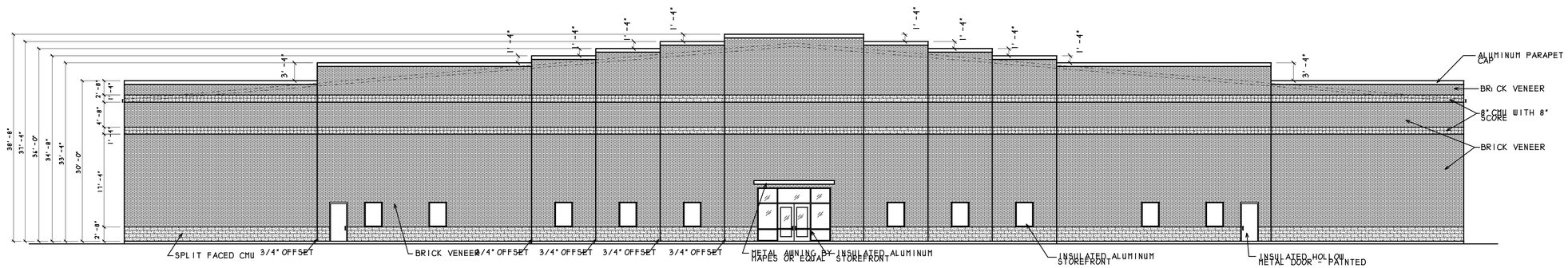
PROJECT

DATE 2/10/25

SHEET A-1

PRELIMINARY
NOT FOR
CONSTRUCTION





FRONT ELEVATION

JOHN F. WERNE
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1020 OWEN COURT, ASHLAND CITY, TENNESSEE 37015 615-792-3886 jwerne2@gmail.com

True Rail Enterprises, LLC

MT Pleasant, TN

DESIGNER

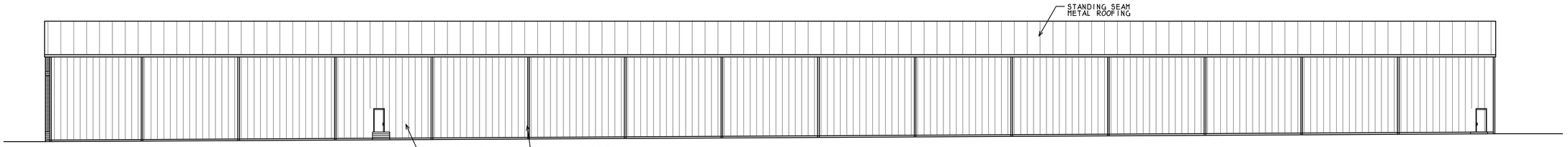
REVIEWER

PROJECT

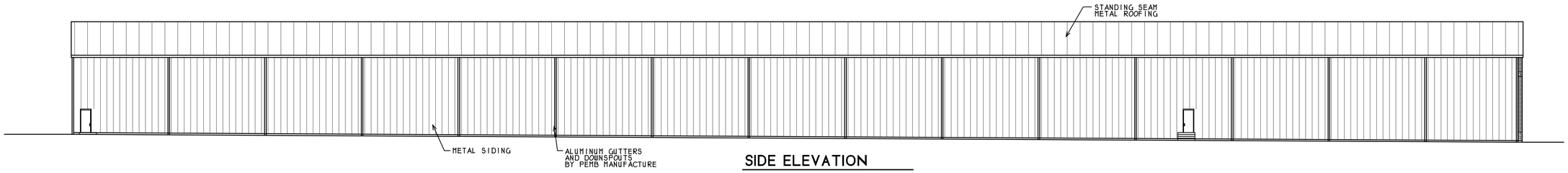
DATE 2/10/25

SHEET A-2

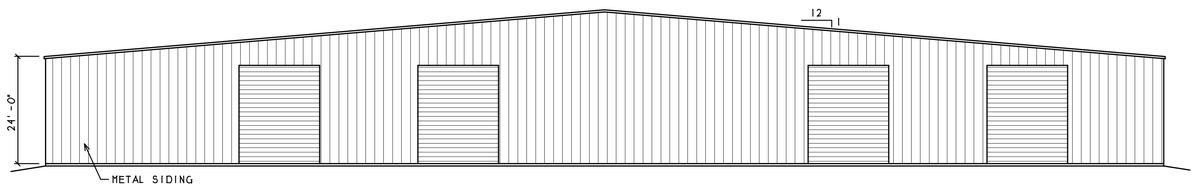
PRELIMINARY
NOT FOR
CONSTRUCTION



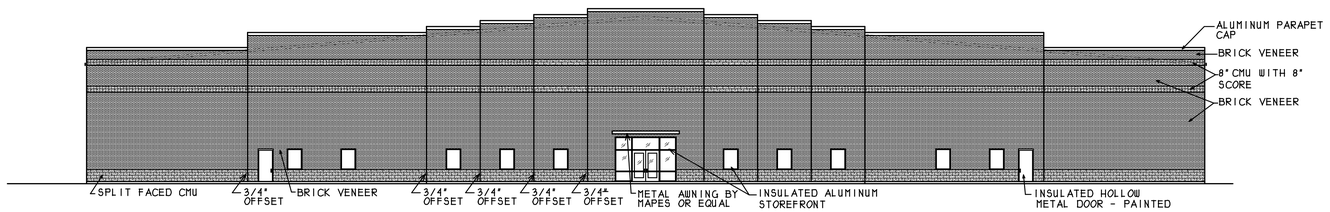
SIDE ELEVATION



SIDE ELEVATION



REAR ELEVATION



FRONT ELEVATION

JOHN F. WERNE
ARCHITECT
1020 OWEN COURT, ASHLAND CITY, TENNESSEE 37015 615-792-3866 jwerne3@gmail.com

True Rail Enterprises, LLC

MT Pleasant, TN

DESIGNER
REVIEWER

PROJECT

DATE 2/10/25

SHEET A-3

KYLE B. SMITH
REGISTERED
LANDSCAPE ARCHITECT
TENNESSEE
No. 329
10-28-25

TRUE RAIL INTERPRISES, LLC
1029/1045 S. MAIN ST.
MT. PLEASANT, TN

Kyle Smith, PLA
521 Tobylynn Drive
Nashville, TN 37211
(408) 835 - 7003 Cell.
kyle@kitadesigns.com

KITA designs

REV.	DATE	COMMENT

TREE PRESERVATION & REMOVAL PLAN

L-0.0

LEGEND

TREE TO BE PRESERVED

TREE TO BE REMOVED

TREE CHART	
CALIPER INCHES TO BE REMOVED	2269
CALIPER INCHES OF +20" CAL TREES TO BE PRESERVED	630

N
W E
S

100 0 100 200
SCALE IN FEET
SCALE: 1" = 100'-0"

EXISTING OVERHEAD POWER
EXISTING GAS LINE
MAIN STREET
EXISTING 8" WATER LINE
EXISTING 8" WATER LINE
EXISTING TVA TRANSMISSION TOWER
EXISTING TVA TRANSMISSION LINES
TVA EASEMENT LINE
TVA EASEMENT LINE
EXISTING TVA TRANSMISSION TOWER
EXISTING OVERHEAD POWER
EXISTING TREES
PROPOSED 2" WATER SERVICE
COORSINATE THE GAS SERVICE TAP WITH THE CITY OF MT. PLEASANT GAS DEPARTMENT
COORDINATE THE GAS SERVICE SIZE WITH THE CITY OF MT. PLEASANT GAS DEPARTMENT
50' M.B.S.L. & P.U.D.E.
60 FT. BUFFER ZONE
SURVEYED PERC AREA
TENNESSEE SOUTHERN RAILROAD R.O.W.
TENNESSEE SOUTHERN RAILROAD (MAIN LINE)
TENNESSEE SOUTHERN R.O.W.
TENNESSEE SOUTHERN RAILROAD (MAIN LINE)
TENNESSEE SOUTHERN R.O.W.

TAX MAP 150, PARCEL 56.00
CB INVESTMENTS LLC
DEED BOOK R2731, PAGE 30
PLAT BOOK 10, PAGE 40
LOT 4, ZONED "R-1"

TAX MAP 150, PARCEL 57.00
JONATHON B. AMONETTE
DEED BOOK R2562, PAGE 621
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 40.00
DAVID BOYD
DEED BOOK R2142, PAGE 302
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 38.00
ROBERT W. BOYD
DEED BOOK R2372, PAGE 286
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 37.00
LISA REID
DEED BOOK R2666, PAGE 1162
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 37.00
TRONGELA S. PIERCE
DEED BOOK R1515, PAGE 66
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 35.00
TAMMY HARDISON
DEED BOOK 1444, PAGE 375
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 34.00
JARED M. SMITH
DEED BOOK R2727, PAGE 866
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 33.00
LESLIE SHELTON
DEED BOOK R2727, PAGE 2251
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 32.00
TIFFANI WAIRE
DEED BOOK R2727, PAGE 1053
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 31.00
NEIL D. KING
DEED BOOK 1444, PAGE 353
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 30.00
NEIL D. KING
DEED BOOK R486, PAGE 131
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 29.05
TIMMOTY L. LOOK
DEED BOOK R3572, PAGE 62
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 29.01
LINDSEY M. ROWE
DEED BOOK R3572, PAGE 62
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 28.00
ROBERT J. RUSSELL
DEED BOOK R3583, PAGE 836
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 55.00
REBECCA CARPENTER EST OF C/O GRADY CHAPMAN
DEED BOOK R2046, PAGE 377
PLAT BOOK 10, PAGE 40
LOT 4, ZONED "R-1"

TAX MAP 150, PARCEL 54.00
MARY KATHERINE TOMLIN
DEED BOOK R2023, PAGE 51
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 54.01
MARY KATHERINE TOMLIN
DEED BOOK R2023, PAGE 51
PLAT BOOK 10, PAGE 40
ZONED "R-1"

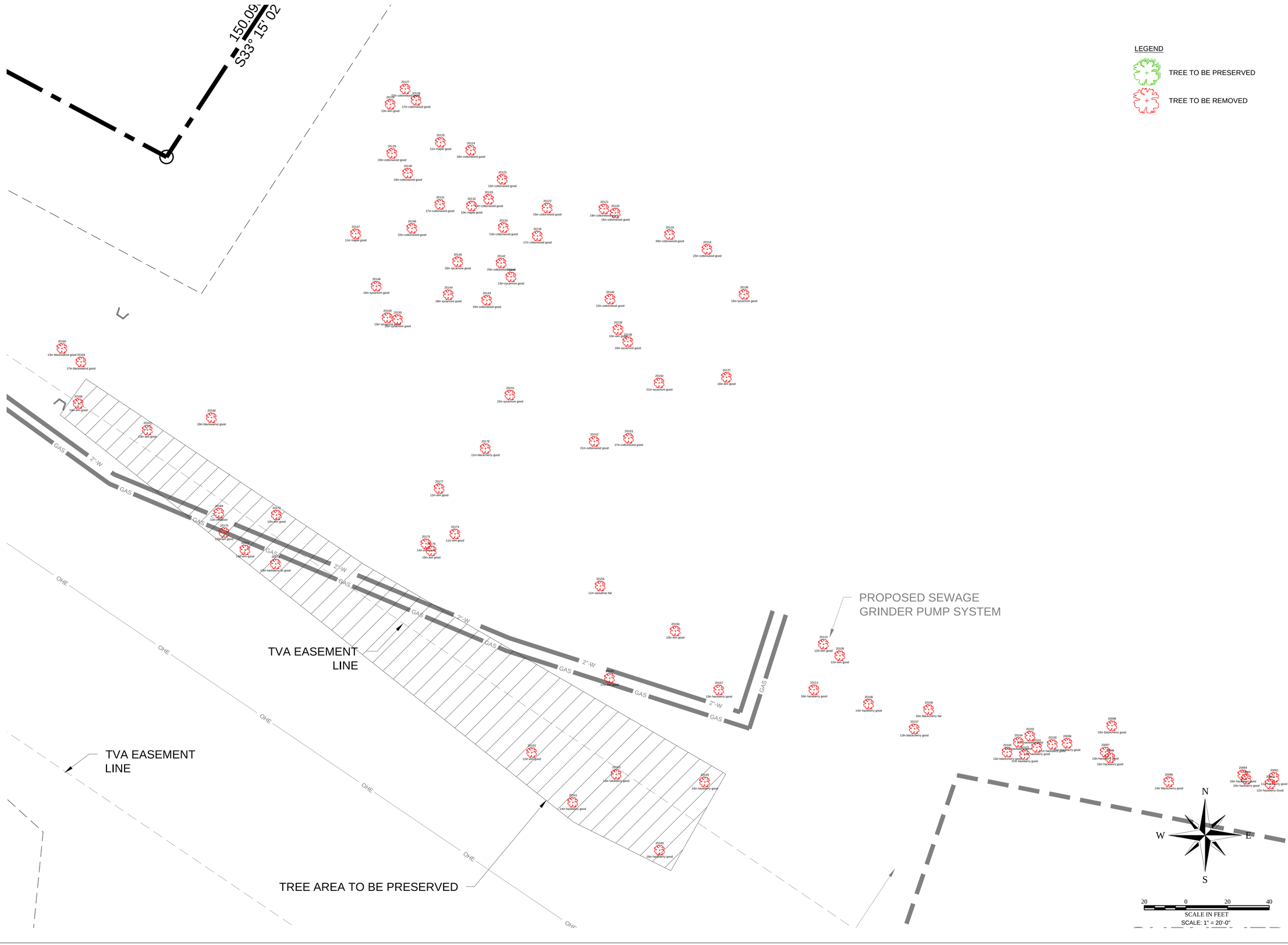
TAX MAP 150, PARCEL 52.02
JOE G. HOLT
DEED BOOK1182, PAGE 70
PLAT BOOK 10, PAGE 40
ZONED "R-1"

TAX MAP 150, PARCEL 63.11
BONAFIDE HOLDINGS TN LLC
DEED BOOK R2891, PAGE 30
PLAT BOOK 23, PAGE 136

TAX MAP 150, PARCEL 63.10
ROBBY AND VICKY INGRUM
DEED BOOK R2891, PAGE 25
PLAT BOOK 23, PAGE 136

TAX MAP 150, PARCEL 63.05
TENNESSEE ALUMINUM PROCESSORS & SMELTER SERVICE CORPORATION

SEE SHEET: A/L0.4
SEE SHEET: B/L0.4
SEE SHEET: C/L0.4
SEE SHEET: L0.1
SEE SHEET: A/L0.2
SEE SHEET: B/L0.3
SEE SHEET: C/L0.3



LEGEND

TREE TO BE PRESERVED

TREE TO BE REMOVED

KYLE B. SMITH
TENNESSEE REGISTERED
LANDSCAPE ARCHITECT
10-28-25

TRUE RAIL INTERPRISES, LLC
1029/1045 S. MAIN ST.
MT. PLEASANT, TN

Kyle Smith, PLA
521 Tobylynn Drive
Nashville, TN 37211
(408) 835 - 7003 Cell.
kyle@kitadesigns.com

KITA designs

REV.	DATE	COMMENT

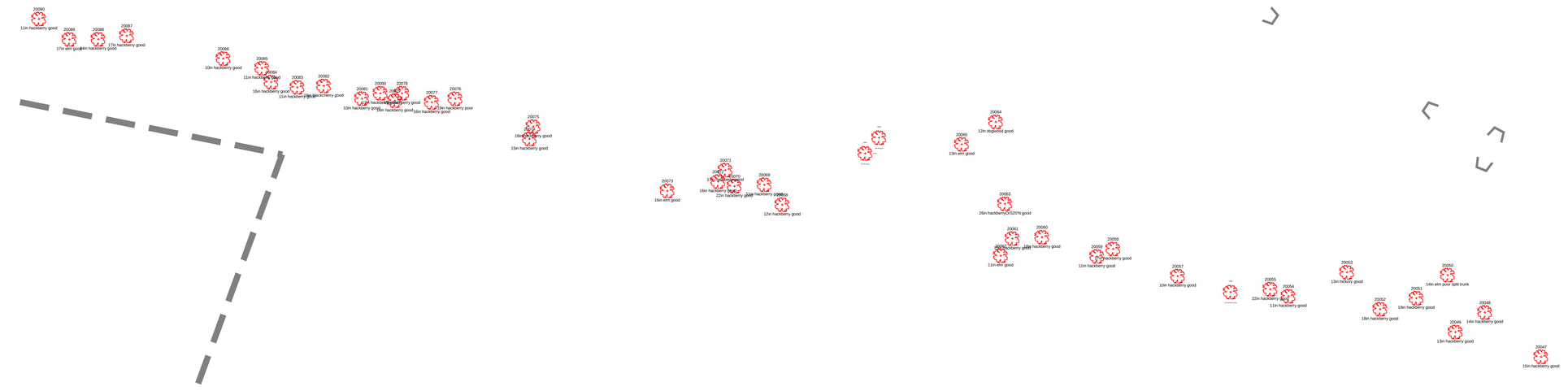
TREE PRESERVATION & REMOVAL PLAN

L - 0.1

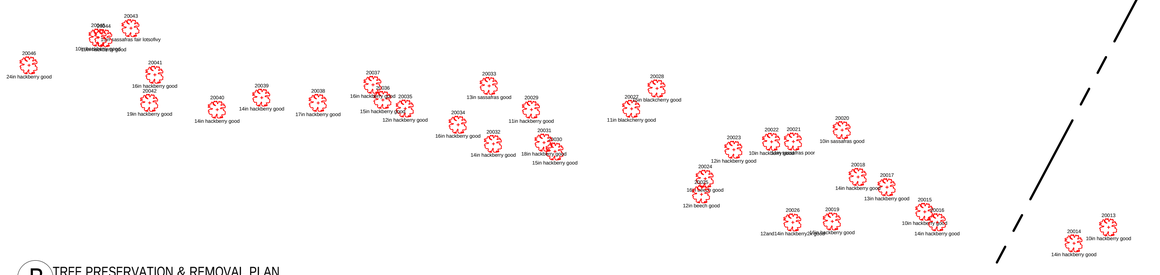
LEGEND

TREE TO BE PRESERVED

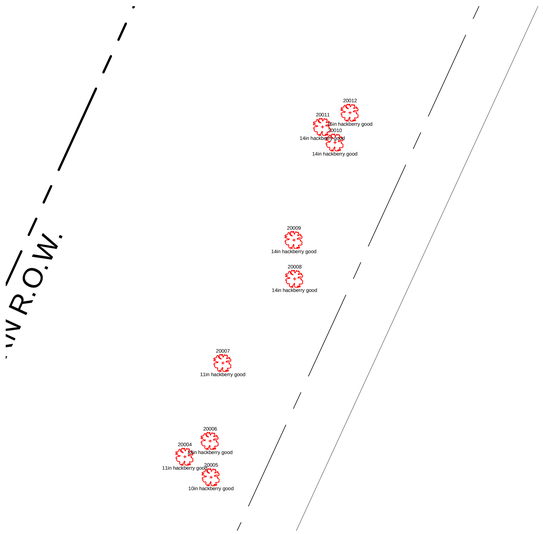
TREE TO BE REMOVED



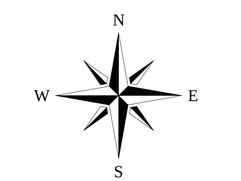
A TREE PRESERVATION & REMOVAL PLAN

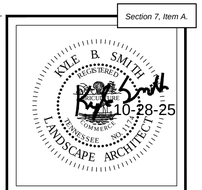


B TREE PRESERVATION & REMOVAL PLAN



C TREE PRESERVATION & REMOVAL PLAN





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KITA designs

REV.	DATE	COMMENT

TREE PRESERVATION & REMOVAL PLAN

L-0.2

LEGEND

TREE TO BE PRESERVED

TREE TO BE REMOVED

N

W E

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20 0 20 40

SCALE IN FEET

SCALE: 1" = 20'-0"

B TREE PRESERVATION & REMOVAL PLAN

A TREE PRESERVATION & REMOVAL PLAN

C TREE PRESERVATION & REMOVAL PLAN

KYLE B. SMITH
REGISTERED
LANDSCAPE ARCHITECT
TENNESSEE
10-28-25

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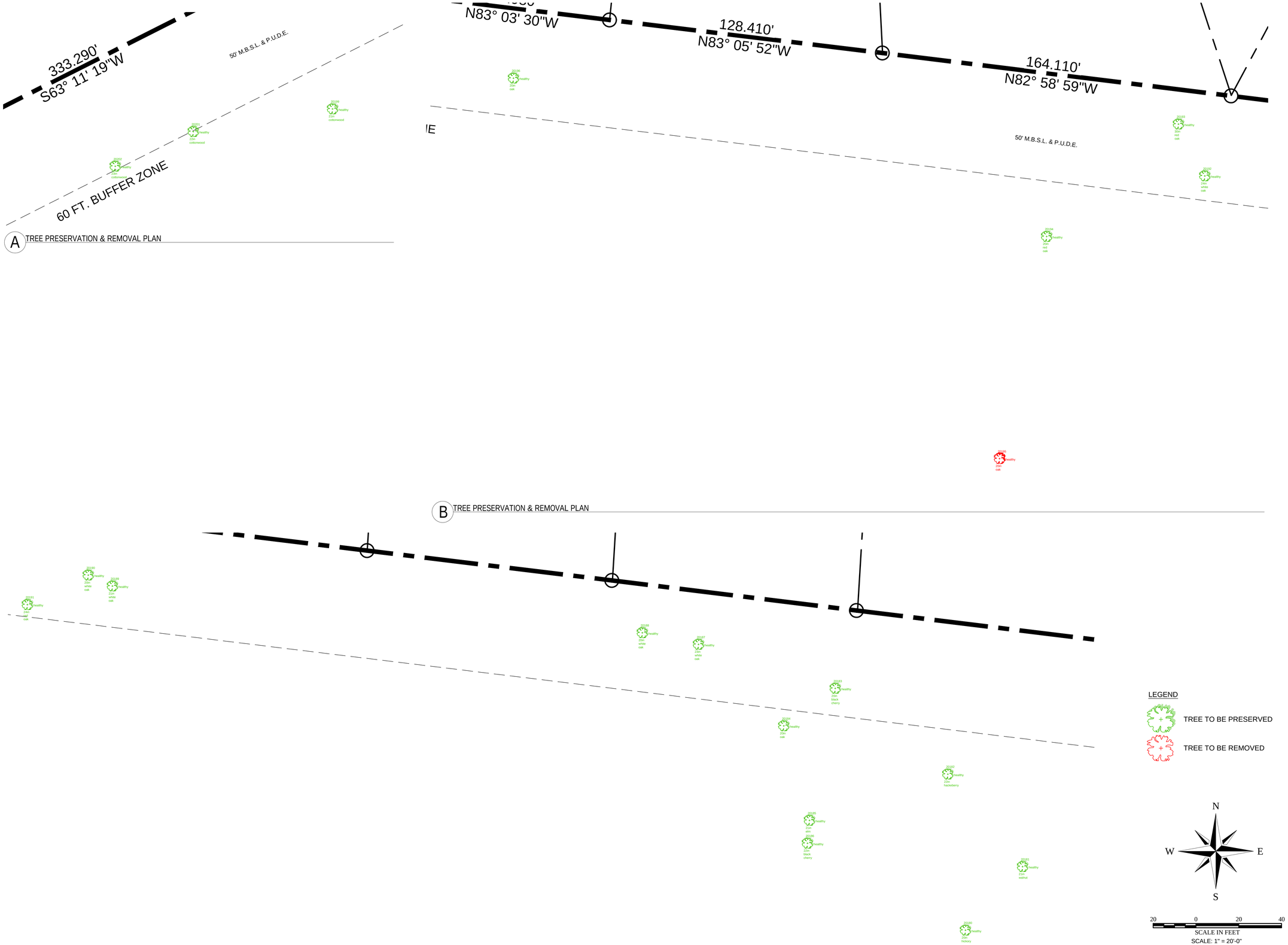
TREE PRESERVATION & REMOVAL PLAN

L-0.3



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TREE PRESERVATION & REMOVAL PLAN

L-0.4

LANDSCAPE BUFFER TYPE 'C'		
	REQUIRED	PROVIDED
LANDSCAPE BUFFER LENGTH: (1744 LF)		
1 EVERGREEN TREE / 15 LF	116.27	149

KYLE B. SMITH
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10-28-25

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REV.	DATE	COMMENT

OVERALL SITE PLAN

L-1.1

LANDSCAPE GENERAL NOTES:

1. NO PLANT SUBSTITUTIONS, TYPE OR QUANTITY DEVIATION FROM THE APPROVED LANDSCAPE PLANS SHALL BE PERMITTED WITHOUT PRIOR APPROVAL FROM THE LANDSCAPE ARCHITECT, AND THE CITY OF MT. PLEASANT, TN.
2. ALL PLANT MATERIAL AND SPECIFICATIONS TO CONFORM TO THE TENNESSEE NURSERY ASSOCIATION STANDARDS.
3. ALL RIGHT-OF-WAY MATERIAL TO BE IN COMPLIANCE WITH THE DEPT. OF WATER RESOURCES LOW WATER USE PLANT LIST.
4. COORDINATE WORK WITH ALL TRADES.
5. CONTRACTOR SHALL HAVE PROJECT BLUE STAKED PRIOR TO COMMENCEMENT OF WORK.
6. ALL PLANT MATERIALS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT, OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
7. TREE HEIGHT AND CALIPER SIZE IS TO COMPLY WITH TENNESSEE NURSERY ASSOCIATION STANDARDS PER TREE SPECIES. NURSERY ASSOCIATION STANDARDS PER TREE SPECIES.
8. CONTRACTOR TO STAKE LOCATIONS OF ALL PLANT MATERIAL FOR APPROVAL BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
9. ALL LANDSCAPE AREAS SHALL RECEIVE DECORATIVE STONE COVER AT A MINIMUM DEPTH OF 2". SEE LEGENDS FOR LOCATIONS, COLORS AND SIZES. ALL DECORATIVE STONE IS TO BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION, AND MATCH EXISTING IN CENTER.
10. TOP OF SHREDDED PINE MULCH SHALL BE 1" BELOW ADJACENT TOP OF CURBS OR PAVEMENT.
11. LANDSCAPE AREAS SHALL BE AT +/- .10 OF A FOOT FROM FINISHED GRADE PRIOR TO THE COMMENCEMENT OF WORK. ALL GRADING SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO THE INSTALLATION OF PLANT MATERIALS, OR THE IRRIGATION SYSTEM.
12. ALL TREES TO BE GUARANTEED FOR ONE YEAR AFTER FINAL ACCEPTANCE.
13. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL WALLS AND STRUCTURES.
14. ALL SLOPES NOT TO EXCEED 4:1 IN LANDSCAPED AREAS.
15. CONTRACTOR IS TO VERIFY ALL QUANTITIES BASED ON THE APPROVED LANDSCAPE PLAN.
16. CONTRACTOR TO VISIT SITE AND VERIFY ALL EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK. ALL POTENTIAL CONFLICTS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT, OR OWNER'S REPRESENTATIVE IMMEDIATELY.
17. CONTRACTOR SHALL PROTECT ALL EXISTING PAVEMENT AND LANDSCAPE TO REMAIN THROUGHOUT CONSTRUCTION ALL DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT NO EXPENSE TO THE OWNER.
18. CONSTRUCTION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THIS PLAN. ANY AND ALL DEVIATION WILL SERVICES PRIOR TO CERTIFICATE OF OCCUPANCY BEING ISSUED.
19. ALL LANDSCAPE AREAS & MATERIALS SHALL BE MAINTAINED IN A HEALTHY, NEAT, CLEAN, AND WEED-FREE CONDITION DURING CONSTRUCTION. THIS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
20. AREAS WITHIN THE SIGHT DISTANCE TRIANGLE SHALL BE KEPT CLEAR OF ANY OBSTRUCTIONS WITH A HEIGHT GREATER THAN 2'-0". TREE CANOPIES SHALL BE KEPT HIGHER THAN 7'-0"
21. COMMON LANDSCAPE AREAS SHALL BE MAINTAINED BY THE OWNER AND/OR ASSOCIATION.
22. ALL PLANTING SHALL BE MAINTAINED IN HEALTHY GROWING CONDITION. FERTILIZATION, CULTIVATION, AND PRUNING SHALL BE CARRIED OUT ON A REGULAR BASIS.
23. DEAD OR DYING PLANTS SHALL BE REMOVED AND REPLACED PROMPTLY.
24. ALL PLANTINGS ARE TO BE IRRIGATED AS OFTEN AS NECESSARY TO PROVIDE HEALTHY GROWING CONDITIONS.
25. NO TURF SHALL BE PERMITTED WITHIN THE PUBLIC RIGHT-OF-WAY.
26. THE PROPERTY OWNER AND/OR ASSOCIATION SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL LANDSCAPING WITHIN THE RIGHT-OF-WAY.
27. PLANTERS AND OTHER SURFACE FEATURES WHICH COULD RETAIN WATER IN AREAS ADJACENT TO THE STRUCTURE OR PAVEMENTS SHOULD BE SEALED OR ELIMINATED. SPRINKLER SYSTEMS SHOULD NOT BE INSTALLED WITHIN 5 FEET OF FOUNDATION WALL. LANDSCAPED IRRIGATION ADJACENT TO THE FOUNDATION SYSTEMS SHOULD BE MINIMIZED OR ELIMINATED.

LANDSCAPE CALCULATIONS

	REQUIRED	PROVIDED
INTERIOR PARKING AREA:		
VEHICLE USE AREA		50,957 SF
1 SHADE TREE / 2,000 SF VUA	25.5	26
TREE PRESERVATION		
2269 CAL. INCHES REMOVED		
REPLACEMENT TREES	1,134.5	
+20" CALIPER TREES RETAINED		315
REPLACEMENT TREE TOTAL CALIPER INCHES	820	600
TREE BANK ($50 PER CALIPER INCH)	$10,950.00	$10,950.00

PLANT SCHEDULE

QTY.	COMMON NAME	BOTANICAL NAME	HEIGHT	TRUNK	COMMENTS
CANOPY TREES					
25	'Bracken's Brown Beauty	Magnolia grandiflora 'Bracken's Brown Beauty'	7' Min.	3" Cal.	B&B
61	Colorado Blue Spruce	Picea pungens 'Glauca'	8' Min.	3" Cal.	B&B
5	'Green Vase' Japanese Zelkova	Zelkova serrata 'Green Vase'	10' - 12"	3" Cal.	B&B
63	'Green Giant' Arborvitae	Thuja (standish x plicata) 'Green Giant'	7' Min.	3" Cal.	Full to ground, well formed
3	Princeton Elm	Ulmus americana 'Princeton'	10' - 12"	3" Cal.	B&B
18	Red Maple	Acer rubrum	10' - 12"	3" Cal.	B&B
175	TOTAL - CANOPY TREES				
UNDERSTORY/COLUMNAR TREES					
25	'Nellie R. Stevens' Holly	Ilex x 'Nellie R. Stevens'	6' - 7'	3" Cal.	Well formed
25	TOTAL - UNDERSTORY TREES				
200	TOTAL - ALL TREES				
SHRUBS					
15	Compact Inkberry Holly	Ilex glabra 'Compacta'	18" Min.	3 Gal.	Container
76	Dwarf Burford Holly	Ilex cornuta 'Burfordii nana'	24" Min.	5 Gal.	Container
22	'Grey Owl' Juniper	Juniperus virginiana 'Grey Owl	18" Min.		Container
89	'Kaleidoscope' Abelia	Abelia grandiflora 'Kaleidoscope'	12" Min.	3 Gal.	Container
7	'Little Lime' Hydrangea	Hydrangea paniculata 'Jane'	18" Min.	3 Gal.	Container
39	'Oakleaf' Hydrangea	Hydrangea quercifolia	24" Min.	5 Gal.	Full and Heavy; Container
95	Schip Laurel	Prunus laurocerasus 'Schipkaensis'	30" Min.	5 Gal.	Full and Heavy; Container
20	Witch-Hazel	Hamamelis virginiana	30" Min.	5 Gal.	Full and Heavy; Container
343	TOTAL - SHRUBS				
GRASSES, PERENNIALS AND GROUND COVER					
41	'Heavy Metal' Switch Grass	Panicum virgatum 'Heavy Metal'	24"	3 Gal.	

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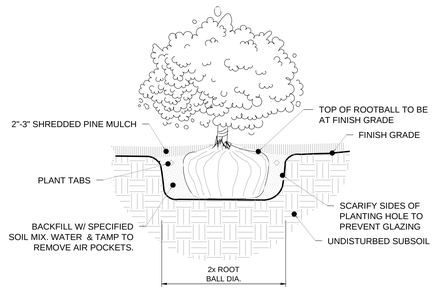
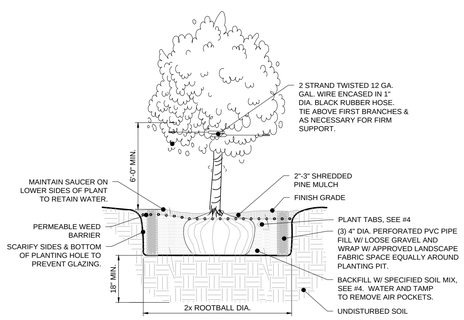
SCALE IN FEET
SCALE: 1" = 30'-0"

NOTES:
1. TOP OF ROOTBALL TO BE AT FINISHED GRADE.
2. SIDES OF PLANTER PIT ARE TO BE VERTICAL, BOTTOM IS TO BE FLAT AND UNCOMPACTED.
3. FILL PLANTER PITS WITH WATER PRIOR TO PLANTING. ANY PITS THAT DO NOT DRAIN ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER.
4. EXCAVATE WIDTH OF PLANTING PIT TO 2 TIMES THE WIDTH OF ROOTBALL.



SHRUB PLANTING DETAIL
NOT TO SCALE

NOTES:
1. TOP OF ROOTBALL TO BE AT FINISHED GRADE.
2. RUN (1) DRIP TUBE TO EACH 4" DIA. DRAIN PIPE.
3. SIDES OF PLANTER PIT ARE TO BE VERTICAL, BOTTOM IS TO BE FLAT AND UNCOMPACTED.
4. FILL PLANTER PITS WITH WATER PRIOR TO PLANTING. ANY PITS THAT DO NOT DRAIN ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER.



TYPICAL TREE PLANTING DETAIL
NOT TO SCALE

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REV.	DATE	COMMENT

LANDSCAPE PLAN

L-1.2

SCOPE OF WORK

THE CONTRACTOR'S WORK TO BE PERFORMED UNDER THIS PROJECT WILL CONSIST OF FURNISHING ALL EQUIPMENT, LABOR, MATERIALS, TOOLS AND SUPERVISION NECESSARY FOR THE GRADING, SUB BALLAST, ALL DRAINAGE RELATED WORK, CONSTRUCTION AND INSTALLATION OF THE PROPOSED INDUSTRIAL SIDING AND SPUR, APPROACH WORK, AND ALL OTHER RELATED WORK AS LISTED IN THE PLANS AND SPECIFICATIONS AT MILEPOST 238.1 ON THE TENNESSEE SOUTHERN RAILROAD. THE DETAILED SCOPE OF WORK IS AS FOLLOWS:

- INSTALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES.
- EXCAVATION AND EMBANKMENT FOR THE PLACEMENT OF THE NEW INDUSTRIAL SIDING AND INDUSTRY TRACKS.
- INSTALL DRAINAGE APPURTENANCES.
- INSTALL NEW GRAVEL GRADE CROSSING.
- INSTALL NEW DRIVEWAY AS SHOWN IN THE PLANS.
- INSTALL TIES, RAIL, AND COMPROMISE BARS..
- INSTALL NEW NO. 8 AND NO. 10 TURNOUTS
- FURNISH AND PLACE BALLAST; SURFACE AND LINE TRACK; AND, REGULATE THE BALLAST SO THAT THE TOP OF RAIL CONFORMS TO THE ELEVATIONS PROPOSED ON THE PROFILE.

GENERAL NOTES:

PROTECTION OF EXISTING RAILROAD

THE CONTRACTOR SHALL CONDUCT HIS WORK SO AS TO PROTECT THE RAILROAD TRACKS AND PROPERTIES FROM ANY DAMAGE. THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH REGULATIONS STIPULATED BY THE TENNESSEE SOUTHERN RAILROAD SO AS MAINTAIN CLEARANCE AND NOT INTERRUPT TRAFFIC UNLESS GIVEN PERMISSION.

FIELD LAYOUT

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD STAKING (LINES AND GRADES). IF ANY DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY

GRADING

ANY AREA THAT IS DISTURBED OUTSIDE THE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT WILL BE REPAIRED TO ITS ORIGINAL CONDITION OR BETTER BY THE CONTRACTOR AT HIS EXPENSE.

TRACK WORK

THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL TRACK WORK. THE CONTRACTOR SHALL COORDINATE WITH THE TENNESSEE SOUTHERN RAILROAD FOR ANY NEEDED TRACK OUTAGES. THEN THE CONTRACTOR SHALL HAVE ALL TRACK WORK INSTALLED AND COMPLETE IN-PLACE AND ACCEPTED BY THE ENGINEER.

RIGHT - OF - WAY

ALL CONSTRUCTION ACTIVITIES WILL BE CONFINED WITHIN THE TENNESSEE SOUTHERN RAILROAD 200 FT. (100 FEET EACH SIDE OF MAIN LINE CENTER LINE) RIGHT-OF-WAY AND TRU RAIL PARCEL UNLESS ARRANGEMENTS HAVE BEEN MADE BY THE CONTRACTOR, IN WRITING, WITH ADJOINING PROPERTY OWNERS.

IF ADDITIONAL STAGING ROOM OR SITE ACCESS IS REQUIRED, THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY EASEMENTS, AND WILL FURNISH PROOF OF EASEMENTS TO THE ENGINEER.

ANY AREAS DISTURBED BY ANY DIRECT OR INDIRECT ACTION ASSOCIATED WITH CONSTRUCTION INCLUDING ALL SITE ACCESS ROADS, WILL BE RETURNED TO PRE-CONSTRUCTION CONDITIONS OR BETTER, AND/OR FINISHED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, AT THE CONTRACTOR'S EXPENSE.

SAFETY

THE CONTRACTOR WILL BE REQUIRED TO CONFORM TO ALL FRA AND OSHA SAFETY REGULATIONS REGARDING TRACK AND BRIDGE WORKER SAFETY.

THE CONTRACTOR IS RESPONSIBLE FOR ALL ASPECTS OF WORKER AND SITE SAFETY, AND WILL HAVE A RESPONSIBLE EMPLOYEE IN CHARGE ON SITE AT ALL TIMES DURING CONSTRUCTION.

OCCUPATION OR FOULING OF THE MAIN LINE WILL ONLY TAKE PLACE IF THE CONTRACTOR HAS PERMISSION FOR TRACK TIME FROM THE RAILROAD, CONFORMING TO THE RAILROAD'S RULES.

UTILITIES

THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL BE DETERMINED IN THE FIELD PRIOR TO CONSTRUCTION BY CONTACTING THE UTILITY COMPANIES INVOLVED. UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT.

THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY UTILITY ISSUES.

THE CONTRACTOR WILL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR WILL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION WILL BE GIVEN AT LEAST THREE (3) BUSINESS DAY PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.

SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 811.

GENERAL TRACKWORK NOTES

- ALL WORK SHALL BE OF GOOD QUALITY IN MATERIALS, EQUIPMENT AND WORKMANSHIP AND SHALL CONFORM IN EVERY RESPECT WITH THE SPECIFICATIONS AND INSTRUCTIONS
- ALL MATERIALS AND WORK WILL COMPLY WITH CURRENT AREMA STANDARDS
- ALL MATERIALS WILL BE UNLOADED AND HANDLED IN SUCH A MANNER AS NOT TO DAMAGE THE MATERIAL, AND IT IS REQUIRED THAT PROPER HANDLING EQUIPMENT BE USED TO UNLOAD AND TRANSPORT MATERIAL.

BALLAST

- BALLAST SHALL BE MINIMUM OF AREMA SIZE 4. BALLAST SHALL BE FREE OF LOAM, DUST, AND OTHER FOREIGN PARTICLES AND SHALL NOT HAVE LESS THAN 75% CRUSHED PARTICLES WITH TWO OR MORE FRACTURED FACES, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- PERFORM BALLAST TAMPING, USING POWER TAMPING MACHINES WHEREVER POSSIBLE, USING APPROVED AREMA TAMPING TOOLS FOR TYPE OF BALLAST BEING PLACED. TAMPERS SHALL BE CAPABLE OF LINING TRACK AS WELL AS LIFTING. TAMP EACH LAYER OF BALLAST FROM A LINE 15" INSIDE EACH RAIL, ON BOTH SIDES OF AND TO THE ENDS OF TIES. CENTER AREA BETWEEN THESE LIMITS SHALL BE FILLED LIGHTLY WITH BALLAST BUT NOT TAMPED. FOR TURNOUTS TAMP BALLAST UNIFORMLY FOR FULL LENGTHS OF TIES. TAMPING SHALL PROCEED SIMULTANEOUSLY AT BOTH ENDS OF SAME TIE, MAKING SURE BALLAST IS FORCED DIRECTLY UNDER THE TIES AND AGAINST SIDES AND ENDS OF TIES.
- WALKWAY BALLAST SHALL BE CRUSHED STONE (GRADED AGGREGATE), PREFERBALY LIMESTONE OR GRANITE AND SHALL MEET THE FOLLOWING REQUIREMENTS:
  : MATERIALS INTENDED FOR USE, AS WALKWAY-BALLAST SHALL CONFORM TO CURRENT A.S.T.M. DESIGNATION D-1241 AS TO QUALITY. FOR GRADATION OF THE WALKWAY BALLAST SEE SECTION 903 OF THE TDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES. THE SIZE SHALL BE NO. 8 OR NO. 89
  :WALKWAY BALLAST SHALL BE SPREAD ON A GRADED ROADBED, AND IN SUFFICIENT WIDTH ACCORDING TO THE PLANS. THE WALKWAY-BALLAST SHALL BE ROLLED TO PRODUCE A SMOOTH SURFACE AND HAVE A MINIMUM DEPTH OF FOUR (4) INCHES.

GRADE TIES

- TIES SHALL BE IN ACCORDANCE WITH AREMA MANUAL, CHAPTER 30
- ALL TIES WILL BE NEW 7"x9"x8'-6" OAK OR MIXED HARDWOOD INDUSTRIAL GRADE TIES
- NO POPLAR TIES ALLOWED
- TIES SHALL BE PLACED ON 20" CENTERS
- TIES SHALL BE TREATED BY THE EMPTY CELL METHOD WITH 60/40 CREOSOTE COAL TAR SOLUTION IN ACCORDANCE WITH AWPA STANDARD P-2. PRESERVATIVE RETENTION SHALL NOT BE LESS THAN 8 LBS.
- TIES SHALL BE TRANSPORTED AND HANDLED PER CURRENT AREMA STANDARDS. TIES SHALL BE TRANSPORTED IN A HORIZONTAL POSITION AND BRACED TO PREVENT MOVEMENT THAT COULD CAUSE DAMAGE.
- LAY WOOD TIES WITH HEARTWOOD FACING DOWN, AND IF NOT POSSIBLE TO DETERMINE POSITION OF THE HEARTWOOOD, LAY THE WIDEST SURFACE OF THE TIE DOWN.
- BORING OR ADZING OF TIES SHALL BE KEPT TO A MINIMUM.
- IF SPIKES ARE PULLED FROM ANY TIES, THE HOLE SHALL BE FILLED BY DRIVING IN A TREATED WOOD TIE PLUG THE FULL DEPTH OF THE HOLE.

SPIKING

- DRIVE SPIKES THROUGH TIE PLATE HOLE INTO TIES, LOCATED DIAGONALLY OPPOSITE EACH OTHER BUT NOT LESS THAN 2" FROM EDGE OF TIE. DRIVE SPIKES VERTICALLY AND SQUARE WITH RAIL. DO NOT SLANT, BEND OR CAUSE SIDEWAYS MOVEMENT OF SPIKE. WHEN SPIKES ARE DRIVEN BY MACHINE, WORK SHALL BE CLOSELY SUPERVISED TO INSURE THAT SPIKES ARE DRIVEN WITH HAMMER CENTERED DIRECTLY OVER EACH SPIKE HEAD AND DRIVEN VERTICALLY. STOP BOLT MUST BE USED TO PREVENT MACHINE FROM OVER-DRIVING.
- SPIKES THAT ARE INCORRECTLY DRIVEN OR PULLED AWAY FROM TIE, MUST BE REMOVED AND THE HOLE FILLED WITH A TIE PLUG DRIVEN TO FULL DEPTH OF HOLE. THE REPLACEMENT SPIKE WILL BE PLACE IN ANOTHER HOLE IN THE TIE PLATE.
- ALL SPIKES SHALL BE NEW $\frac{5}{8}$"x6" CUT TRACK SPIKES. ALL SPIKES WILL CONFORM TO AREMA REQUIREMENTS.
- EACH RAIL WILL BE SPIKED WITH TWO SPIKES PER TIE PLATE FOR TANGENT TRACK AND CURVED TRACK WITH LESS THAN A 2 DEGREE CURVE, STAGGERED WITH INSIDE SPIKES TO THE EAST OR NORTH AND OUTSIDE SPIKES TO THE WEST OR SOUTH. ON CURVES THAT ARE MORE THAN 2 DEGREES A THIRD SPIKE WILL BE REQUIRED ON THE GAUGE SIDE OF THE RAIL.

TIE PLATES

- ALL TIE PLATES FOR 100#RE AND 115# RAIL SHALL BE NEW OR GOOD SECONDHAND, FREE OF INJURIOUS DEFECTS AND FOREIGN MATERIALS AND CONFORMING TO AREMA SPECS, NO. 8 AREMA 14 INCH TIE PLATE FOR 5.5" RAIL BASE, WITH PUNCHING A
- ALL TIE PLATES FOR 136# RAIL SHALL BE NEW OR GOOD SECONDHAND, FREE OF INJURIOUS DEFECTS AND FOREIGN MATERIALS AND CONFORMING TO AREMA SPECS, NO. 8 AREMA 14 INCH TIE PLATE FOR 6" RAIL BASE, WITH PUNCHING A
- THE CONTRACTOR SHALL PROVIDE ANY EXTRA 90# OR 100# PLATES NEEDED FOR THE SUCCESSFUL INSTALLATION OF THE SPUR.
- CLEAN TIE PLATE SEAT AREAS SO THEY ARE FREE OF ALL LOOSE MATERIAL PRIOR TO PLACEMENT OF THE TIE PLATES. CENTER THE PLATES ON THE TIE AND PLACE NORMAL TO THE CENTERLINE OF RAIL SO THAT THE OUTSIDE SHOULDER OF THE PLATES WILL HAVE FULL BEARING AGAINST THE BASE OF THE RAIL.

TURNOUTS

- THE SWITCH STAND SHALL BE SHALL BE AS MANUFACTURED BY NORTRAK INDUSTRIES (RACOR) MODEL 22-E TRI-GLIDE TRAILABLE SWITCH STANDS WITH ERGONOMIC HANDLE OR EQUAL. ALL STANDS ARE TO BE NEW AND REQUIRED TO BE ABLE TO ACCEPT A PADLOCK.

- THE SWITCH TIMBER SHALL BE 7"X9" TIES OF THE APPROPRIATE LENGTH. SWITCH TIMBER SHALL BE MIXED HARDWOOD TREATED THE SAME AS GRADE TIES.

-THE TURNOUT INSTALLED IN THE MAINLINE SHALL INCLUDED (2) INSULATED JOINTS.

RAIL

- CONTRACTOR SHALL SUPPLY THE 115# RE OR BETTER RAIL AND OTM.
- ALL 115# RAIL WILL BE NEW PRIME OR IQ RAIL IN 39'+ LENGTHS
- NO RAIL SHORTER THAN 15' SHALL BE INSTALLED OR LEFT IN TRACK
- UNDER NO CIRCUMSTANCES SHOULD RAIL BE STRUCK IN WEB WITH ANY TOOL OR ANY METAL OBJECT
- THE RIGHT-HAND RAIL FACING IN DIRECTION OF INCREASING CONSTRUCTION SHALL BE SPIKED TO TIES, AND THE OPPOSITE RAIL SHALL BE BROUGHT TO GAGE OF 4'-8$\frac{1}{2}$", MEASURED AT RIGHT ANGLES BETWEEN THE RAILS, IN A PLACE $\frac{5}{8}$" BELOW TOP OF RAIL. GAGE TO BE CHECKED EVERY THIRD TIE.

RAIL ANCHORS

- RAIL SHALL BE BOXED ANCHORED EVERY FOURTH TIE IN TANGENT SECTIONS. RAIL SHALL BE BOXED ANCHORED ON EVERY OTHER TIE IN CURVES OF MORE THAN 3 DEGREES. EVERY TIE SHALL BE BOXED ANCHORED THRU TURNOUTS AND FOR 234 FEET TO EITHER SIDE OF THE TURNOUT.
- ANCHORS SHALL BE INSTALLED WHEN THE RAIL IS AT A NEUTRAL TEMPERATURE OF 105 DEGREES (+/- 5 DEGREES) ALL DE-STRESSING SHALL CONFORM TO INDUSTRY STANDARDS
- THE RAIL ANCHORS SHALL BE A UNIT 5 ANCHOR BY UNIT RAIL ANCHOR COMPANY OR EQUAL, APPROVED BY ENGINEER.

TRACK

- CONSTRUCT BALLASTED TRACK WITH RAIL CANT AT 40 TO 1 INWARD INCLINATION OF RAILS
- TRACK SURFACE IS THE RELATIONSHIP OF BOTH RAILS OPPOSITE EACH OTHER IN PROFILE AND CROSS LEVEL. TRACK PROFILE IS THE RUNNING SURFACE ALONG THE TOP OF THE RAILS OR GRADE RAIL. CROSS LEVEL IS THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF HEADS OF OPPOSITE RAILS OR GRADE RAIL. MEASURED AT RIGHT ANGLES TO THE TRACK ALIGNMENT. THE IDEAL SURFACE IS A UNIFORM PROFILE CONSISTING OF STRAIGHT GRADIENTS CONNECTED BY VERTICAL CURVES, WITH ZERO CROSS LEVEL ON TANGENTS AND PREDETERMINED CROSS LEVEL ON CURVES.
- TOLERANCES:

GAUGE VARIATIONS:	+/- $\frac{3}{16}$"
CROSS-LEVEL:	+/- $\frac{3}{16}$" (VARIATION FROM DESIGN)
i. RATE OF CHANGE	$\frac{1}{4}$" IN 31' (VARIATION FROM DESIGN)
HORIZONTAL ALIGNMENT:	+/- $\frac{1}{2}$" FROM DESIGN
i, RATE OF CHANGE	$\frac{3}{16}$" MIDDLE ORDINATE TO A 31 FOOT CORD ON CURVES AND $\frac{3}{16}$" MIDDLE ORDINATE TO A 31 FOOT CORD ON TANGENT
VERTICAL ALIGNMENT:	+/- $\frac{1}{2}$" FROM DESIGN
i. RATE OF CHANGE	$\frac{3}{8}$" MIDDLE ORDINATE OF A 31 FOOT, VARIATION FROM DESIGN

-RAISE TRACK BY MEANS OF JACKS CLOSE ENOUGH TOGETHER TO PREVENT EXCESSIVE BENDING OF RAILS. LIFT BOTH RAILS SIMULTANEOUSLY AND AS UNIFORMLY AS POSSIBLE. POWER JACKS MAY ALSO BE USED. EACH TRACK RAISE SHALL NOT EXCEED 4" WITH TIES TAMPED PRIOR TO ADDITIONAL RAISE.

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TrueRail™ ENTERPRISES, LLC

ESTIMATED QUANTITIES AND NOTES
OF
BULK STORAGE RAILYARD
FOR
TRUE RAIL ENTERPRISES, LLC
S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

KEVIN C. WALKER
REGISTERED ENGINEER
AGRICULTURE
No. 100699
STATE OF TENNESSEE

REVISIONS

NO.	DATE	BY	DESCRIPTION

DESIGNER DKH
REVIEWER KCW

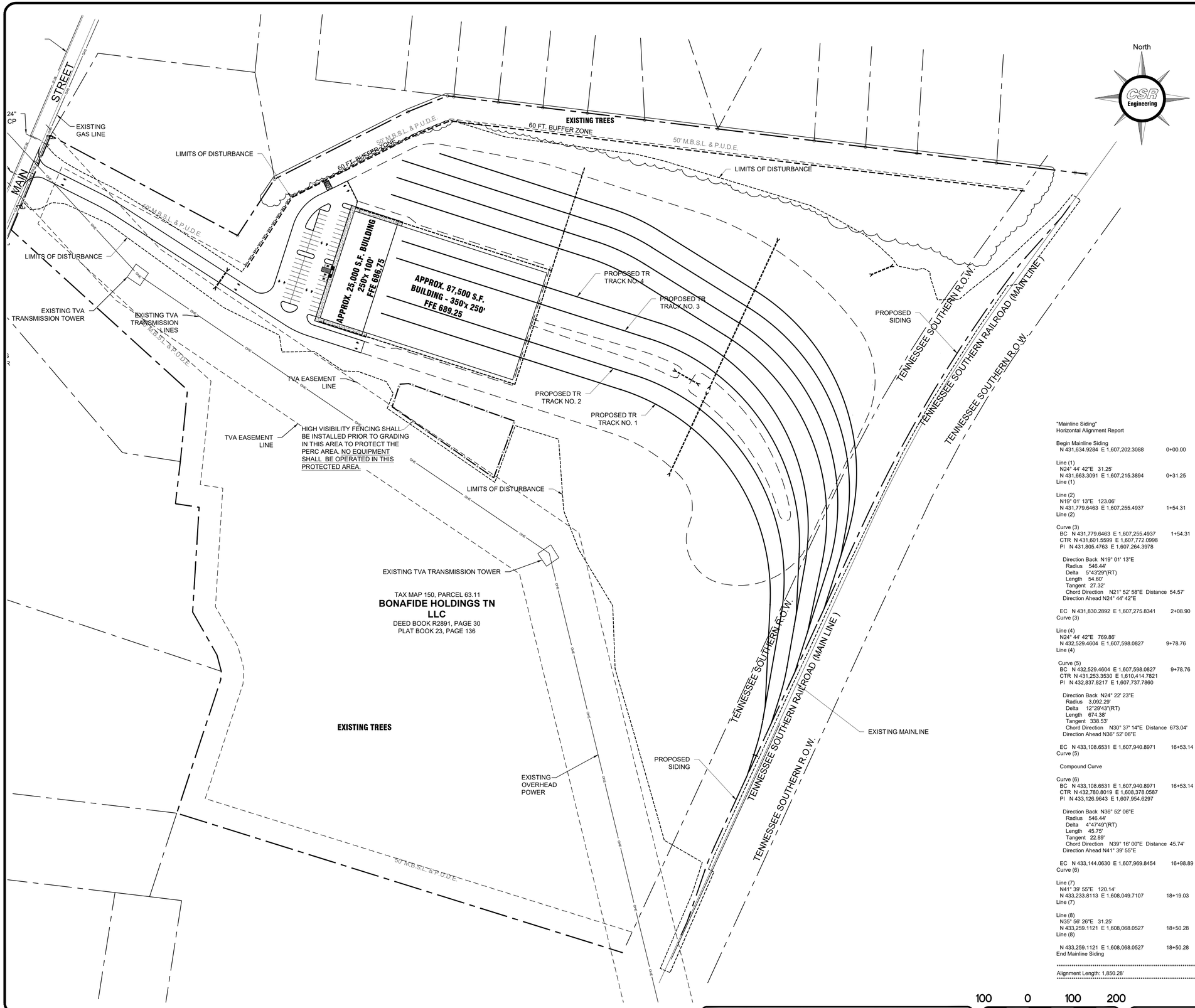
PROJECT 23-040

DATE 10-31-25

SHEET **RR1**

PURPOSE FOR ISSUE: AGENCY REVIEW

SCALE: NONE



"TR Track No. 2"
Horizontal Alignment Report

Begin TR Track 2
N 431,962.6400 E 1,607,336.8347 0+00.00

Line (1)
N24° 44' 42"E 30.00'
N 431,989.8854 E 1,607,349.3922 0+30.00
Line (1)

Line (2)
N17° 35' 32"E 64.69'
N 432,051.5475 E 1,607,368.9433 0+94.69
Line (2)

Curve (3)
BC N 432,051.5475 E 1,607,368.9433 0+94.69
CTR N 432,196.1213 E 1,606,912.9745
PI N 432,082.1240 E 1,607,378.6382

Direction Back N17° 35' 32"E
Radius 478.34'
Delta 7°40'22"(LT)
Length 64.06'
Tangent 32.08'
Chord Direction N13° 45' 21"E Distance 64.01'
Direction Ahead N9° 55' 10"E

EC N 432,113.7211 E 1,607,384.1638 1+58.74
Curve (3)

Line (4)
N9° 55' 10"E 232.98'
N 432,343.2230 E 1,607,424.2984 3+91.73
Line (4)

Curve (5)
BC N 432,343.2230 E 1,607,424.2984 3+91.73
CTR N 432,425.6232 E 1,606,953.1091
PI N 432,754.2843 E 1,607,496.1836

Direction Back N9° 55' 10"E
Radius 478.34'
Delta 82°12'08"(LT)
Length 686.27'
Tangent 417.30'
Chord Direction N31° 10' 54"W Distance 628.91'
Direction Ahead N72° 16' 58"W

EC N 432,881.2758 E 1,607,098.6764 10+78.00
Curve (5)

Line (6)
N72° 16' 58"W 580.06'
N 433,057.7968 E 1,606,546.1328 16+58.06
Line (6)

N 433,057.7968 E 1,606,546.1328 16+58.06
End TR Track 2

****
Alignment Length: 1,658.06'
****

"Mainline Siding"
Horizontal Alignment Report

Begin Mainline Siding
N 431,634.9284 E 1,607,202.3088 0+00.00

Line (1)
N24° 44' 42"E 31.25'
N 431,663.3091 E 1,607,215.3894 0+31.25
Line (1)

Line (2)
N19° 01' 13"E 123.06'
N 431,779.6463 E 1,607,255.4937 1+54.31
Line (2)

Curve (3)
BC N 431,779.6463 E 1,607,255.4937 1+54.31
CTR N 431,601.5599 E 1,607,772.0998
PI N 431,805.4763 E 1,607,264.3978

Direction Back N19° 01' 13"E
Radius 546.44'
Delta 5°43'29"(RT)
Length 54.60'
Tangent 27.32'
Chord Direction N21° 52' 58"E Distance 54.57'
Direction Ahead N24° 44' 42"E

EC N 431,830.2892 E 1,607,275.8341 2+08.90
Curve (3)

Line (4)
N24° 44' 42"E 769.86'
N 432,529.4604 E 1,607,598.0827 9+78.76
Line (4)

Curve (5)
BC N 432,529.4604 E 1,607,598.0827 9+78.76
CTR N 431,253.3530 E 1,610,414.7821
PI N 432,837.8217 E 1,607,737.7860

Direction Back N24° 22' 23"E
Radius 3,092.29'
Delta 12°29'43"(RT)
Length 674.38'
Tangent 338.53'
Chord Direction N30° 37' 14"E Distance 673.04'
Direction Ahead N36° 52' 06"E

EC N 433,108.6531 E 1,607,940.8971 16+53.14
Curve (5)

Compound Curve

Curve (6)
BC N 433,108.6531 E 1,607,940.8971 16+53.14
CTR N 432,780.8019 E 1,608,378.0587
PI N 433,126.9643 E 1,607,954.6297

Direction Back N36° 52' 06"E
Radius 546.44'
Delta 4°47'49"(RT)
Length 45.75'
Tangent 22.89'
Chord Direction N39° 16' 00"E Distance 45.74'
Direction Ahead N41° 39' 55"E

EC N 433,144.0630 E 1,607,969.8454 16+98.89
Curve (6)

Line (7)
N41° 39' 55"E 120.14'
N 433,233.8113 E 1,608,049.7107 18+19.03
Line (7)

Line (8)
N35° 56' 26"E 31.25'
N 433,259.1121 E 1,608,068.0527 18+50.28
Line (8)

N 433,259.1121 E 1,608,068.0527 18+50.28
End Mainline Siding

****
Alignment Length: 1,850.28'
****

"TR Track No. 4"
Horizontal Alignment Report

Begin TR Track 4
N 432,079.0816 E 1,607,390.4789 0+00.00

Line (1)
N24° 44' 42"E 30.00'
N 432,106.3270 E 1,607,403.0364 0+30.00
Line (1)

Line (2)
N17° 35' 32"E 64.69'
N 432,167.9891 E 1,607,422.5875 0+94.69
Line (2)

Curve (3)
BC N 432,167.9891 E 1,607,422.5875 0+94.69
CTR N 432,312.5629 E 1,606,966.6187
PI N 432,198.5656 E 1,607,432.2824

Direction Back N17° 35' 32"E
Radius 478.34'
Delta 7°40'22"(LT)
Length 64.06'
Tangent 32.08'
Chord Direction N13° 45' 21"E Distance 64.01'
Direction Ahead N9° 55' 10"E

EC N 432,230.1627 E 1,607,437.8080 1+58.74
Curve (3)

Line (4)
N9° 55' 10"E 232.98'
N 432,459.6646 E 1,607,477.9426 3+91.73
Line (4)

Curve (5)
BC N 432,459.6646 E 1,607,477.9426 3+91.73
CTR N 432,542.0648 E 1,607,006.7533
PI N 432,870.7259 E 1,607,549.8278

Direction Back N9° 55' 10"E
Radius 478.34'
Delta 82°12'08"(LT)
Length 686.27'
Tangent 417.30'
Chord Direction N31° 10' 54"W Distance 628.91'
Direction Ahead N72° 16' 58"W

EC N 432,997.7175 E 1,607,152.3206 10+78.00
Curve (5)

Line (6)
N72° 16' 58"W 600.78'
N 433,180.5454 E 1,606,580.0352 16+78.78
Line (6)

N 433,180.5454 E 1,606,580.0352 16+78.78
End TR Track 4

****
Alignment Length: 1,678.78'
****

PURPOSE FOR ISSUE: AGENCY REVIEW

100 0 100 200

SCALE: 1"=100'

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TrueRail ENTERPRISES, LLC

PROPOSED TRACK LAYOUTS - OVERALL

OF

BULK STORAGE RAILYARD

FOR

TRUE RAIL ENTERPRISES, LLC

S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

KEVIN C. WALKER
REGISTERED ENGINEER
AGRICULTURE
No. 106605
STATE OF TENNESSEE

REVISIONS

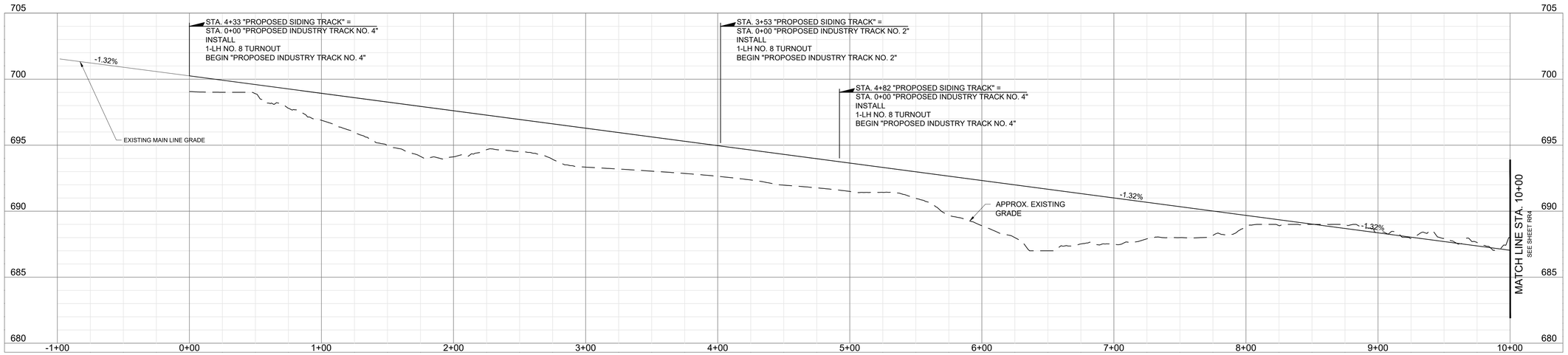
NO.	DATE	BY	DESCRIPTION

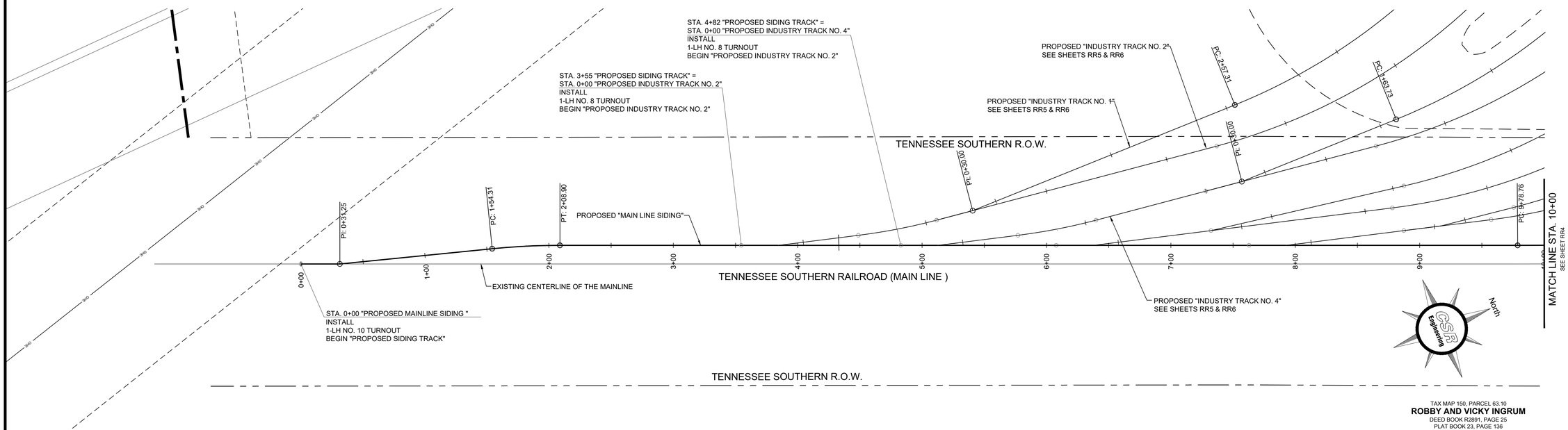
DESIGNER DKH
REVIEWER KCW

PROJECT 23-040

DATE 10-31-25

SHEET RR2





TAX MAP 150, PARCEL 63.10
ROBBY AND VICKY INGRUM
DEED BOOK R2891, PAGE 25
PLAT BOOK 23, PAGE 136

PURPOSE FOR ISSUE: AGENCY REVIEW

40 0 40 80

SCALE: 1"=40'

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TrueRail™ ENTERPRISES, LLC

PROPOSED SIDING TRACK - STA. 0+00 TO STA. 10+00

OF

BULK STORAGE RAILYARD

FOR

TRUE RAIL ENTERPRISES, LLC

S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

KEVIN C. WALKER
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 106695
STATE OF TENNESSEE

REVISIONS

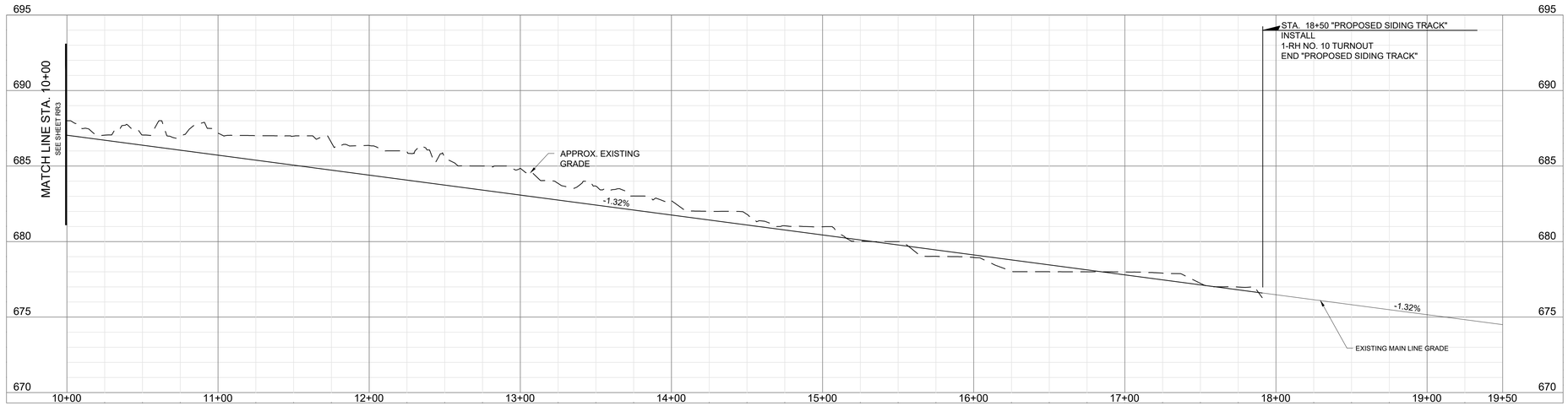
NO.	DESCRIPTION	BY	DATE

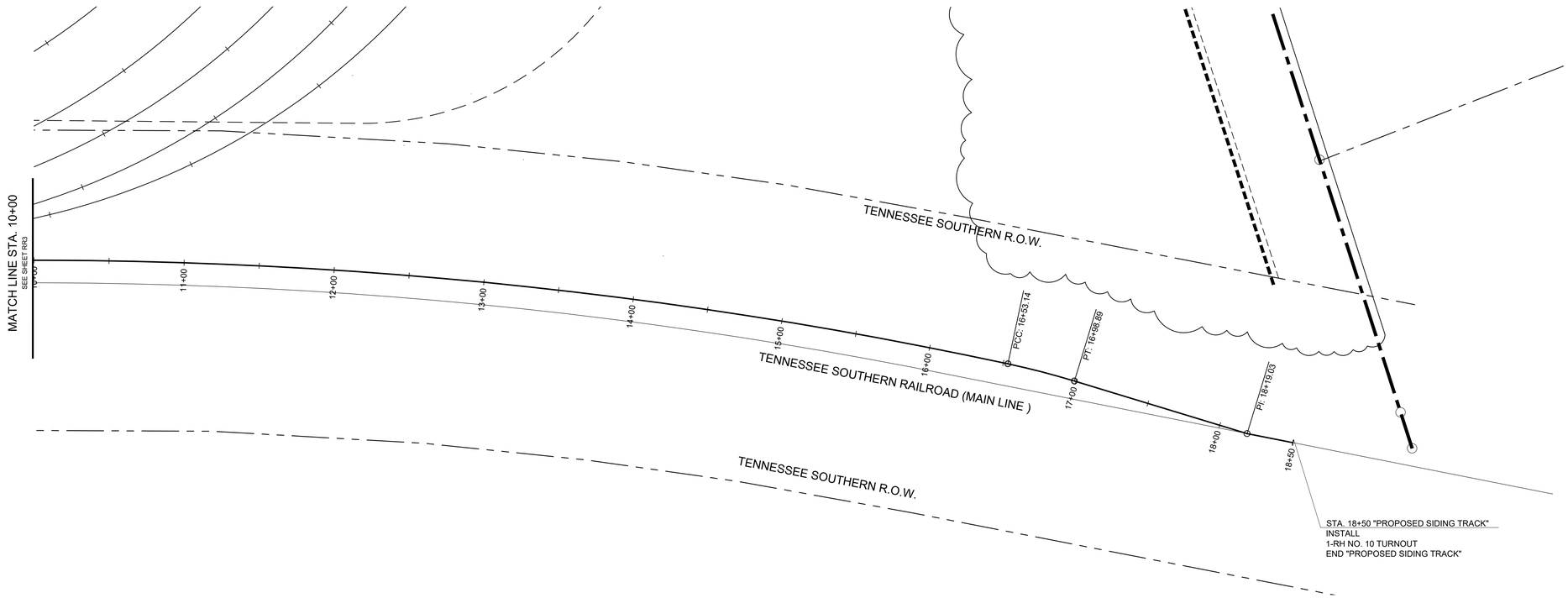
DESIGNER DKH
REVIEWER KCW

PROJECT 23-040

DATE 10-31-25

SHEET **RR3**





40 0 40 80

PURPOSE FOR ISSUE: AGENCY REVIEW

SCALE: 1"=40'

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TrueRail™ ENTERPRISES, LLC

PROPOSED SIDING TRACK - STA. 10+00 TO E.O.L.

OF

BULK STORAGE RAILYARD

FOR

TRUE RAIL ENTERPRISES, LLC

S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

KEVIN C. WALKER
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AGRICULTURE
No. 106695
STATE OF TENNESSEE
10/31/25

REVISIONS

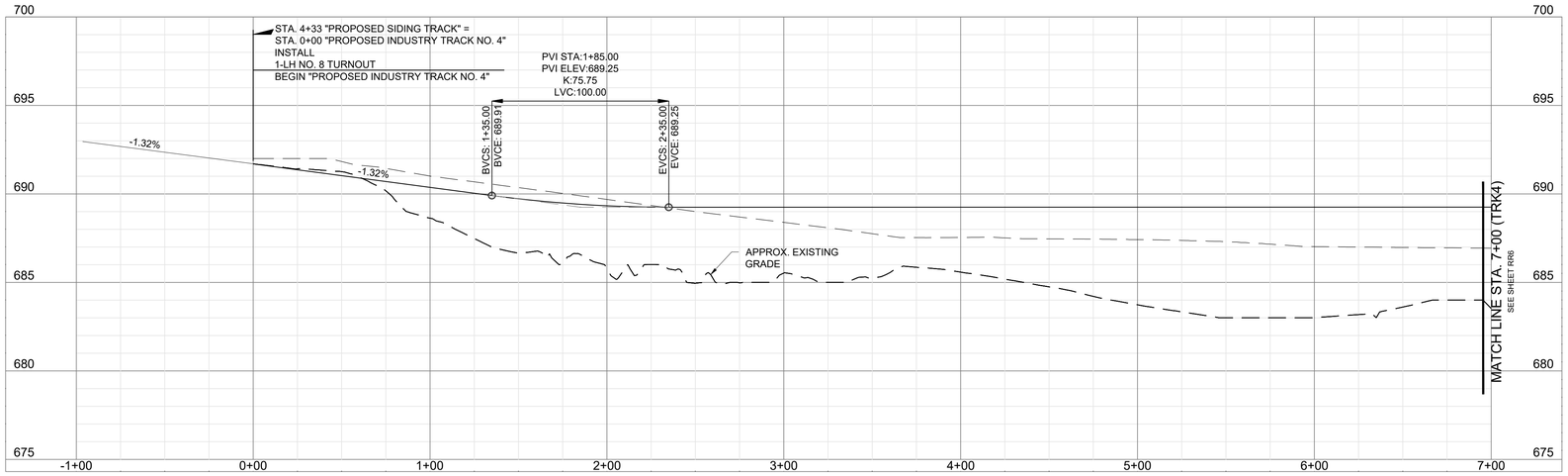
NO.	DATE	BY	DESCRIPTION

DESIGNER DKH
REVIEWER KCW

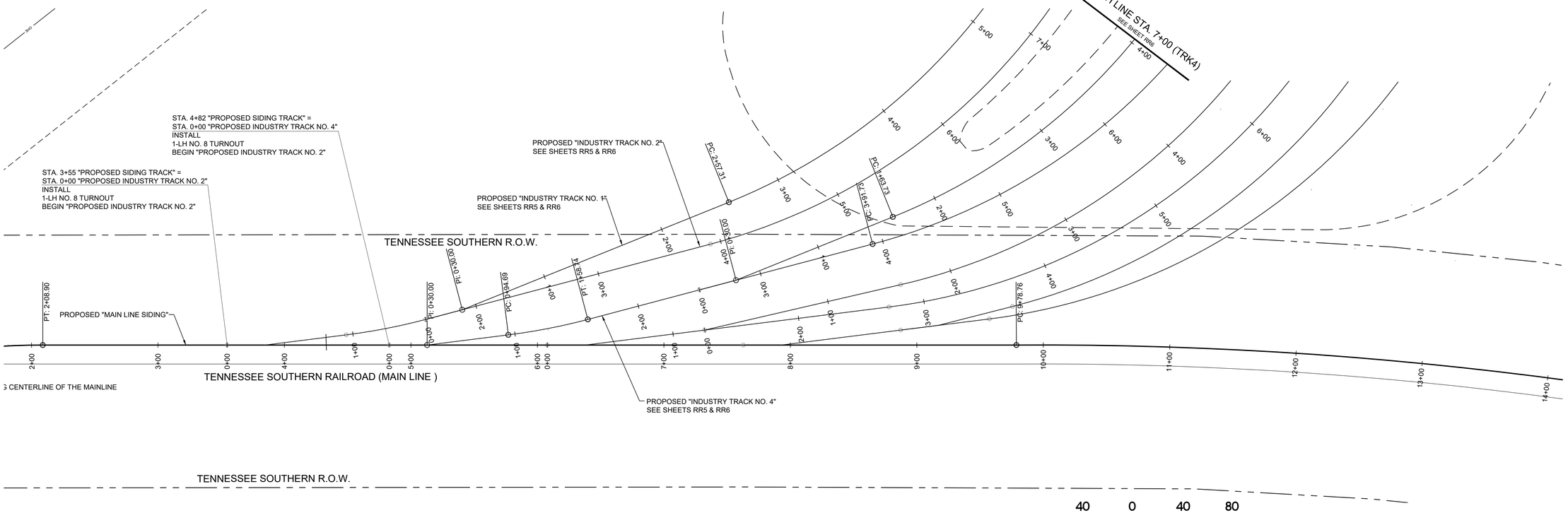
PROJECT 23-040

DATE 10-31-25

SHEET RR4



PROPOSED INDUSTRY TRACK NO. 4 - PROFILE



PURPOSE FOR ISSUE: AGENCY REVIEW

40 0 40 80

SCALE: 1"=40'

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TrueRail ENTERPRISES, LLC

PROPOSED INDUSTRY TRACK NO. 4

OF

BULK STORAGE RAILYARD

FOR

TRUE RAIL ENTERPRISES, LLC

S MAIN STREET
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REVISIONS

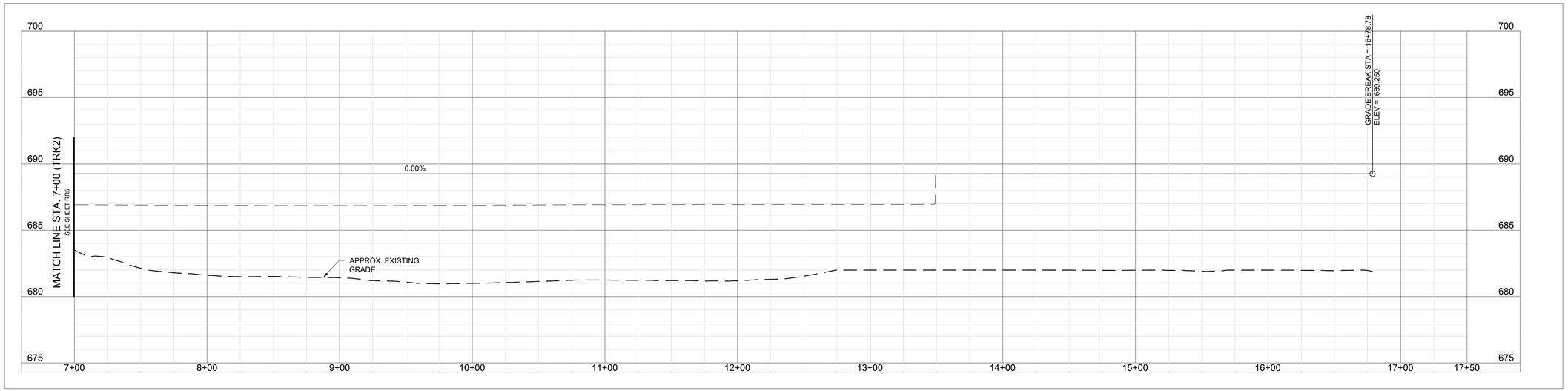
NO.	DATE	BY	DESCRIPTION

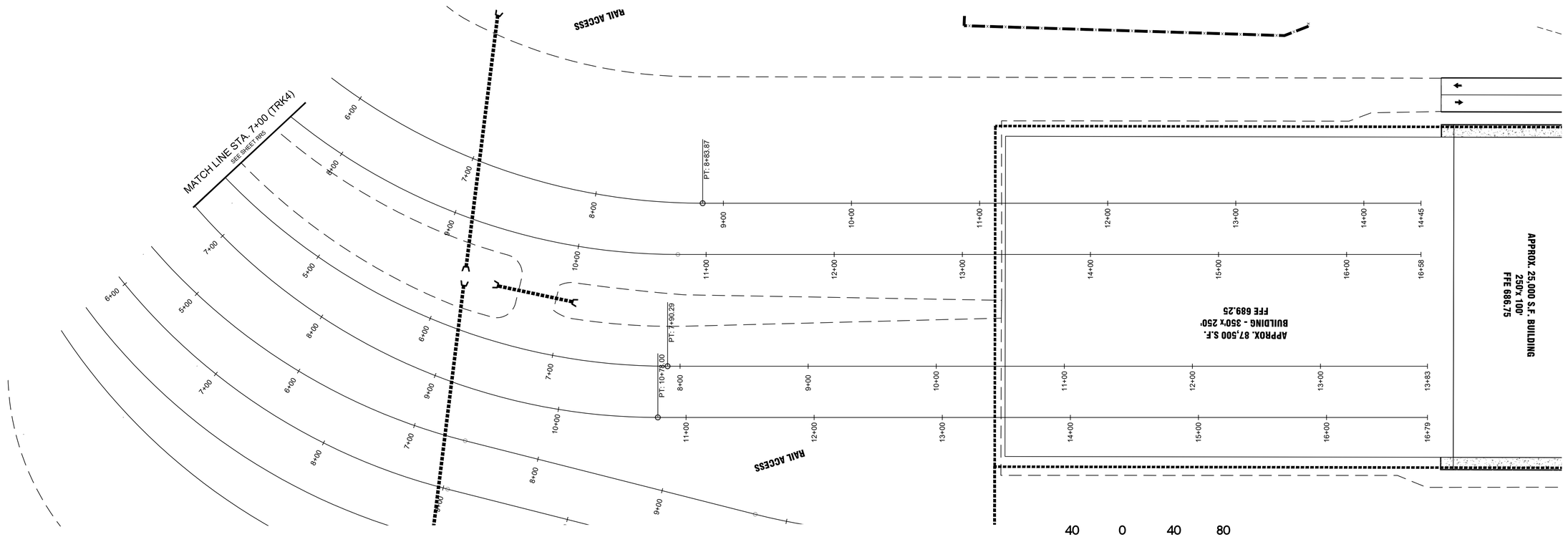
DESIGNER DKH
REVIEWER KCW

PROJECT 23-040

DATE 10-31-25

SHEET RR5





PURPOSE FOR ISSUE: AGENCY REVIEW

40 0 40 80

SCALE: 1"=40'

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10/31/25

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REVIEWER KCW

PROJECT 23-040

DATE 10-31-25

SHEET **RR6**

FUTURE SHEET FOR CONSTRUCTION

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TrueRail™ ENTERPRISES, LLC

PROPOSED TRACK 2 - PROFILE
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MAURY COUNTY

KEVIN C. WALKER
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STATE OF TENNESSEE

REVISIONS

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DESIGNER DKH
REVIEWER KCW

PROJECT 23-040

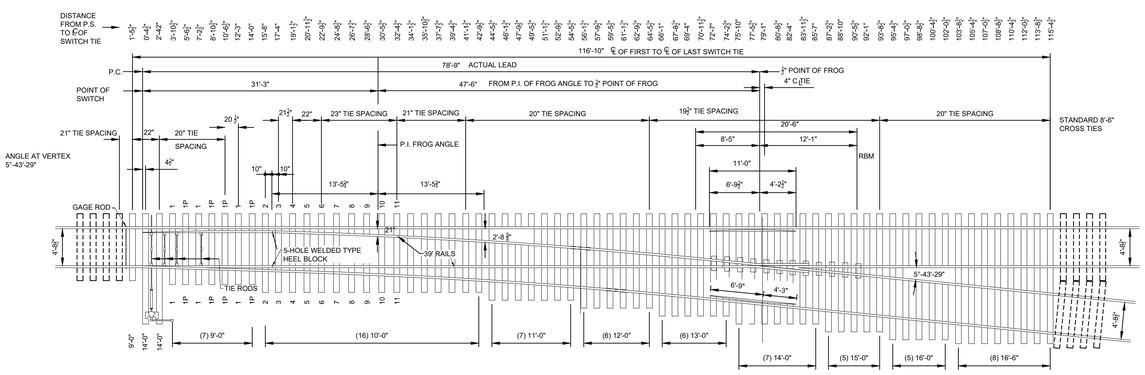
DATE 10-31-25

SHEET **RR7**

PURPOSE FOR ISSUE: AGENCY REVIEW

40 0 40 80

SCALE: 1"=40'



NO. 10 TURNOUT W/ A 16'-6" SWITCH

TURNOUT DATA		
	RBH	SMSG
NUMBER	10	10
TOTAL LENGTH	20'-6"	11'-4⅝"
FROG TOE LENGTH	8'-5"	3'-9"
FROG HEEL LENGTH	12'-1"	7'-7½"
FROG TOE SPREAD	9⅜"	9⅜"
FROG HEEL SPREAD	15½"	4"
FROG ANGLE	5°-43'-29"	
SWITCH LENGTH OF SWITCH POINT	16'-6"	
SWITCH HEEL SPREAD	6½"	
SWITCH ANGLE	1°-44'-11"	
SWITCH THICKNESS OF POINT	¼"	
SWITCH VERTEX DISTANCE	8½"	
ACTUAL LEAD	78'-9"	
RADIUS OF CENTERLINE	779.39	
DEGREE OF CURVE	7°-21'-24"	
PT. TO PT. OF CURVE	6'-6"	
	RBH	SMSG
STRAIGHT CLOSURE LENGTH	53'-10"	58'-6"
CURVED CLOSURE LENGTH	54'-0"	58'-5"

BILL OF SWITCH TIES			
LENGTH	TURNOUT ONLY	CROSSOVER 14'-0"	CROSSOVER 15'-0"
9'-0"	8	16	16
9'-0"	16	32	32
10'-0"	16	32	32
11'-0"	7	14	14
12'-0"	6	12	12
13'-0"	6	12	12
14'-0"	7	22	14
14'-0" (DAPPED)	2	4	4
15'-0"	5	10	17
16'-0"	5	0	7
16'-6"	8	0	0
TOTAL NO.	70	122	128
BOARD MEAS.	4588.5	7539	8090.25

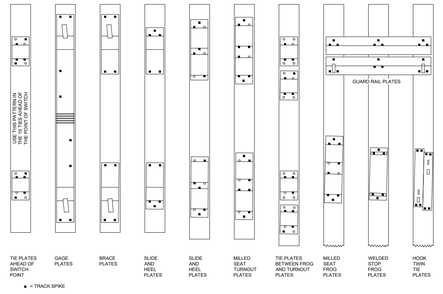
ALL SWITCH TIES ARE 7"x9"

A TOTAL OF 7 TIES 15'-0" REQUIRED FOR TURNOUT IF HAND OPERATED STAND IS USED.

BILL OF TRACK MATERIAL	
QUANTITY	DESCRIPTION
1	NO. 10 RAILBOUND MANGANESE STEEL FROG, COMPLETE PER AREMA.
2	GUARDRAILS, COMPLETE, PER AREMA. FOR TURNOUTS WITH RBM FROG ONLY.
1	39'-0" STRAIGHT STOCK RAIL
1	39'-0" BENT STOCK RAIL
1	16'-6" STRAIGHT SPLIT SWITCH, COMPLETE, PER AREMA WITH UNIFORM RISERS.
154	TIE PLATES
3	KEGS, TRACK SPIKES
11	JOINTS, COMPLETE
2	INSULATED JOINTS, COMPLETE AS REQUIRED
400	ANCHORS
1	115# RAIL AS REQUIRED TO COMPLETE TURNOUT

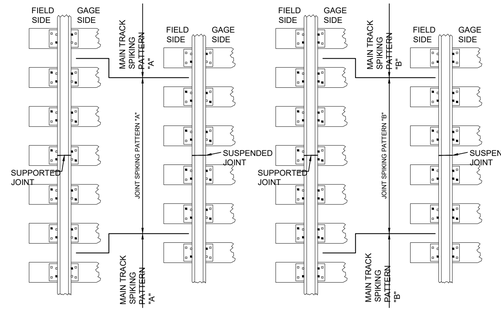
WORKMANSHIP AND MATERIALS, INCLUDING BEVELING AND HARDENING RAIL ENDS. SHALL BE PER CURRENT AREA SPECIFICATIONS.

SINCE THE ALLOWABLE VARIATION IN STANDARD LENGTHS OF RAILS, FROGS AND SWITCH POINTS IS GREATER THAN THE NORMAL EXPANSION GAPS AT RAIL JOINTS AND THICKNESS OF FIBRE END POST IN INSULATED JOINTS. NO ALLOWANCE HAS BEEN MADE FOR EXPANSION GAPS AND FIBRE END POSTS IN COMPUTING LENGTHS OF RAIL SHOWN.



NOTE: CONE NECK LAG SCREWS MAY BE USED IN GAGE PLATES IN PLACE OF TRACK SPIKES.

SPIKE TIE PLATES PAST GUARD RAIL THE SAME AS TIE PLATES BETWEEN FROG AND TURNOUT PLATES UNTIL END OF MILLED SEAT FROG PLATES IS REACHED. THEN RESUME NORMAL PATTERN.



JOINT SPIKING PATTERN "A"

JOINT SPIKING PATTERN "B"

■ = TRACK SPIKE

JOINT SPIKING PATTERN "A" USED WITH MAIN TRACK SPIKING PATTERN "A"
JOINT SPIKING PATTERN "B" USED WITH MAIN TRACK SPIKING PATTERN "B", "C" AND "D"

TRACK TYPE, TRACK ALIGNMENT AND TRACK SPEED	SPIKES PER TIE PLATE	SPIKING PATTERN
MAIN TRACKS AND SIDINGS		
TANGENTS AND CURVES LESS THAN 2 DEGREE WITH SPEED UP TO 45 MPH	2	A
TANGENTS AND CURVES LESS THAN 2 DEGREE WITH SPEED GREATER THAN 45 MPH	3	B
CURVES 2 DEGREE AND OVER BUT LESS THAN 6 DEGREE	4	C
CURVES OVER 6 DEGREE	5	D
SIDE TRACKS - SPEEDS UP TO 25 MPH		
TANGENTS AND CURVES LESS THAN 6 DEGREE	2	A
CURVES 6 DEGREE AND OVER BUT LESS THAN 12 DEGREE	4	B
CURVES OVER 12 DEGREE	4	C
SIDE TRACKS - SPEEDS GREATER THAN 25 MPH		
TANGENTS AND CURVES LESS THAN 2 DEGREE	2	A
CURVES 2 DEGREE AND OVER BUT LESS THAN 4 DEGREE	3	B
CURVES OVER 4 DEGREE	4	C

SPIKING PATTERN "A"

SPIKING PATTERN "B"

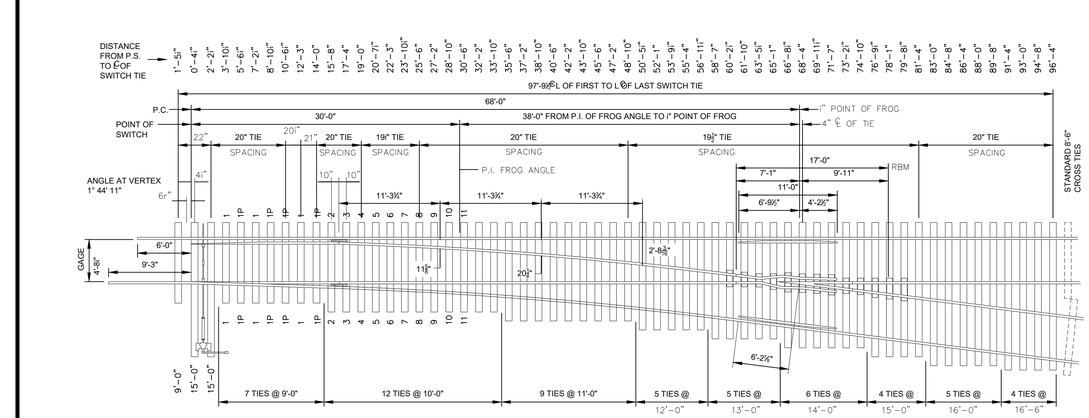
SPIKING PATTERN "C"

SPIKING PATTERN "D"

■ = TRACK SPIKE

MAIN TRACK - A TRACK, OTHER THAN AUXILIARY TRACK, EXTENDING THROUGH YARDS AND BETWEEN STATIONS, UPON WHICH TRAINS ARE OPERATED IN CONFORMANCE WITH RULES PRESCRIBED OR DIRECTIONS SIDING - AN AUXILIARY TRACK FOR SPECIAL INSTRUCTIONS FOR THE MEETING OR PASSING OF TRAINS.

SIDE TRACK - AN AUXILIARY TRACK FOR PURPOSES FOR OTHER THAN MEETING OR PASSING TRAINS.



PLAN OF RIGHT HAND NO. 8 TURNOUT WITH A 16'-6" SWITCH

SWITCH PLATES AND TIE LAYOUT ARRANGED FOR HAND OPERATED SWITCH

TURNOUT DATA		
	RBH	SMSG
NUMBER	8	8
TOTAL LENGTH	17'-0"	8'-11"
FROG TOE LENGTH	7'-1"	2'-11"
FROG HEEL LENGTH	9'-11"	6'-0"
FROG TOE SPREAD	10⅛"	3⅞"
FROG HEEL SPREAD	15⅝"	9⅞"
FROG ANGLE	7° 9' 10"	
SWITCH LENGTH OF SWITCH POINT	16'-6"	
SWITCH HEEL SPREAD	6⅛"	
SWITCH ANGLE	1° 44' 11"	
SWITCH THICKNESS OF POINT	¼"	
SWITCH VERTEX DISTANCE	8⅛"	
ACTUAL LEAD	68'-0"	
RADIUS OF CENTERLINE	462.73	
DEGREE OF CURVE	12° 24' 20"	
PT. TO PT. OF CURVE	6'-0½"	
	RBH	SMSG
STRAIGHT CLOSURE LENGTH	44'-5"	48'-7"
CURVED CLOSURE LENGTH	44'-7⅛"	48'-9⅛"

BILL OF SWITCH TIES			
LENGTH	TURNOUT ONLY	CROSSOVER 14'-0"	CROSSOVER 15'-0"
7'-0"	8	16	16
8'-0"	12	24	24
9'-0"	18	18	18
10'-0"	5	10	10
11'-0"	5	12	12
12'-0"	6	16	12
13'-0"	4	0	0
14'-0"	0	4	4
15'-0"	6	8	6
16'-0"	5	0	9
16'-6"	4	0	0
TOTAL NO.	60	108	109
BOARD MEAS.	3864	6625.5	7087.5

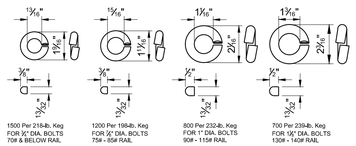
ALL SWITCH TIES ARE 7"x9"

?? TOTAL OF DAPPED TIES 14'-0" REPLACES A 15'-0" TIES REQUIRED FOR TURNOUT IF MACHINE OPERATED.

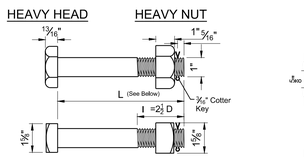
BILL OF TRACK MATERIAL	
QUANTITY	DESCRIPTION
1	NO. 8 RAILBOUND MANGANESE STEEL FROG, COMPLETE PER AREMA OR SOLID MANGANESE STEEL SELF GUARDED FROG , COMPLETE, PER AREMA
2	GUARDRAILS, COMPLETE PER AREMA FOR TURNOUTS WITH ABM FROG ONLY
1	39'-0" STRAIGHT STOCK RAIL
1	39'-0" BENT STOCK RAIL
1	16'-6" STRAIGHT SPLIT SWITCH, COMPLETE, WITH UNIFORM RISERS
120	TIE PLATES
2	KEGS, TRACK SPIKES
10	JOINTS, COMPLETE
2	INSULATED JOINTS, COMPLETE IF REQUIRED
300	ANCHORS

WORKMANSHIP AND MATERIALS, INCLUDING BEVELING AND HARDENING RAIL ENDS. SHALL BE PER CURRENT AREMA SPECIFICATIONS.

SINCE THE ALLOWABLE VARIATION IN STANDARD LENGTHS OF RAILS, FROGS AND SWITCH POINTS IS GREATER THAN THE NORMAL EXPANSION GAPS AT RAIL JOINTS AND THICKNESS OF FIBRE END POST IN INSULATED JOINTS. NO ALLOWANCE HAS BEEN MADE FOR EXPANSION GAPS AND FIBRE END POSTS IN COMPUTING LENGTHS OF RAIL SHOWN.

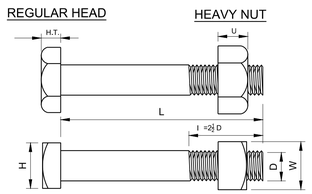


SPRING WASHERS
Per A.R.E.M.A. Standards



SWITCH BOLTS (HEAT TREATED)

SWITCH BOLTS	
SIZE	USES
1"x6"	For No. 1 Tie Bar with Reinforcing Strap
1"x5"	For Tie Bar with Basket Connection
1"x4½"	For Other Tie Bars

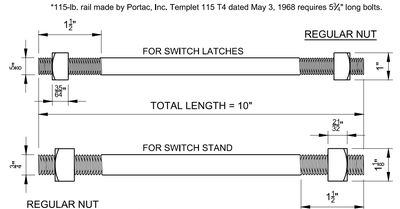


FROG BOLTS (HEAT TREATED)

WT. OF RAIL	BOLTS D	BOLTS H.T.	BOLTS L	NUTS D	NUTS W
60 TO 70#	⅞"	10⅝/32"	7⁄8"	⅞"	7⁄8"
75#	1"	21⅝/32"	7⁄8"	⅞"	7⁄8"
80 TO 85#	1⅛"	⅞"	1⅛"	1⅛"	1⅛"
100#	1¼"	69⅝/32"	1¼"	1¼"	1¼"
112 TO 132#	1⅜"	29⅝/32"	1⅜"	1⅜"	1⅜"

DIMENSIONS OF TRACK BOLTS											
# RAIL	BOLTS D	L	I	H	A	P	DIV. WASH. D	DIV. WASH. W	NUTS U	NUTS W	WT. PER PIECE (Lbs.)	NO. OF PCS. PER KEG
115	1"	5⅝"	2½"	⅝"	1¹³⁄₁₆"	⅝"	1⅛"	1¹⁄₃₂"	1"	1⅛"	2.02	99
70	¾"	4½"	1½"	15⁄16"	1⅝"	⅝"	1⅛"	1¹⁄₃₂"	¾"	1¼"	1.00	200
75-80-85	⅞"	4½"	2"	15⁄16"	1⅝"	1"	1⅛"	1¹⁄₃₂"	⅞"	1⅛"	1.46	135
90	1"	5½"	2½"	⅝"	1¹³⁄₁₆"	⅝"	1⅛"	1¹⁄₃₂"	1"	1⅛"	1.88	106
110-12-115	1"	5½"	2½"	⅝"	1¹³⁄₁₆"	⅝"	1⅛"	1¹⁄₃₂"	1"	1⅛"	1.88	106
130	1⅛"	6½"	2½"	25⁄32"	1⅞"	⅝"	1¼"	½"	1⅛"	1¼"	2.70	74
131-132	1⅛"	5½"	2½"	25⁄32"	1⅞"	⅝"	1¼"	½"	1⅛"	1¼"	2.50	80

*115-lb. rail made by Portac, Inc. Templet 115 T4 dated May 3, 1968 requires 5¾" long bolts.



ZINC PLATED ALLOY DOUBLE THREADED STUD

Note: Lock Washer and Flat Wsaher to be included in the installation.

SPECIFICATIONS

HEAT TREATED BOLTS:
Steel in bolts to conform to A.R.E.M.A. current Specifications and A.S.T.M. A-183-68 for Heat Treated Track Bolts, Carbon Steel.
Bolt head and nuts to be American Standard Heavy, Unfinished, square washer crowned. (Exceptions noted below). Nuts to be untreated, with carbon content of 0.40 to 0.55. Bolts to have American Standard Coarse Screw Threads, Tables B1.1, latest issue, Class 2 fit, either cut or rolled.

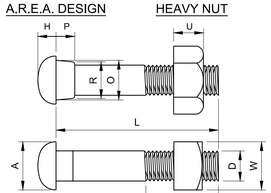
GENERAL:
Bolt lengths (L) to vary by steps of 1/4" up to length of 6", by steps of ½" for lengths over 6".
Thread length ( ) to conform to American Institute of Bolts, Nut and Rivet Manufacturers Standard tables: 2½ times diameter of bolts, Except Track Bolts.

NOTES:
"American Standard" refers to standards approved by the American Standards Association and adopted by the American Institute of Bolt, Nut and Rivet Manufacturers as established practice.

Frog bolt heads to be Am. Std. Regular, Unfinished, Square, washer crowned.
Track bolt heads to be A.R.E.M.A. design.
Thread fit to be free fit, except that the fit must be finger free,
Yet in all cases the nut when tested on a full size bolt shall meet a minimum stripping strength equal to the minimum yield strength of the bolt.

Number of Bolts and Lock Nuts shown Per container is approximate and may vary somewhat.

A.R.E.A. DESIGN — HEAVY NUT



TRACK BOLTS (HEAT TREATED)

BOLTS FOR SWITCH HEEL BLOCK

SQ. HEAD H.T. BOLTS FOR SWITCH HEEL BLOCK								
# RAIL	LENGTH OF SWITCH	BOLT DIA. (D)	LENGTH (L) 10"	10½"	11"	11½"	12"	12½"	13"
85-LB.	15'-0"	⅞"		2		2			
90-LB.	16'-6"	1"			4				
100-LB.	15'-0"	1"			2	2	1		
100-LB.	24'-0"	1"	2	2	1				
115-LB.	16'-6"	1"				3	2		
115-LB.	22'-0"	1"				3	2		
132-LB.	11'-0"	1⅛"				3		2	
132-LB.	13'-0"	1⅛"				3		2	
132-LB.	16'-6"	1⅛"				3		2	
132-LB.	22'-0"	1⅛"				3		2	
132-LB.	39'-0"	1⅛"				3	2		

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MT. PLEASANT, TENNESSEE
MAURY COUNTY

KEVIN C. WALKER — REGISTERED ENGINEER — AGRICULTURE — No. 106695 — STATE OF TENNESSEE

REVISIONS

NO.	DESCRIPTION	DATE	BY

DESIGNER DKH
REVIEWER KCW

PROJECT 23-040

DATE 10-31-25

SHEET RR8

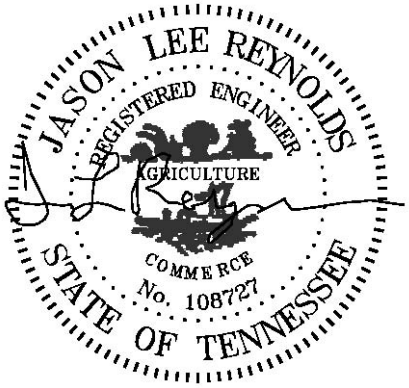
PURPOSE FOR ISSUE: AGENCY REVIEW

SCALE: NONE

EQUIPMENT SERVICING FACILITY for TRUE RAIL

Mt. Pleasant, Tennessee

DRAINAGE CALCULATIONS WITH SITE PLAN SUBMITTAL



October 30, 2025

Prepared By:

CSR Engineering

CSR Project #: 24-040

Abstract

This report presents a detailed summary of stormwater quality and quantity treatment for an industrial 62-acre site in Mt. Pleasant, TN. In compliance with City regulations, the site will require additional quantity controls for stormwater due to the proposed site conditions having an increased rate of runoff vs. the existing conditions. The primary factor for increased runoff is the existing undeveloped property will be converted to industrial work areas and impervious areas (building and asphalt parking). Stormwater quality treatment is not provided on this development.

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Section III Proposed Stormwater Quality Controls ..... **Error! Bookmark not defined.**
3.1 Water Quality Volume Calculations ..... **Error! Bookmark not defined.**
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Section I Site Information

The subject property consists of 62 acres, described as parcel 63.11, located Main Street, south of Town. (see Figure 1). The property is shown on Maury County Property Map 150, Parcel 11.01 (presented in Figure 2), and is currently owned by Bonafide Holdings TN, LLC. The site is currently vacant, undeveloped, predominately grass/vegetation with a gravel entrance driveway. The proposed development will consist of aligning the entrance drive with Main St. and then extending the asphalt entrance east to a proposed asphalt parking area adjacent to a proposed equipment servicing building. The servicing building will include rail cars into the structure from eastern rail spur tie ins. None of this site is within a flood hazard area according to FEMA's National Flood Hazard Map, Panel 47119C0265E with an effective date of April 16, 2007 (see Figure 3). Currently, the site drains via sheet flow generally to the northeast. There are two offsite drainage basins moving in the same direction but are relatively unaffected by the developed and remain flowing in a similar fashion after development. The site increased stormwater due to impervious and related development surfaces is routed to a detention pond to detain flows less that existing for the site. After detention the water is routed to the northeast along the existing drainage paths at amounts less than existing for the 2 through 100 year events.

Figure 1: Vicinity Map

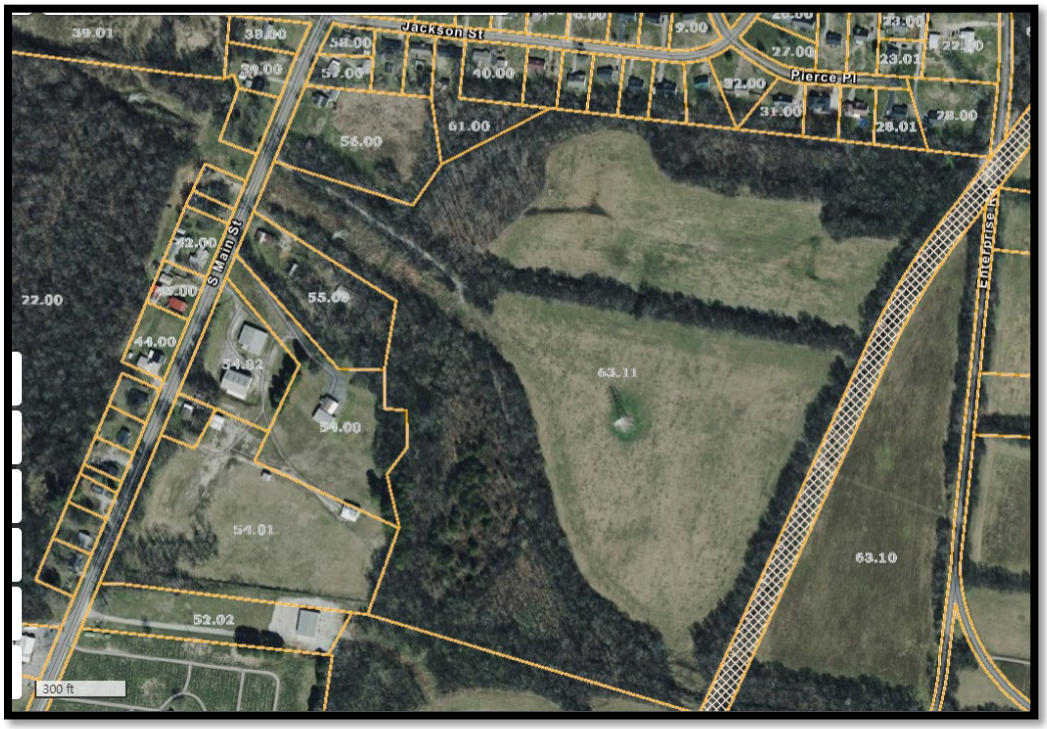


Figure 2: Maury County Property Map 150, Parcel 63.11

Figure 3: FEMA Map 47119C0265E

Section II Drainage Calculations

Using the existing data detailed below, analysis transpired using the SCS (TR-20) method to determine the pre-developed discharge rates for this site. A curve number varied on the grass or wooded areas and was used for all pervious areas given the site cover and condition observations coupled with the existing soil types detailed shown hereinafter.

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ae	Armour silt loam, eroded gently sloping phase	17.5	27.1%
Bg	Braxton cherty silty clay loam, severely eroded sloping phase	0.9	1.4%
Bm	Burgin silt loam, phosphatic phase (Eagleville)	20.9	32.4%
Df	Donerail silt loam, gently sloping phase	6.3	9.8%
Hr	Huntington silt loam, local alluvium phosphatic phase	1.1	1.7%
Ld	Lindell silt loam, 0 to 2 percent slopes, occasionally flooded	13.4	20.8%
Mb	Maury silt loam, eroded gently sloping phase	0.1	0.2%
Mp	Mines, Pits, and Dumps	4.2	6.5%
W	Water	0.1	0.2%
Totals for Area of Interest		**64.7**	**100.0%**

Figure 4: NRCS Soil Data

Figure 5: NRCS Soil Data Map

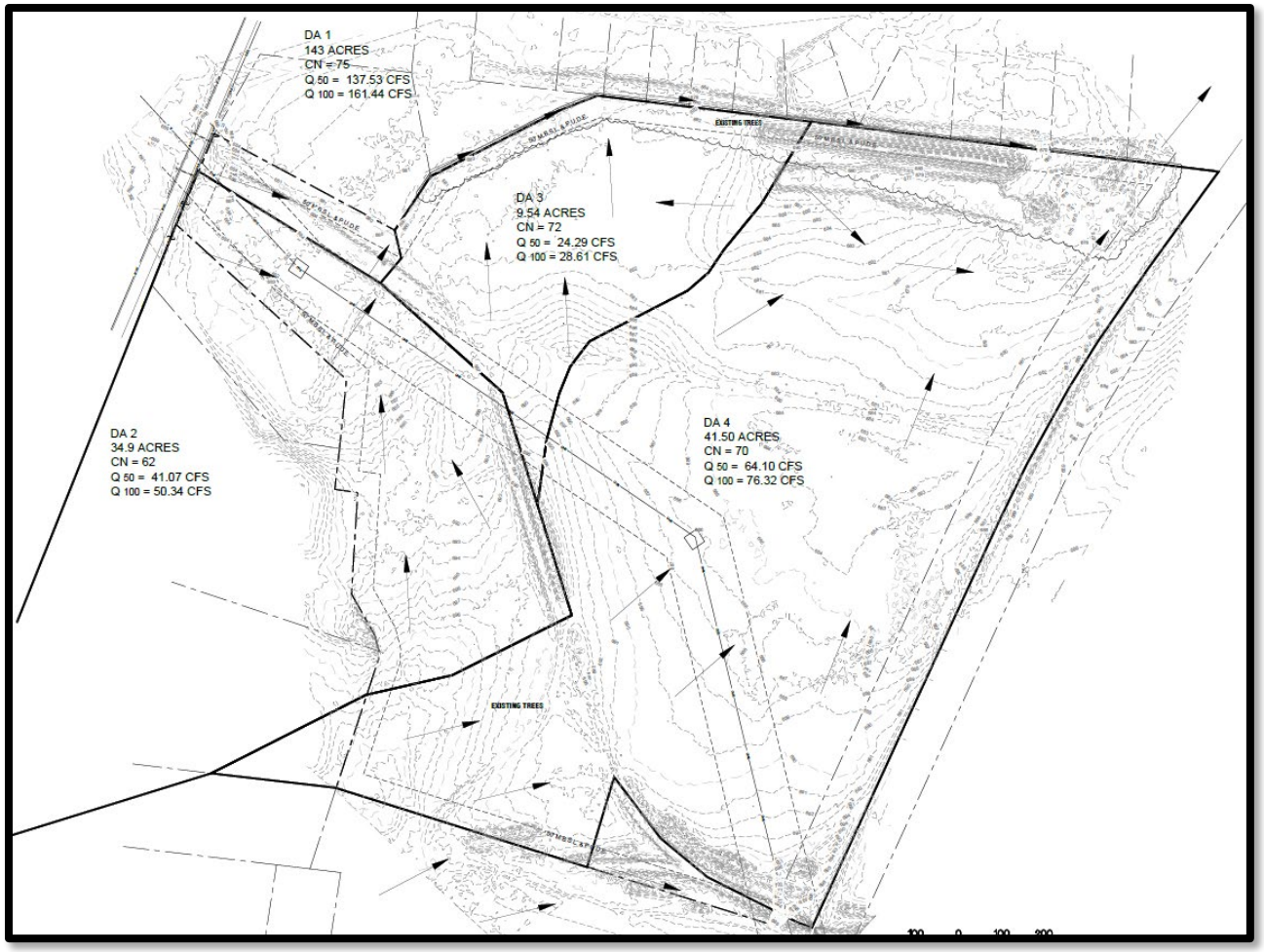


Figure 6: Existing Drainage Basin Map

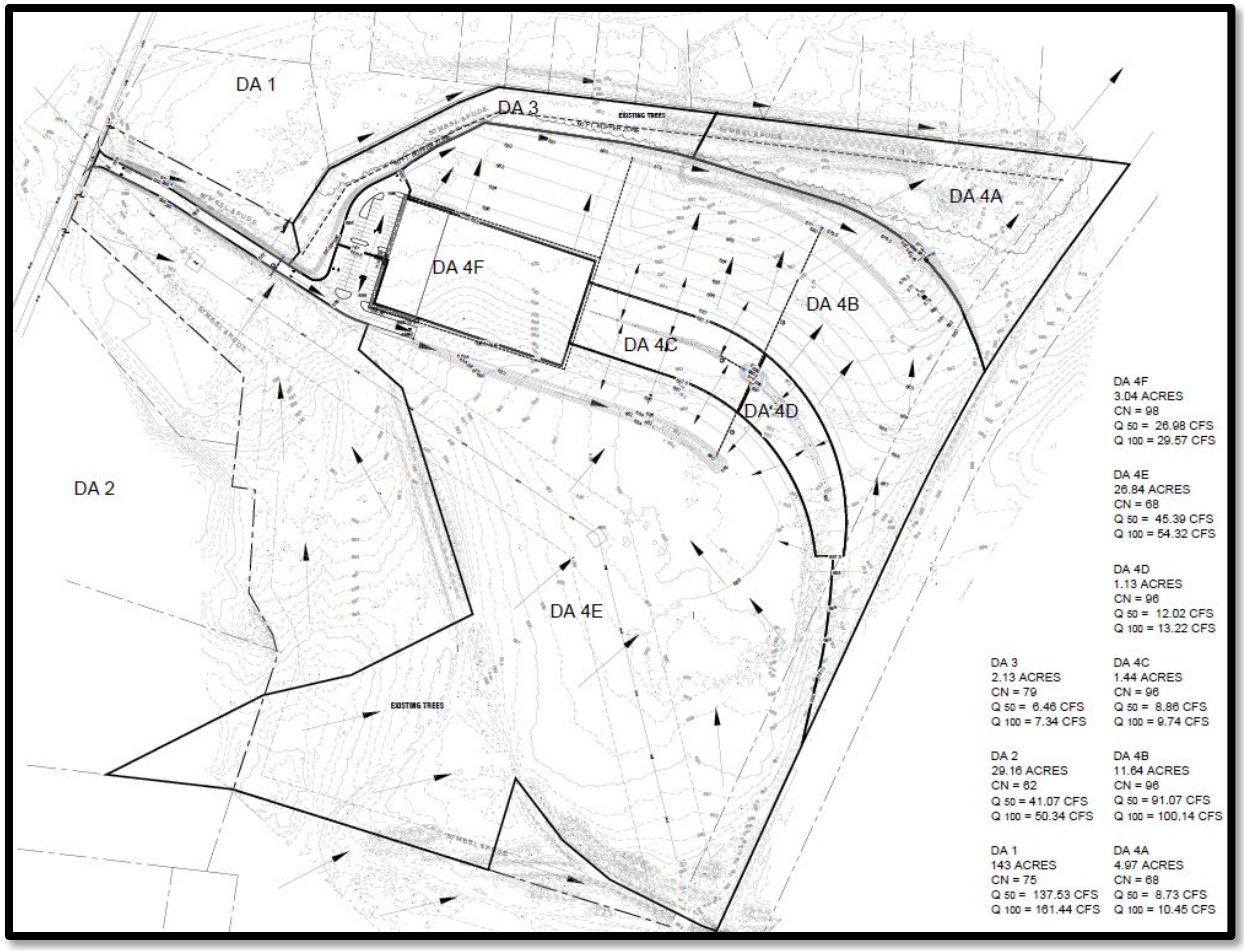


Figure 7: Proposed Drainage Basin Map

The 2, 5, 10, 25, 50 and 100-year storms were each analyzed using a 24-hour period in accordance with the original development of the SCS model. Design rainfall data from NOAA Atlas 14 for Mt Pleasant, TN was used for the intensity of all rainfall events. The resulting runoff rates for each storm can be found in Figure 9 below and as attached in detail in Appendix A.

2.1 General Plan

The site's topography and natural drainage patterns allow the site under development consideration to be analyzed as four subbasins as shown in Figure 6 above the cut into smaller, developed subbasin in the proposed site in Figure 7. The site development will meet the City regulation requirements for quantity pre vs. post measures. The detained flows from the site are then returned to existing drainage features, and the associated runoff follows natural pathways

offsite. Downstream analysis was not performed since the flows are reduced in the pre vs post conditions and any capacity issues would pre-exist the site development, yet be improved because of the site detention.

A general schematic plan of this design is presented in Figure 8 which shows runoff being collected via sheet and shallow concentrated flow and some ditches into the detention pond. No water quality measures are provided.

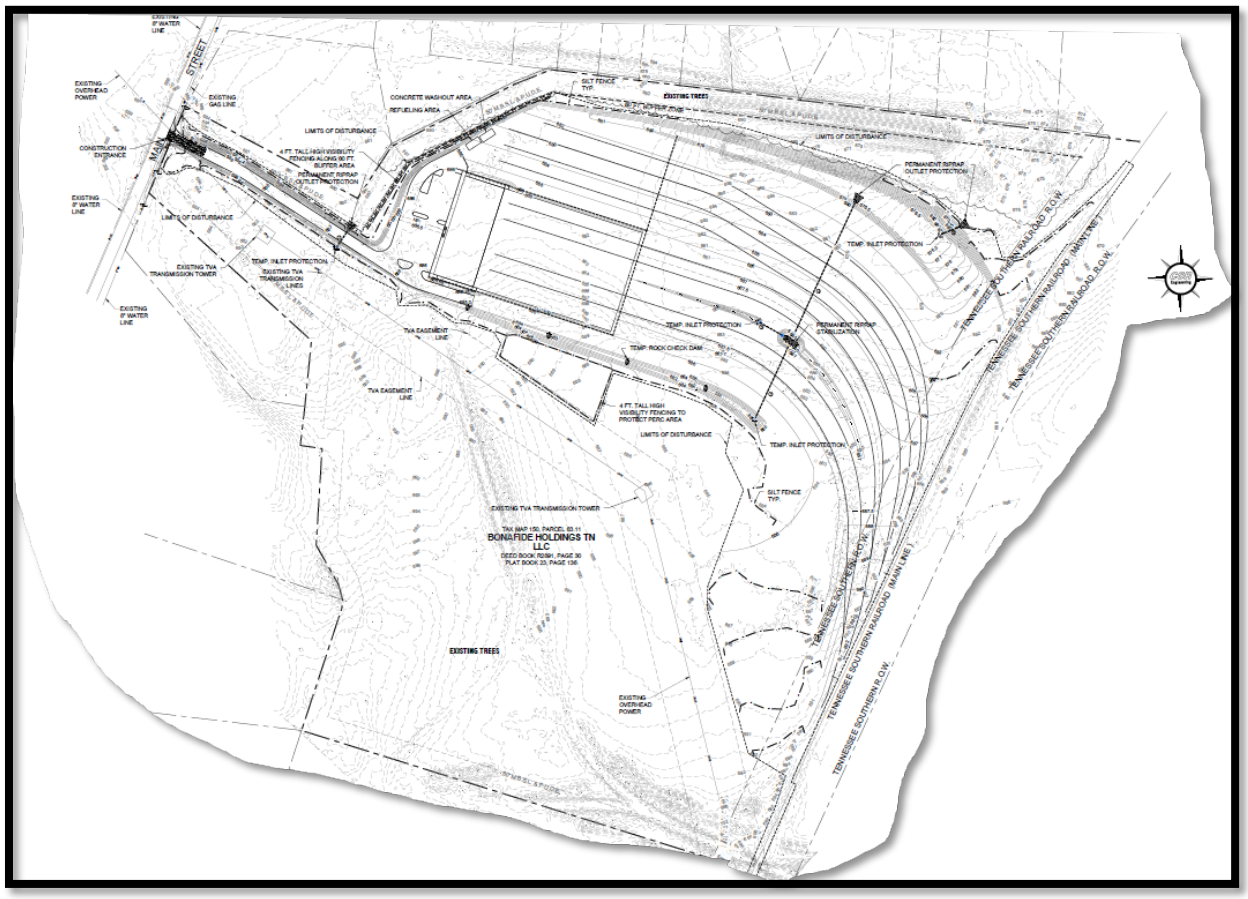


Figure 9: Grading Sheet

Section IV Proposed Stormwater Quantity Controls

The stormwater flow control occurs with the application of an individual detention management facility. The SCS (TR-20) method utilizing HydroCAD was used to analyze all flows through the existing and proposed drainage system. The curve number for the proposed site was developed from the weighted site curve numbers in pervious areas (varies) and 98 for improved asphalt, concrete and building areas. Stone covered access and storage areas have a varied CN based upon the underlying soils composition and drainage classification. The resultant flows for the proposed site are based on the proposed development as shown on the plans and further detailed in the Appendix A report.

4.1 Storm Water Quantity Conditions

Pre vs. Post stormwater runoff results in a slight increase to site quantities as tabled below. The images below reveal the drainage areas prior to and after construction.

Storm Event	Predeveloped Flows (CFS) Areas 3&4	Proposed Flows after Detention (CFS) Areas 3/4/Pond
2-year	36.8	36.8
5-year	55.64	48.72
10-year	71.91	56.36
25-year	95.72	65.84
50-year	115.81	72.2
100-year	137.13	78.47

Figure 10: Site Pre vs. Post Runoff Summary

With the quantity increased due to the change in cover and added impervious areas, storm water storage is provided for by a standard detention with controlled release rates. An emergency overflow designed to pass storm events greater than the 100 year event is also included as part of this design. All peak volume calculations are based on the SCS TR-20 method.

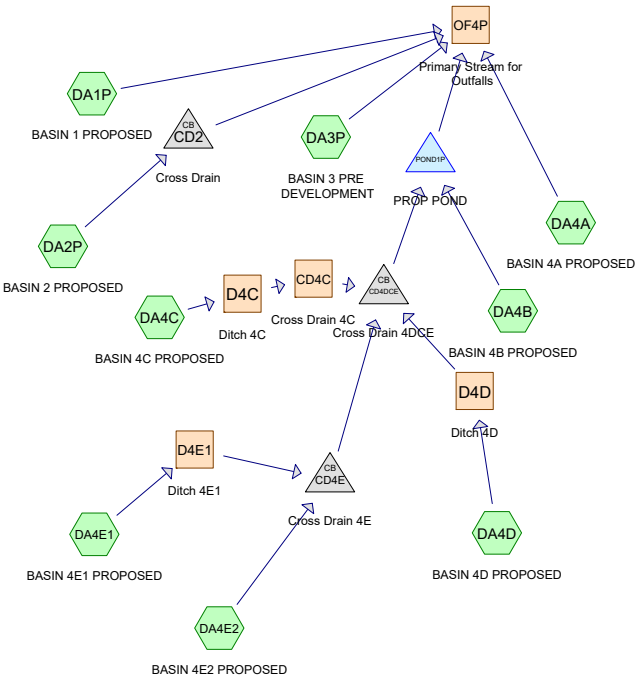
Section V Conclusion

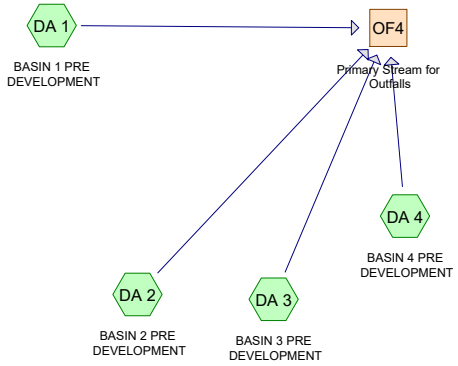
The proposed storm sewer system has been designed to meet the requirements of the City of Mt. Pleasant Regulations and prior recommendations of the Department Staff. The system will

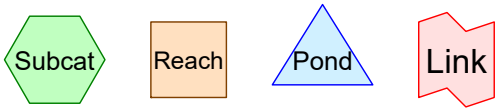
reduce the post-developed site discharge rate from the 2, 5, 10, 25, 50 and 100-year rainfall events to be less than the pre-developed discharge rates from the same storms.

APPENDIX A

Drainage Model Reports







Routing Diagram for TrueRail
Prepared by CSR Engineering, Inc, Printed 10/30/2025
HydroCAD® 10.20-5c s/n 09579 © 2023 HydroCAD Software Solutions LLC

Project Notes

Copied 6 events from Springfield 24-hr S1 storm
Copied 7 events from dickson 24-hr S1 storm
Copied 7 events from stockbridge 24-hr S1 storm
Copied 6 events from Tiptonvillle 24-hr S1 storm
Copied 7 events from Mt Pleasant 24-hr S1 storm
Copied 6 events from Tiptonvillle 24-hr S1 storm
Copied 7 events from Mt Pleasant 24-hr S1 storm
Copied 6 events from Tiptonvillle 24-hr S1 storm
Copied 7 events from Mt Pleasant 24-hr S1 storm

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Mt Pleasant 24-hr S1	2-yr	Default	24.00	1	3.90	2
2	5-yr	Mt Pleasant 24-hr S1	5-yr	Default	24.00	1	4.75	2
3	10-yr	Mt Pleasant 24-hr S1	10-yr	Default	24.00	1	5.42	2
4	25-yr	Mt Pleasant 24-hr S1	25-yr	Default	24.00	1	6.34	2
5	50-yr	Mt Pleasant 24-hr S1	50-yr	Default	24.00	1	7.08	2
6	100-yr	Mt Pleasant 24-hr S1	100-yr	Default	24.00	1	7.83	2

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
6,054,840	74	>75% Grass cover, Good, HSG C (DA 1, DA1P)
774,497	96	Gravel surface, HSG C (DA 2, DA2P, DA4B, DA4C, DA4D)
2,302,582	58	Meadow, non-grazed, HSG B (DA 2, DA 3, DA 4, DA2P, DA4E1, DA4E2)
650,351	71	Meadow, non-grazed, HSG C (DA 4)
463,478	78	Meadow, non-grazed, HSG D (DA 3, DA 4)
217,800	98	Paved parking, HSG C (DA 1, DA1P)
43,560	98	Paved parking, HSG D (DA4B)
43,560	98	Paved roads w/curbs & sewers, HSG B (DA4E1)
87,120	98	Roofs, HSG D (DA4B)
1,799,899	60	Woods, Fair, HSG B (DA 2, DA 3, DA 4, DA2P, DA4A, DA4E1, DA4E2)
476,982	73	Woods, Fair, HSG C (DA 4, DA4A)
696,960	79	Woods, Fair, HSG D (DA 3, DA 4, DA3P, DA4E2)
6,185,520	76	Woods/grass comb., Fair, HSG C (DA 1, DA1P)
19,797,149	**73**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
4,146,041	HSG B	DA 2, DA 3, DA 4, DA2P, DA4A, DA4E1, DA4E2
14,359,990	HSG C	DA 1, DA 2, DA 4, DA1P, DA2P, DA4A, DA4B, DA4C, DA4D
1,291,118	HSG D	DA 3, DA 4, DA3P, DA4B, DA4E2
0	Other	
19,797,149		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	6,054,840	0	0	6,054,840	>75% Grass cover, Good
0	0	774,497	0	0	774,497	Gravel surface
0	2,302,582	650,351	463,478	0	3,416,411	Meadow, non-grazed
0	0	217,800	43,560	0	261,360	Paved parking
0	43,560	0	0	0	43,560	Paved roads w/curbs & sewers
0	0	0	87,120	0	87,120	Roofs
0	1,799,899	476,982	696,960	0	2,973,841	Woods, Fair
0	0	6,185,520	0	0	6,185,520	Woods/grass comb., Fair
0	**4,146,041**	**14,359,990**	**1,291,118**	**0**	**19,797,149**	**TOTAL AREA**

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	CD4C	683.75	679.00	60.0	0.0792	0.011	0.0	18.0	0.0	
2	CD2	680.25	680.00	50.0	0.0050	0.011	0.0	36.0	0.0	
3	CD4DCE	678.39	676.50	360.0	0.0052	0.011	0.0	48.0	0.0	
4	CD4E	679.50	678.46	200.0	0.0052	0.011	0.0	48.0	0.0	
5	POND1P	676.25	676.00	50.0	0.0050	0.011	0.0	30.0	0.0	

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment DA 1: BASIN 1 PRE Runoff Area=143.000 ac 1.75% Impervious Runoff Depth=1.59"
Flow Length=5,750' Tc=143.0 min CN=75 Runoff=58.46 cfs 826,416 cf

Subcatchment DA 2: BASIN 2 PRE Runoff Area=34.900 ac 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,150' Slope=0.0150 '/' Tc=62.3 min CN=62 Runoff=11.06 cfs 102,914 cf

Subcatchment DA 3: BASIN 3 PRE Runoff Area=9.540 ac 0.00% Impervious Runoff Depth=1.39"
Flow Length=500' Slope=0.0200 '/' Tc=20.2 min CN=72 Runoff=10.66 cfs 48,150 cf

Subcatchment DA 4: BASIN 4 PRE Runoff Area=41.500 ac 0.00% Impervious Runoff Depth=1.26"
Flow Length=1,500' Tc=50.3 min CN=70 Runoff=26.14 cfs 190,326 cf

Subcatchment DA1P: BASIN 1 PROPOSED Runoff Area=143.000 ac 1.75% Impervious Runoff Depth=1.59"
Flow Length=5,750' Tc=143.0 min CN=75 Runoff=58.46 cfs 826,416 cf

Subcatchment DA2P: BASIN 2 PROPOSED Runoff Area=34.900 ac 0.00% Impervious Runoff Depth=0.81"
Flow Length=2,150' Slope=0.0150 '/' Tc=62.3 min CN=62 Runoff=11.06 cfs 102,914 cf

Subcatchment DA3P: BASIN 3 PRE Runoff Area=2.130 ac 0.00% Impervious Runoff Depth=1.88"
Tc=5.0 min CN=79 Runoff=5.87 cfs 14,556 cf

Subcatchment DA4A: BASIN 4A PROPOSED Runoff Area=4.970 ac 0.00% Impervious Runoff Depth=1.14"
Flow Length=300' Tc=28.4 min CN=68 Runoff=3.69 cfs 20,607 cf

Subcatchment DA4B: BASIN 4B Runoff Area=12.210 ac 24.57% Impervious Runoff Depth=3.44"
Flow Length=1,000' Tc=33.8 min CN=96 Runoff=25.93 cfs 152,513 cf

Subcatchment DA4C: BASIN 4C PROPOSED Runoff Area=1.090 ac 0.00% Impervious Runoff Depth=3.44"
Tc=5.0 min CN=96 Runoff=5.14 cfs 13,615 cf

Subcatchment DA4D: BASIN 4D PROPOSED Runoff Area=1.480 ac 0.00% Impervious Runoff Depth=3.44"
Tc=5.0 min CN=96 Runoff=6.99 cfs 18,486 cf

Subcatchment DA4E1: BASIN 4E1 Runoff Area=8.360 ac 11.96% Impervious Runoff Depth=0.92"
Flow Length=500' Tc=28.1 min CN=64 Runoff=4.66 cfs 27,820 cf

Subcatchment DA4E2: BASIN 4E2 Runoff Area=17.400 ac 0.00% Impervious Runoff Depth=1.20"
Flow Length=1,000' Tc=41.1 min CN=69 Runoff=11.49 cfs 75,926 cf

Reach CD4C: Cross Drain 4C Avg. Flow Depth=0.38' Max Vel=13.87 fps Inflow=4.82 cfs 13,615 cf
18.0" Round Pipe n=0.011 L=60.0' S=0.0792 '/' Capacity=34.93 cfs Outflow=4.82 cfs 13,615 cf

Reach D4C: Ditch 4C Avg. Flow Depth=0.66' Max Vel=2.57 fps Inflow=5.14 cfs 13,615 cf
n=0.033 L=313.0' S=0.0104 '/' Capacity=27.19 cfs Outflow=4.82 cfs 13,615 cf

Reach D4D: Ditch 4D Avg. Flow Depth=0.71' Max Vel=3.19 fps Inflow=6.99 cfs 18,486 cf
n=0.033 L=337.0' S=0.0148 '/' Capacity=32.50 cfs Outflow=6.63 cfs 18,486 cf

Reach D4E1: Ditch 4E1 Avg. Flow Depth=0.73' Max Vel=2.07 fps Inflow=4.66 cfs 27,820 cf
n=0.033 L=740.0' S=0.0061 '/' Capacity=103.92 cfs Outflow=4.45 cfs 27,820 cf

Reach OF4: Primary Stream for Avg. Flow Depth=1.80' Max Vel=3.33 fps Inflow=72.15 cfs 1,167,806 cf
n=0.035 L=1,000.0' S=0.0050 '/' Capacity=640.46 cfs Outflow=72.08 cfs 1,167,806 cf

Reach OF4P: Primary Stream for Avg. Flow Depth=1.89' Max Vel=3.44 fps Inflow=79.87 cfs 1,252,289 cf
n=0.035 L=1,000.0' S=0.0050 '/' Capacity=640.46 cfs Outflow=79.63 cfs 1,252,286 cf

Pond CD2: Cross Drain Peak Elev=681.73' Inflow=11.06 cfs 102,914 cf
36.0" Round Culvert n=0.011 L=50.0' S=0.0050 '/' Outflow=11.06 cfs 102,914 cf

Pond CD4DCE: Cross Drain 4DCE Peak Elev=679.89' Inflow=18.01 cfs 135,848 cf
48.0" Round Culvert n=0.011 L=360.0' S=0.0052 '/' Outflow=18.01 cfs 135,848 cf

Pond CD4E: Cross Drain 4E Peak Elev=680.96' Inflow=15.82 cfs 103,746 cf
48.0" Round Culvert n=0.011 L=200.0' S=0.0052 '/' Outflow=15.82 cfs 103,746 cf

Pond POND1P: PROP POND Peak Elev=679.29' Storage=57,560 cf Inflow=43.04 cfs 288,362 cf
30.0" Round Culvert n=0.011 L=50.0' S=0.0050 '/' Outflow=27.73 cfs 287,796 cf

Total Runoff Area = 19,797,149 sf Runoff Volume = 2,420,661 cf Average Runoff Depth = 1.47"
98.02% Pervious = 19,405,109 sf 1.98% Impervious = 392,040 sf

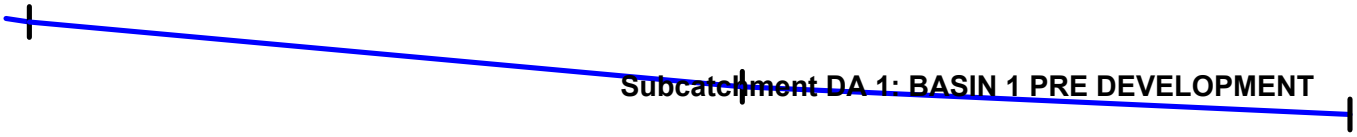
Summary for Subcatchment DA 1: BASIN 1 PRE DEVELOPMENT

Runoff = 58.46 cfs @ 13.83 hrs, Volume= 826,416 cf, Depth= 1.59"
Routed to Reach OF4 : Primary Stream for Outfalls

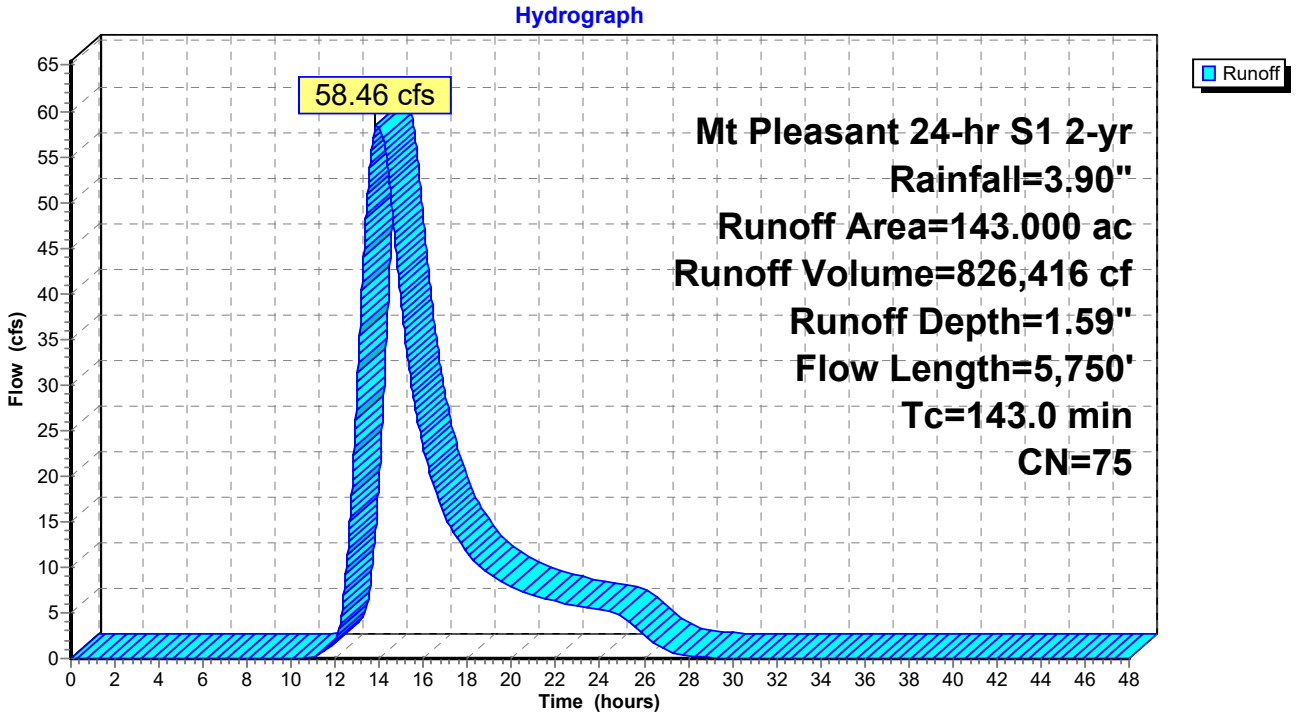
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
69.500	74	>75% Grass cover, Good, HSG C
71.000	76	Woods/grass comb., Fair, HSG C
2.500	98	Paved parking, HSG C
143.000	75	Weighted Average
140.500		98.25% Pervious Area
2.500		1.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.4	100	0.0200	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
92.8	3,050	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	2,600	0.0060	2.93	11.71	**Channel Flow,** Area= 4.0 sf Perim= 6.0' r= 0.67' n= 0.030
143.0	5,750	Total			



Subcatchment DA 1: BASIN 1 PRE DEVELOPMENT



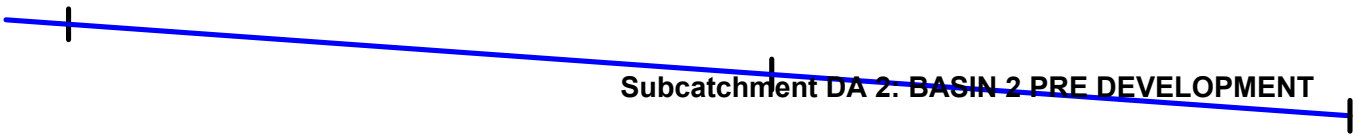
Summary for Subcatchment DA 2: BASIN 2 PRE DEVELOPMENT

Runoff = 11.06 cfs @ 12.95 hrs, Volume= 102,914 cf, Depth= 0.81"
Routed to Reach OF4 : Primary Stream for Outfalls

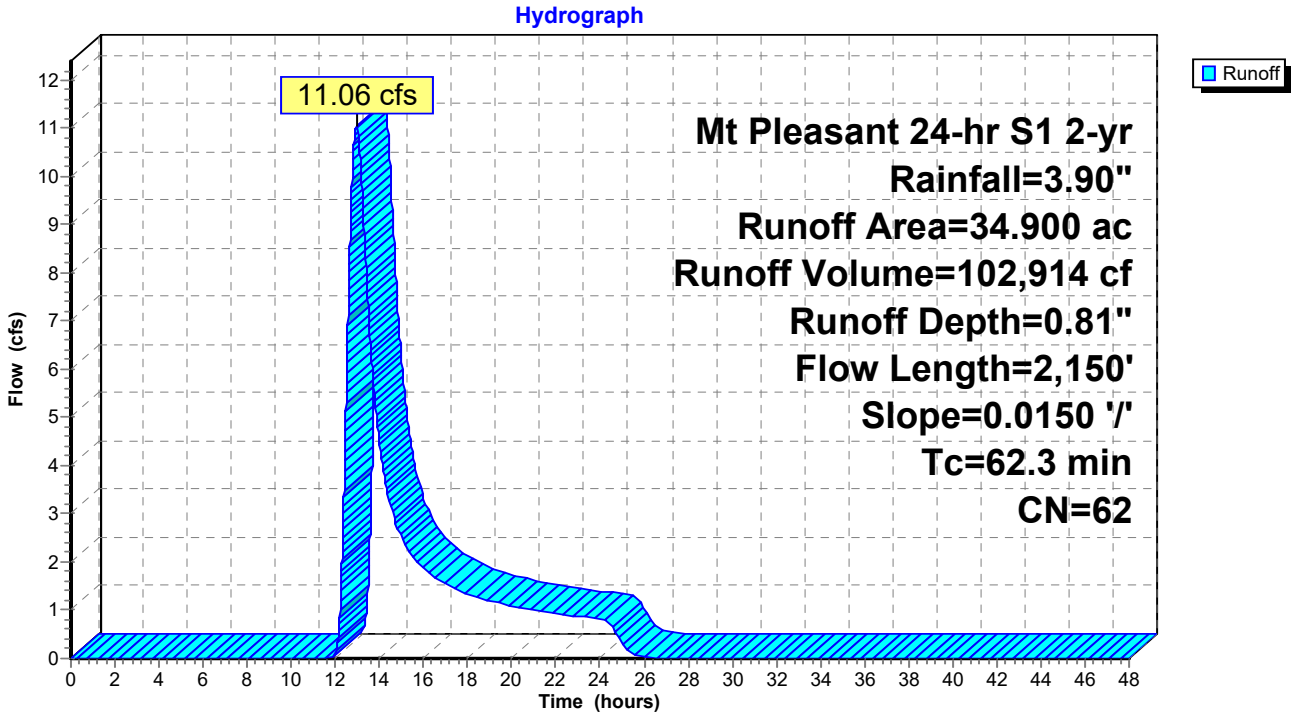
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
17.450	58	Meadow, non-grazed, HSG B
14.450	60	Woods, Fair, HSG B
3.000	96	Gravel surface, HSG C
34.900	62	Weighted Average
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0150	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
21.9	1,125	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	925	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.3	2,150	Total			



Subcatchment DA 2: BASIN 2 PRE DEVELOPMENT



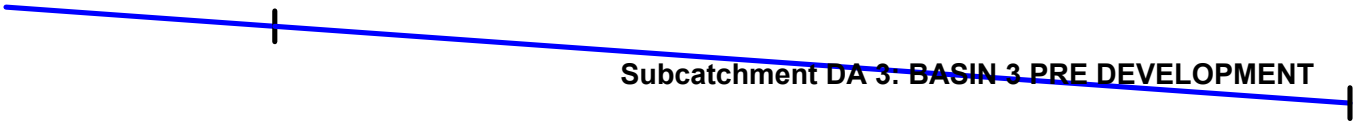
Summary for Subcatchment DA 3: BASIN 3 PRE DEVELOPMENT

Runoff = 10.66 cfs @ 12.25 hrs, Volume= 48,150 cf, Depth= 1.39"
Routed to Reach OF4 : Primary Stream for Outfalls

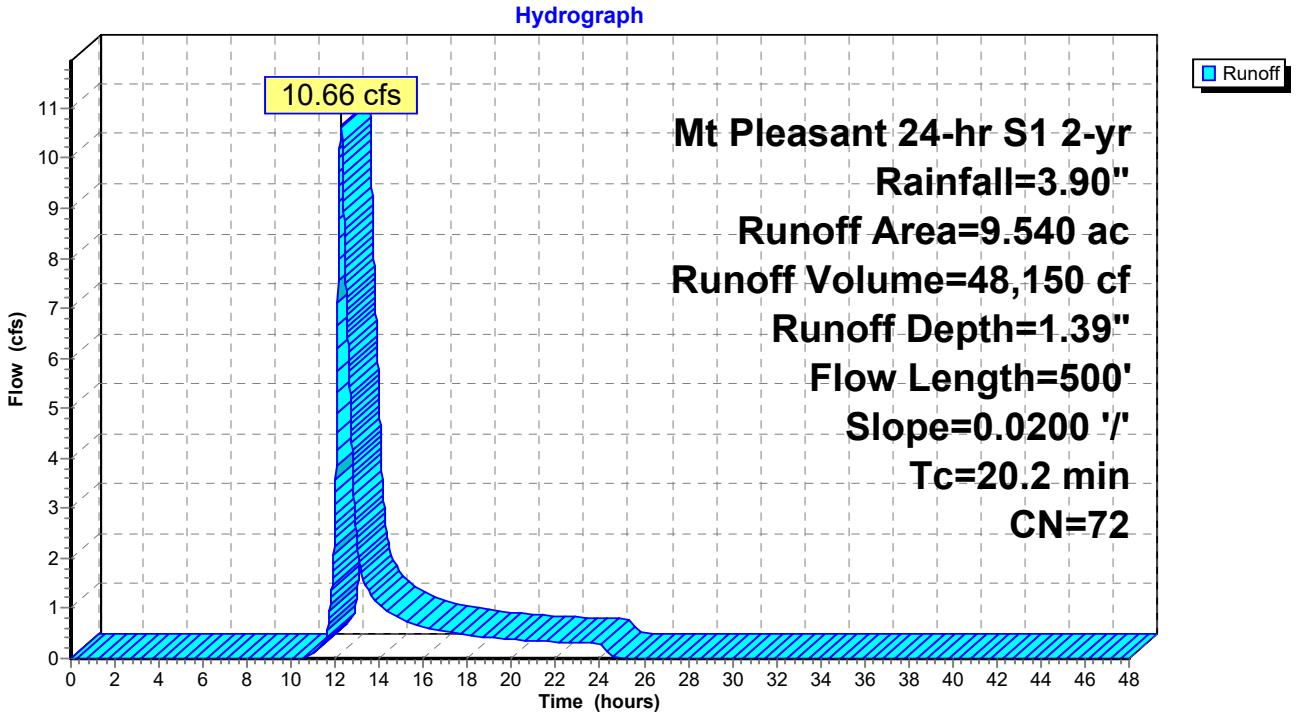
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
3.340	78	Meadow, non-grazed, HSG D
3.340	79	Woods, Fair, HSG D
2.290	58	Meadow, non-grazed, HSG B
0.570	60	Woods, Fair, HSG B
9.540	72	Weighted Average
9.540		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0200	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
6.7	400	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.2	500	Total			



Subcatchment DA 3: BASIN 3 PRE DEVELOPMENT



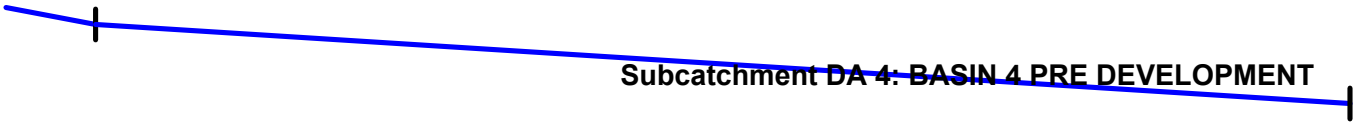
Summary for Subcatchment DA 4: BASIN 4 PRE DEVELOPMENT

Runoff = 26.14 cfs @ 12.69 hrs, Volume= 190,326 cf, Depth= 1.26"
Routed to Reach OF4 : Primary Stream for Outfalls

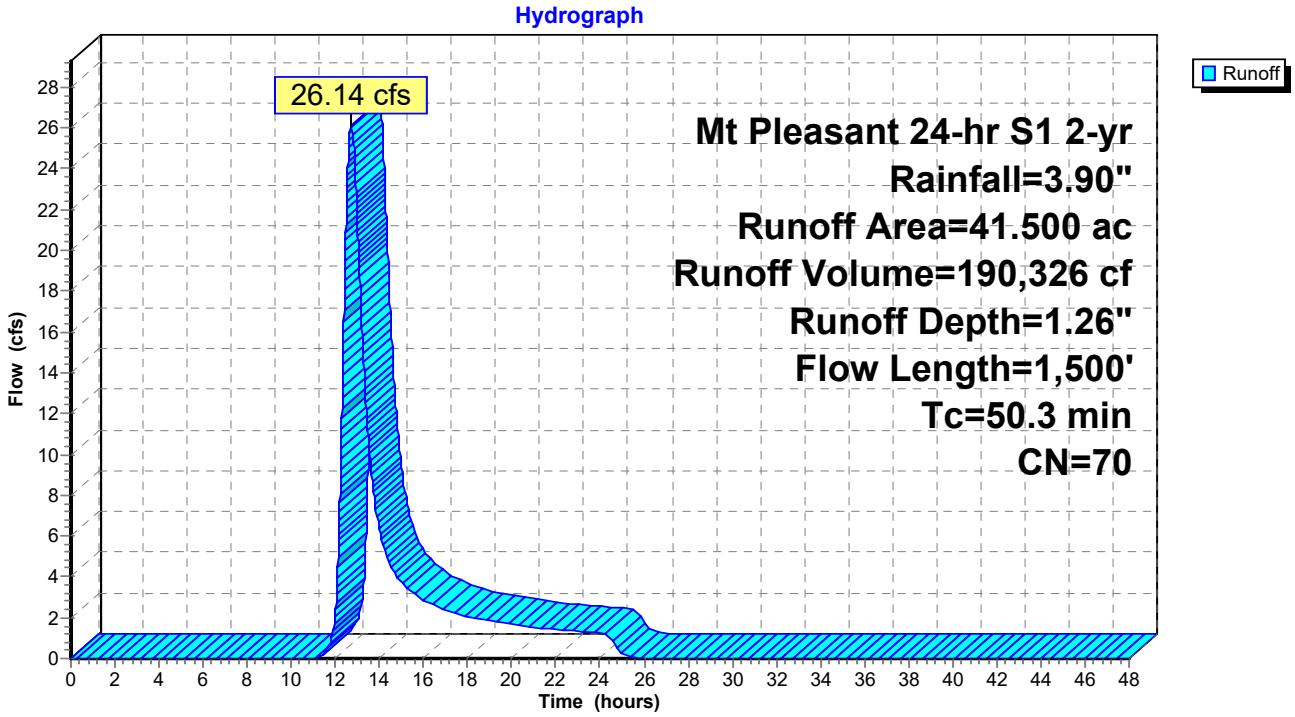
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
7.300	78	Meadow, non-grazed, HSG D
1.830	79	Woods, Fair, HSG D
7.640	58	Meadow, non-grazed, HSG B
1.910	60	Woods, Fair, HSG B
4.150	73	Woods, Fair, HSG C
9.960	71	Meadow, non-grazed, HSG C
2.490	73	Woods, Fair, HSG C
4.970	71	Meadow, non-grazed, HSG C
1.250	73	Woods, Fair, HSG C
41.500	70	Weighted Average
41.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
25.8	1,400	0.0167	0.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
50.3	1,500	Total			



Subcatchment DA 4: BASIN 4 PRE DEVELOPMENT



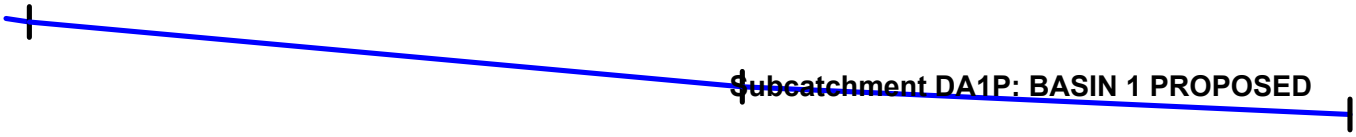
Summary for Subcatchment DA1P: BASIN 1 PROPOSED

Runoff = 58.46 cfs @ 13.83 hrs, Volume= 826,416 cf, Depth= 1.59"
Routed to Reach OF4P : Primary Stream for Outfalls

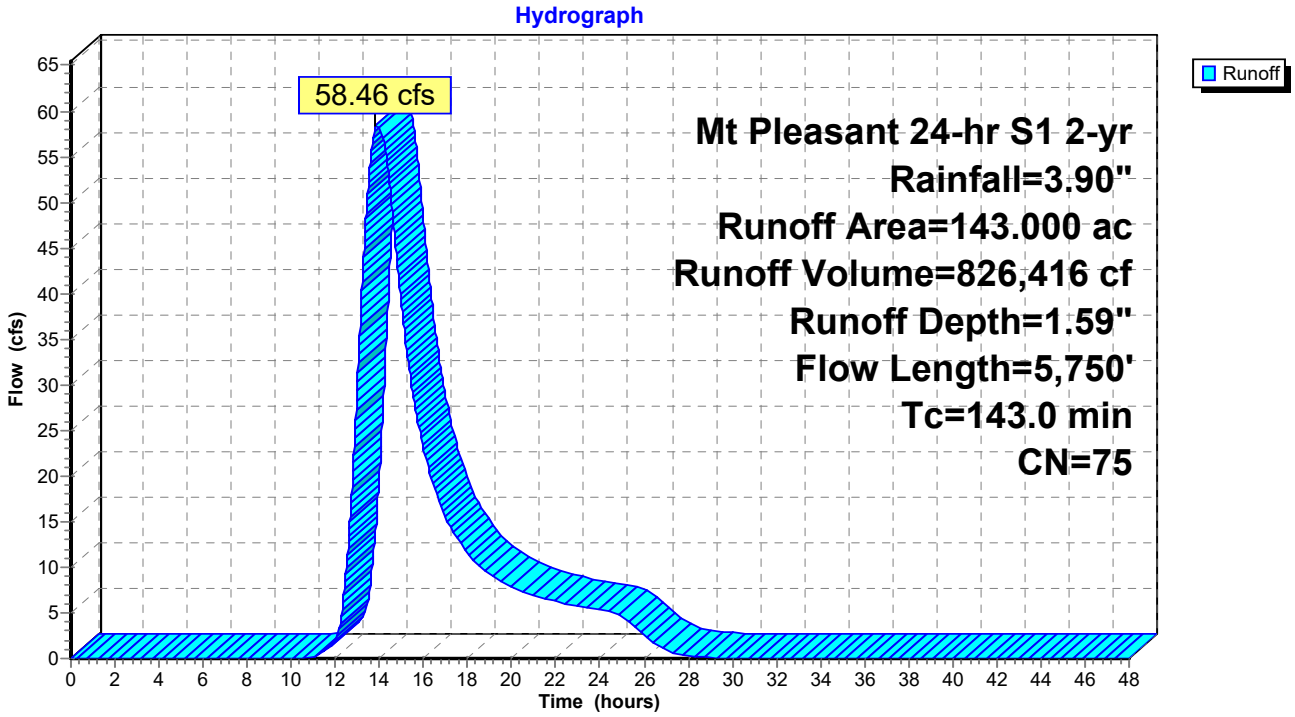
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
69.500	74	>75% Grass cover, Good, HSG C
71.000	76	Woods/grass comb., Fair, HSG C
2.500	98	Paved parking, HSG C
143.000	75	Weighted Average
140.500		98.25% Pervious Area
2.500		1.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.4	100	0.0200	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
92.8	3,050	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	2,600	0.0060	2.93	11.71	**Channel Flow,** Area= 4.0 sf Perim= 6.0' r= 0.67' n= 0.030
143.0	5,750	Total			



Subcatchment DA1P: BASIN 1 PROPOSED



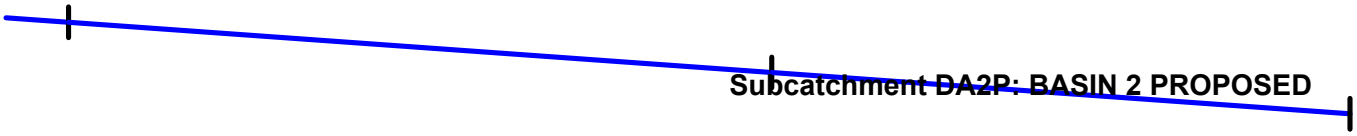
Summary for Subcatchment DA2P: BASIN 2 PROPOSED

Runoff = 11.06 cfs @ 12.95 hrs, Volume= 102,914 cf, Depth= 0.81"
Routed to Pond CD2 : Cross Drain

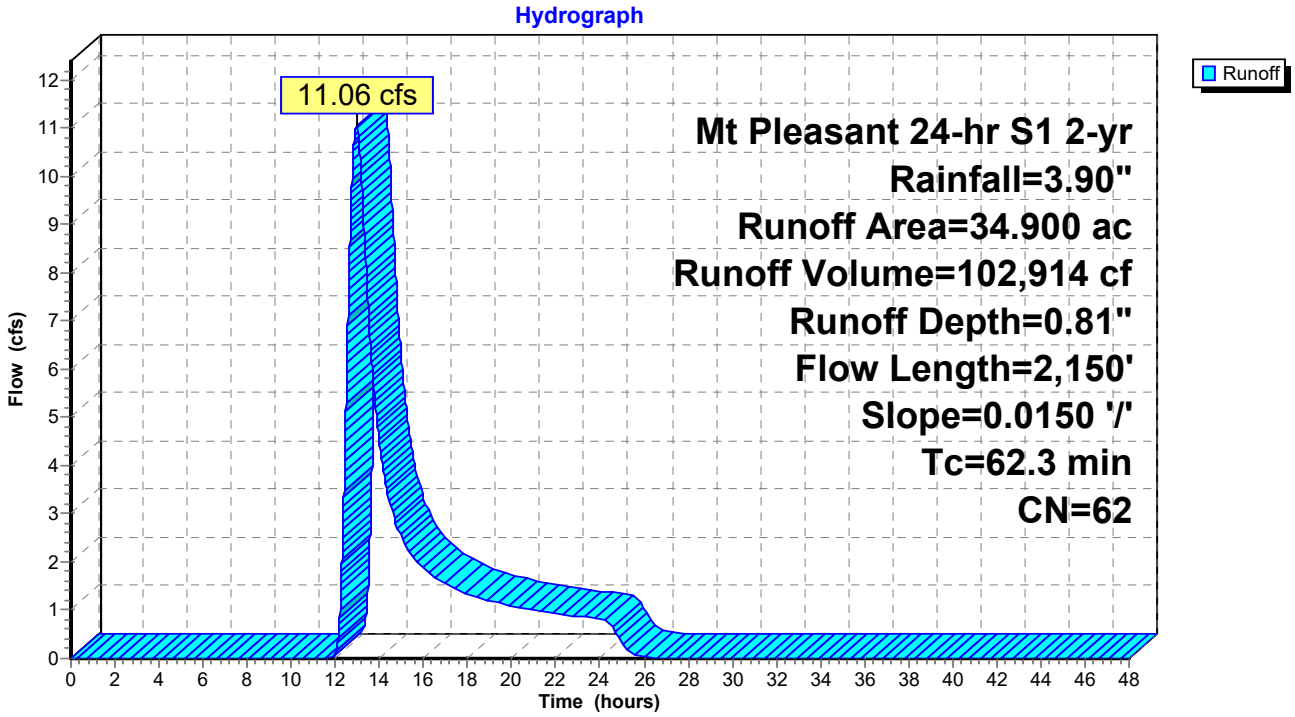
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
17.450	58	Meadow, non-grazed, HSG B
14.450	60	Woods, Fair, HSG B
3.000	96	Gravel surface, HSG C
34.900	62	Weighted Average
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0150	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
21.9	1,125	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	925	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.3	2,150	Total			



Subcatchment DA2P: BASIN 2 PROPOSED



Summary for Subcatchment DA3P: BASIN 3 PRE DEVELOPMENT

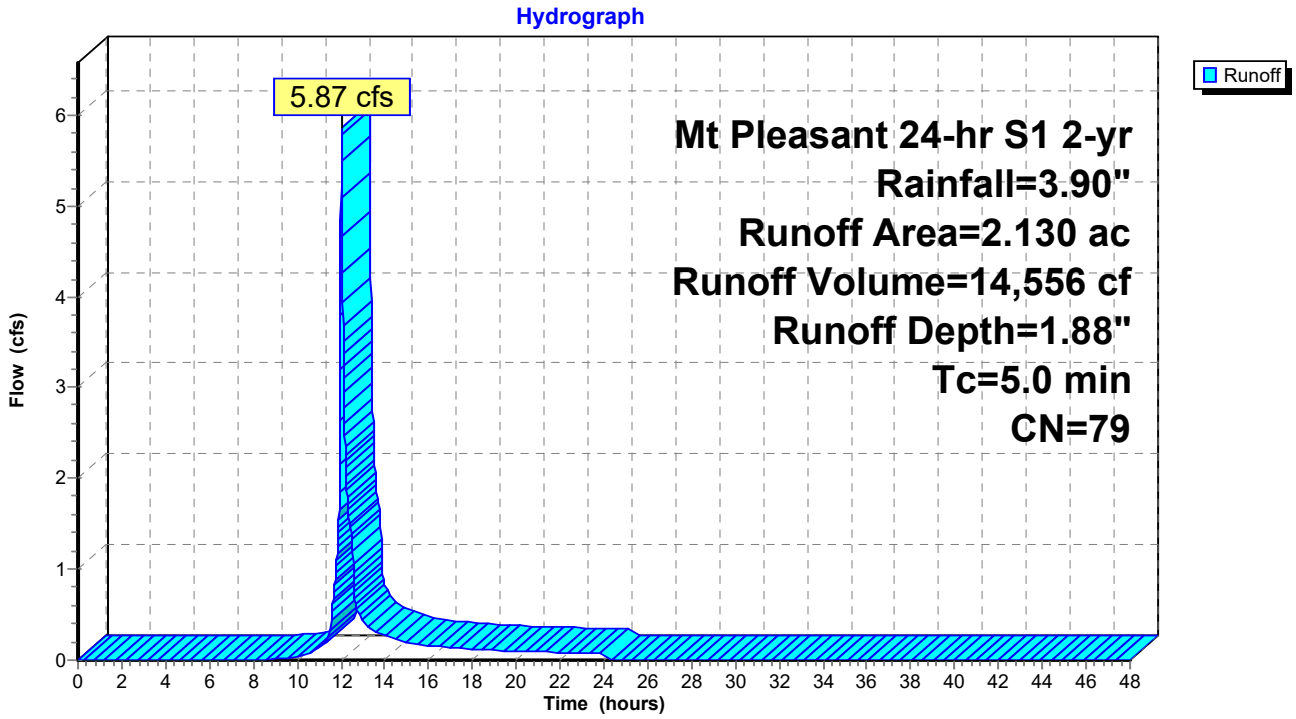
Runoff = 5.87 cfs @ 12.03 hrs, Volume= 14,556 cf, Depth= 1.88"
Routed to Reach OF4P : Primary Stream for Outfalls

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
2.130	79	Woods, Fair, HSG D
2.130		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA3P: BASIN 3 PRE DEVELOPMENT



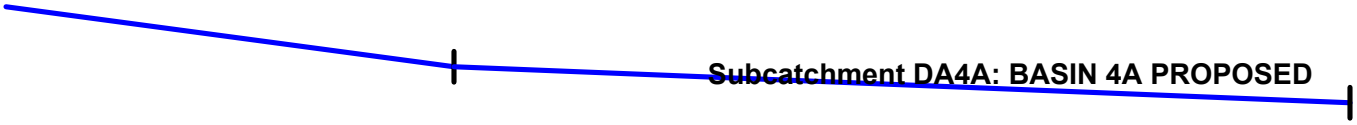
Summary for Subcatchment DA4A: BASIN 4A PROPOSED

Runoff = 3.69 cfs @ 12.40 hrs, Volume= 20,607 cf, Depth= 1.14"
Routed to Reach OF4P : Primary Stream for Outfalls

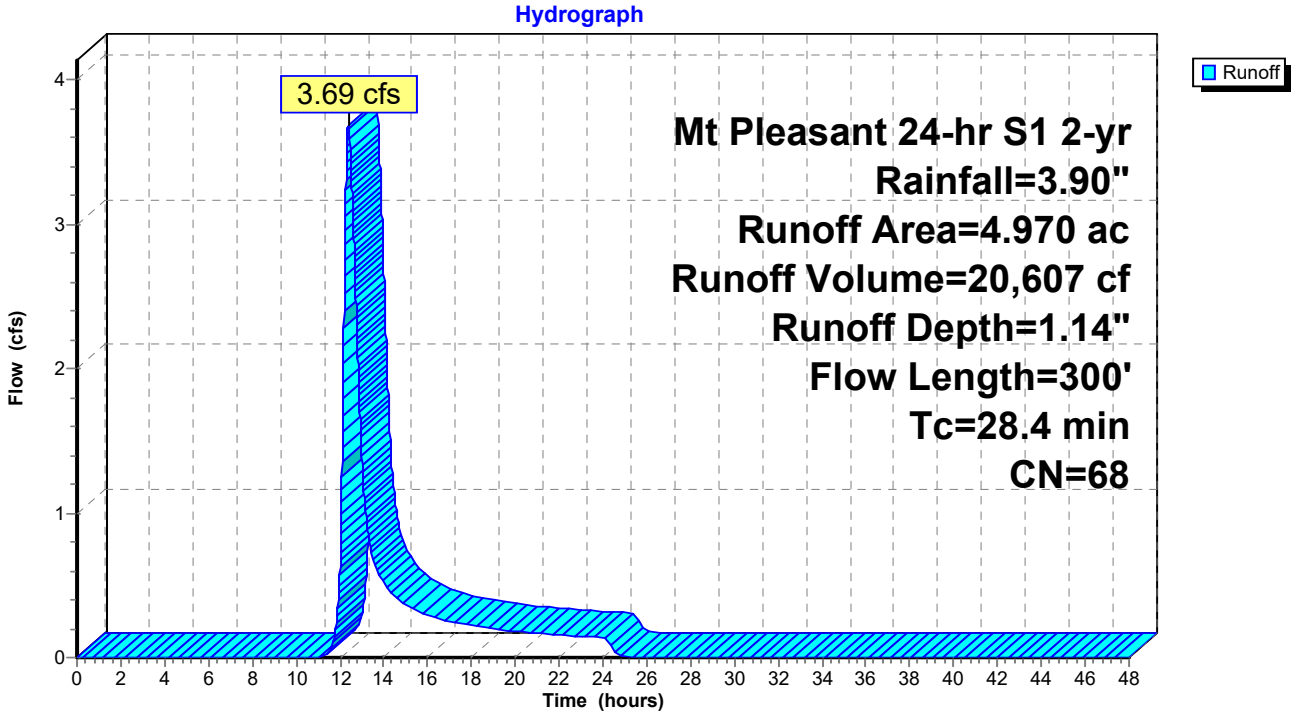
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
1.910	60	Woods, Fair, HSG B
3.060	73	Woods, Fair, HSG C
4.970	68	Weighted Average
4.970		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
3.9	200	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
28.4	300	Total			



Subcatchment DA4A: BASIN 4A PROPOSED



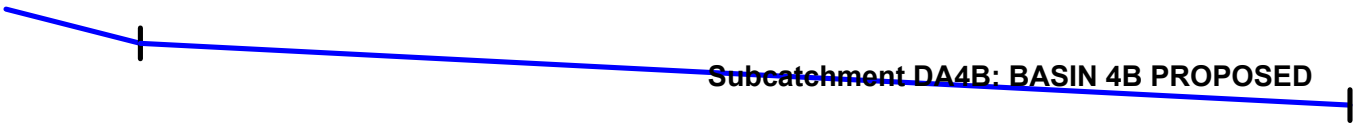
Summary for Subcatchment DA4B: BASIN 4B PROPOSED

Runoff = 25.93 cfs @ 12.40 hrs, Volume= 152,513 cf, Depth= 3.44"
Routed to Pond POND1P : PROP POND

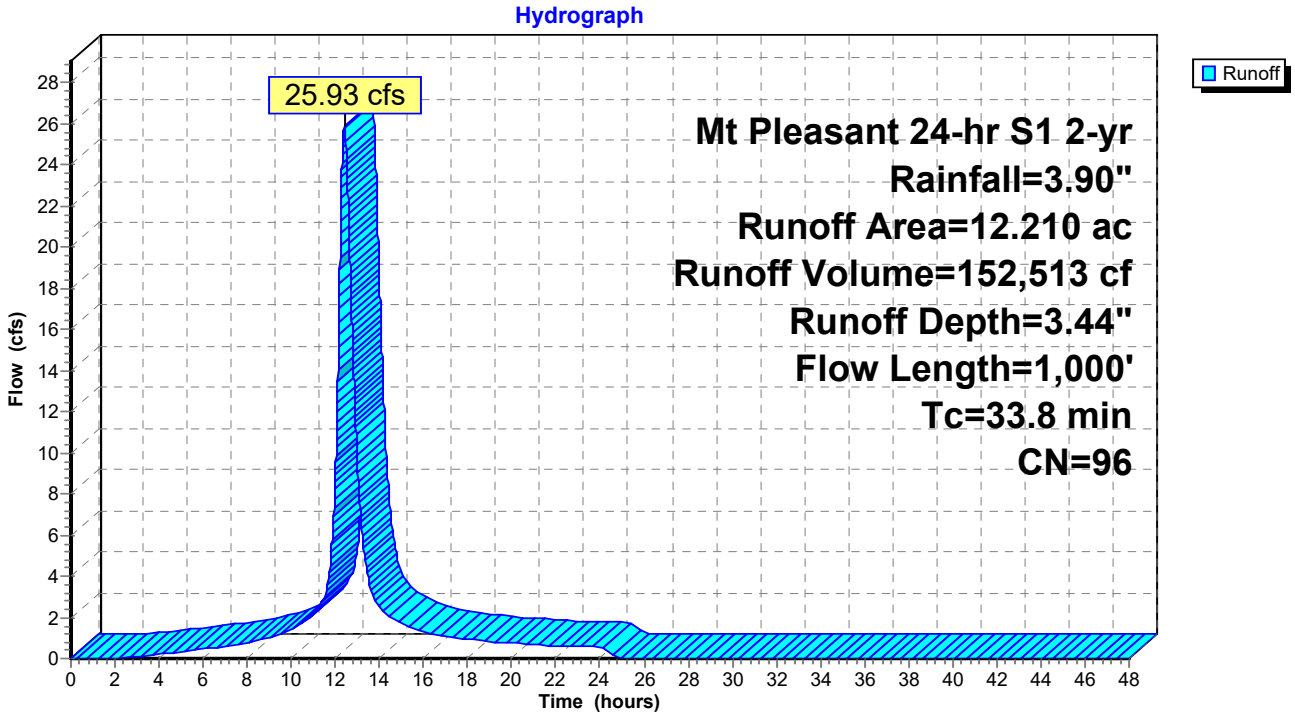
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
9.210	96	Gravel surface, HSG C
1.000	98	Paved parking, HSG D
2.000	98	Roofs, HSG D
12.210	96	Weighted Average
9.210		75.43% Pervious Area
3.000		24.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** n= 0.800 P2= 3.57"
9.3	900	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
33.8	1,000	Total			



Subcatchment DA4B: BASIN 4B PROPOSED



Summary for Subcatchment DA4C: BASIN 4C PROPOSED

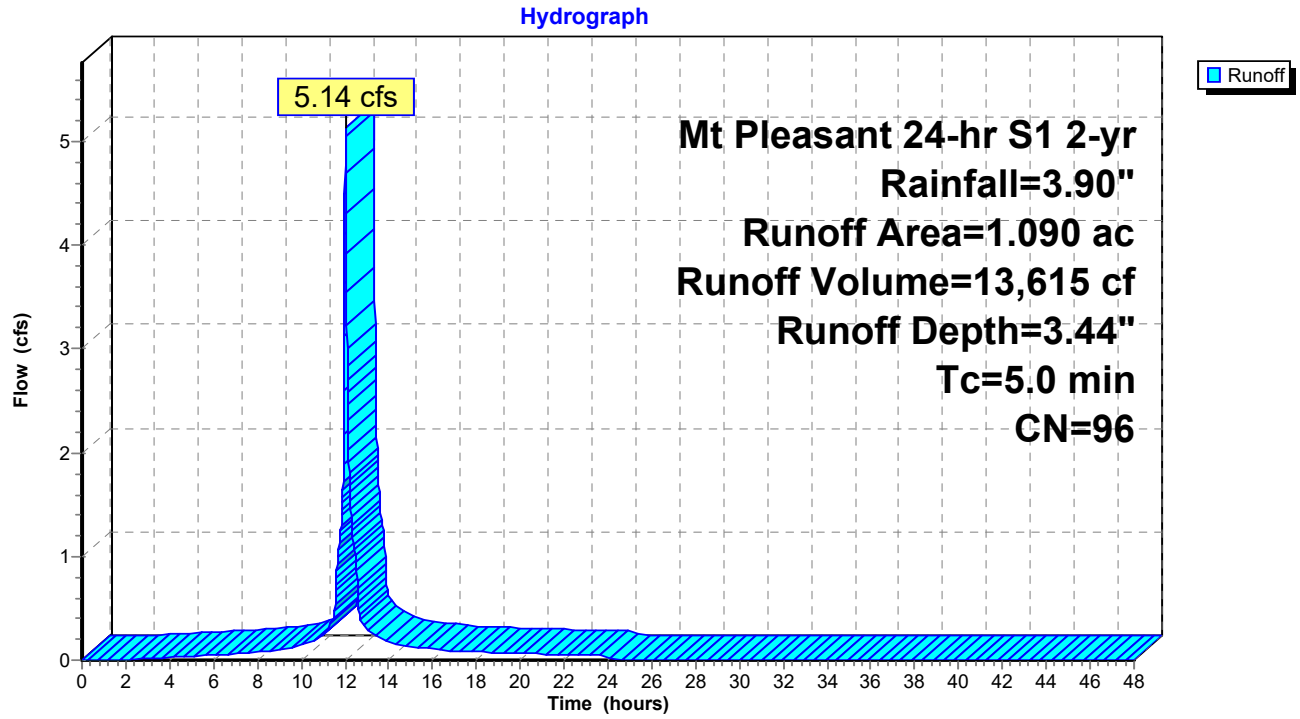
Runoff = 5.14 cfs @ 12.03 hrs, Volume= 13,615 cf, Depth= 3.44"
Routed to Reach D4C : Ditch 4C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
1.090	96	Gravel surface, HSG C
1.090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA4C: BASIN 4C PROPOSED



Summary for Subcatchment DA4D: BASIN 4D PROPOSED

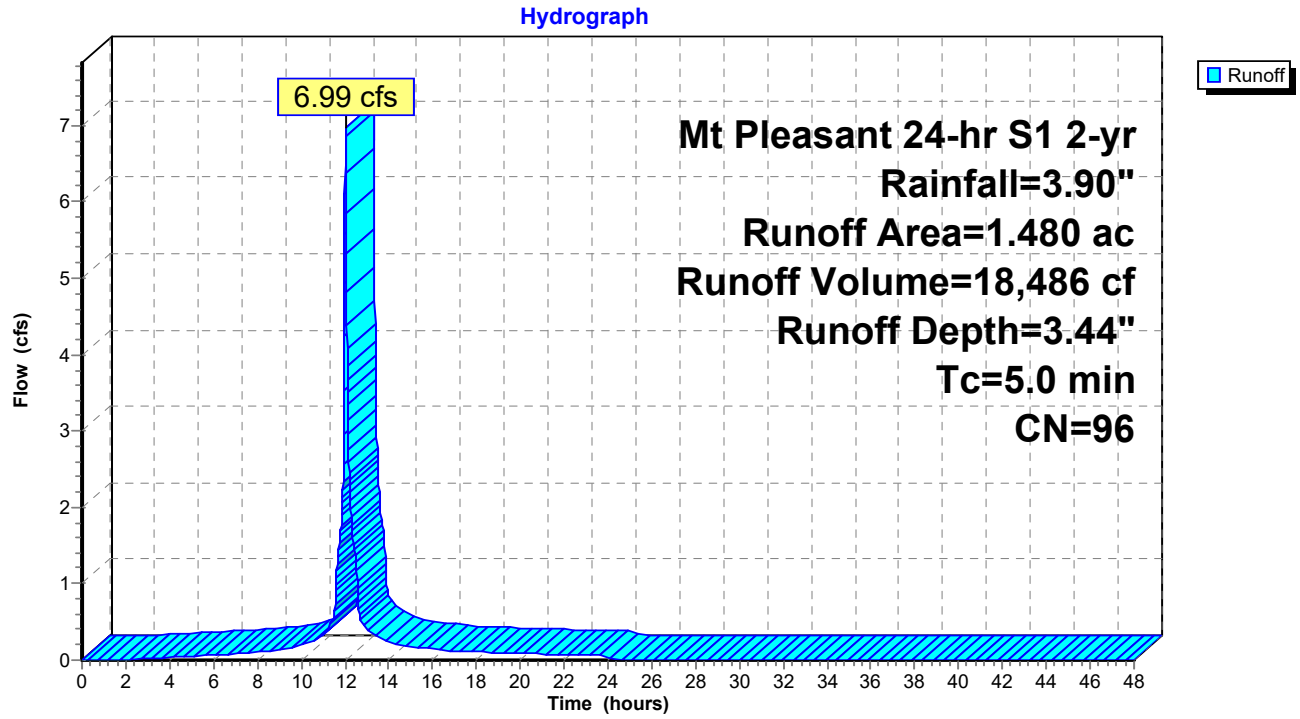
Runoff = 6.99 cfs @ 12.03 hrs, Volume= 18,486 cf, Depth= 3.44"
Routed to Reach D4D : Ditch 4D

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
1.480	96	Gravel surface, HSG C
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA4D: BASIN 4D PROPOSED



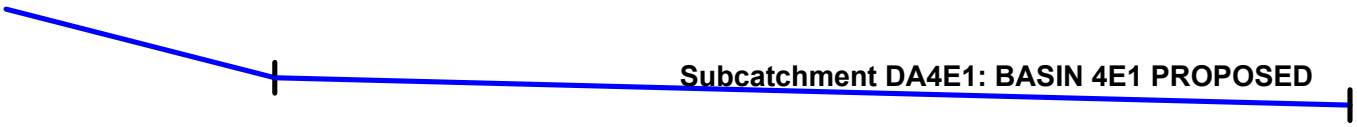
Summary for Subcatchment DA4E1: BASIN 4E1 PROPOSED

Runoff = 4.66 cfs @ 12.40 hrs, Volume= 27,820 cf, Depth= 0.92"
Routed to Reach D4E1 : Ditch 4E1

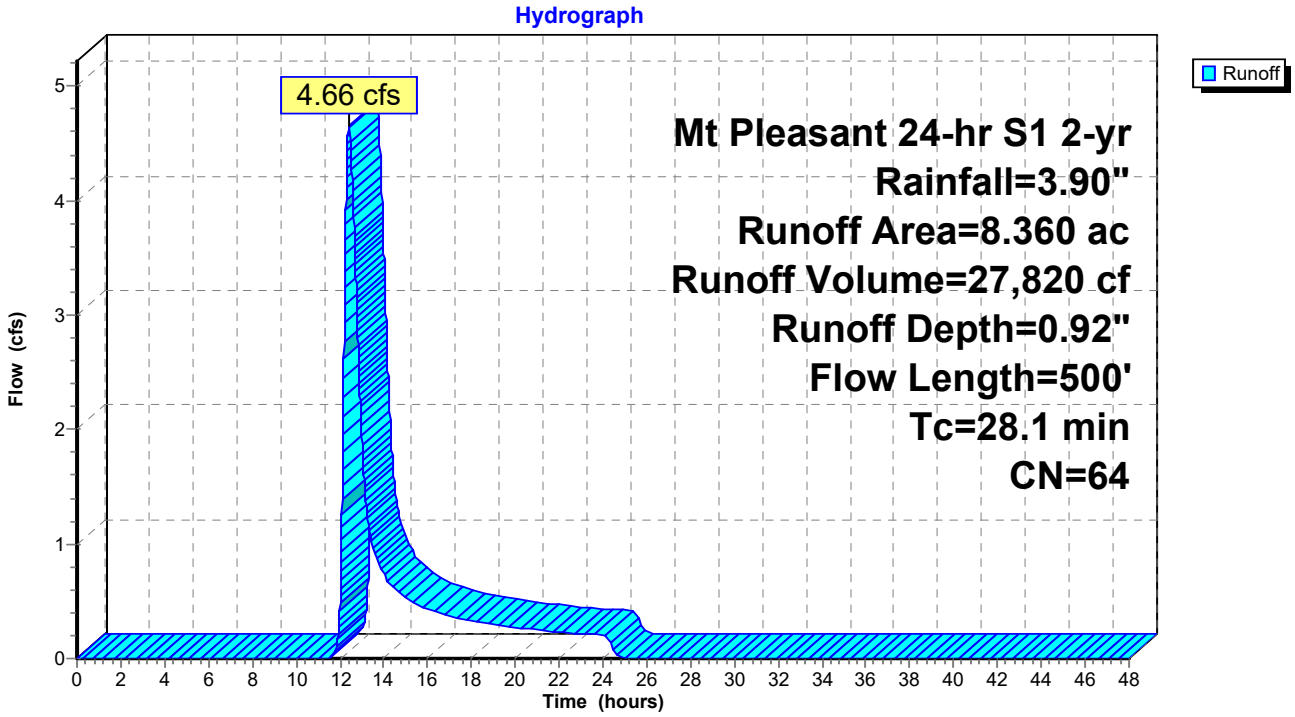
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
3.680	58	Meadow, non-grazed, HSG B
3.680	60	Woods, Fair, HSG B
1.000	98	Paved roads w/curbs & sewers, HSG B
8.360	64	Weighted Average
7.360		88.04% Pervious Area
1.000		11.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.1000	0.09		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
9.5	400	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
28.1	500	Total			



Subcatchment DA4E1: BASIN 4E1 PROPOSED



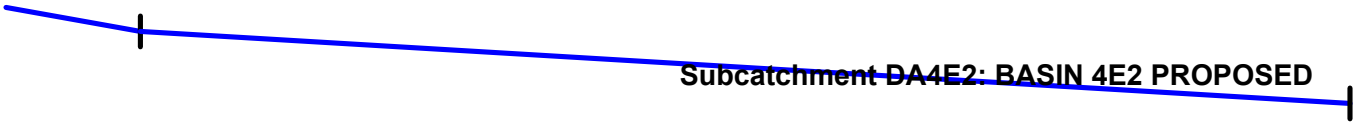
Summary for Subcatchment DA4E2: BASIN 4E2 PROPOSED

Runoff = 11.49 cfs @ 12.60 hrs, Volume= 75,926 cf, Depth= 1.20"
Routed to Pond CD4E : Cross Drain 4E

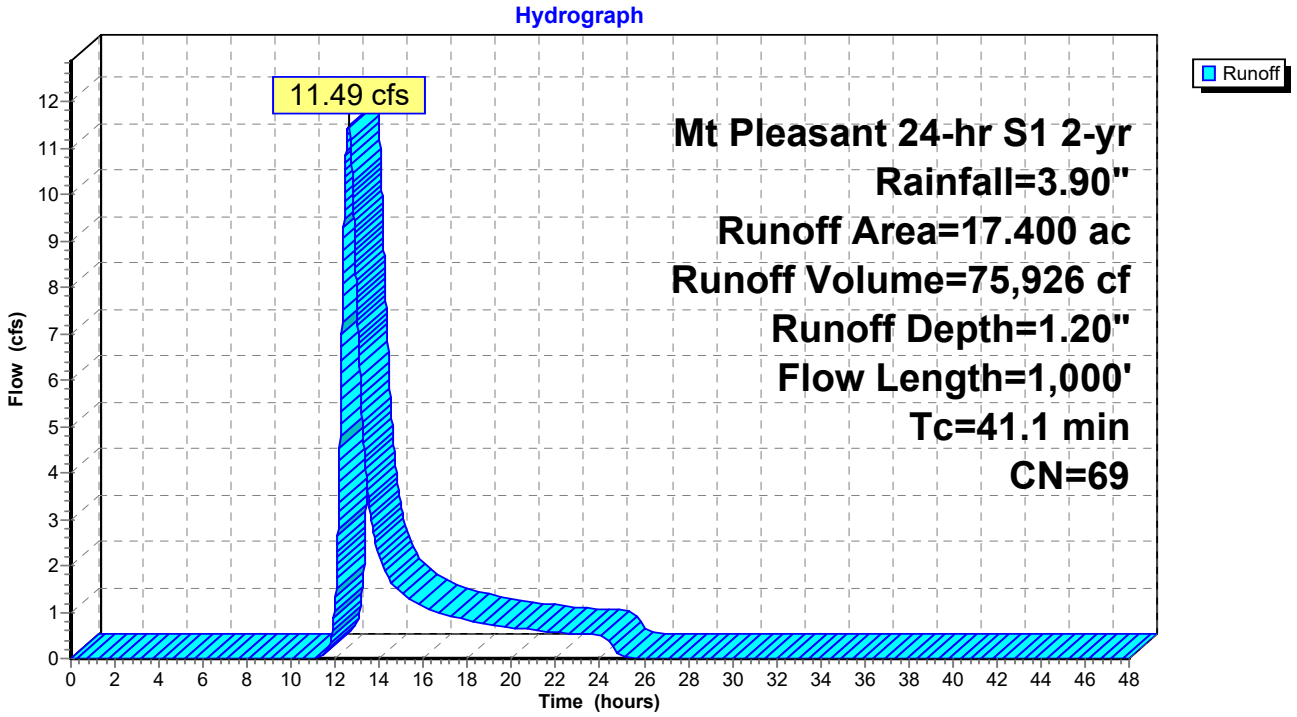
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 2-yr Rainfall=3.90"

Area (ac)	CN	Description
8.700	79	Woods, Fair, HSG D
4.350	58	Meadow, non-grazed, HSG B
4.350	60	Woods, Fair, HSG B
17.400	69	Weighted Average
17.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
16.6	900	0.0167	0.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
41.1	1,000	Total			



Subcatchment DA4E2: BASIN 4E2 PROPOSED



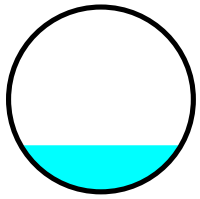
Summary for Reach CD4C: Cross Drain 4C

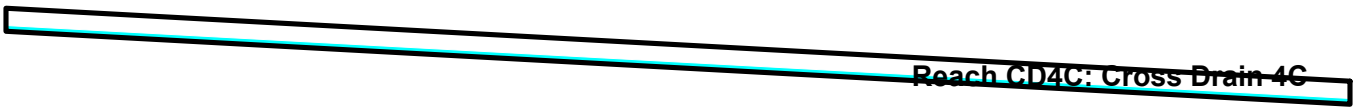
Inflow Area = 47,480 sf, 0.00% Impervious, Inflow Depth = 3.44" for 2-yr event
Inflow = 4.82 cfs @ 12.05 hrs, Volume= 13,615 cf
Outflow = 4.82 cfs @ 12.05 hrs, Volume= 13,615 cf, Atten= 0%, Lag= 0.1 min
Routed to Pond CD4DCE : Cross Drain 4DCE

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 13.87 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 4.16 fps, Avg. Travel Time= 0.2 min

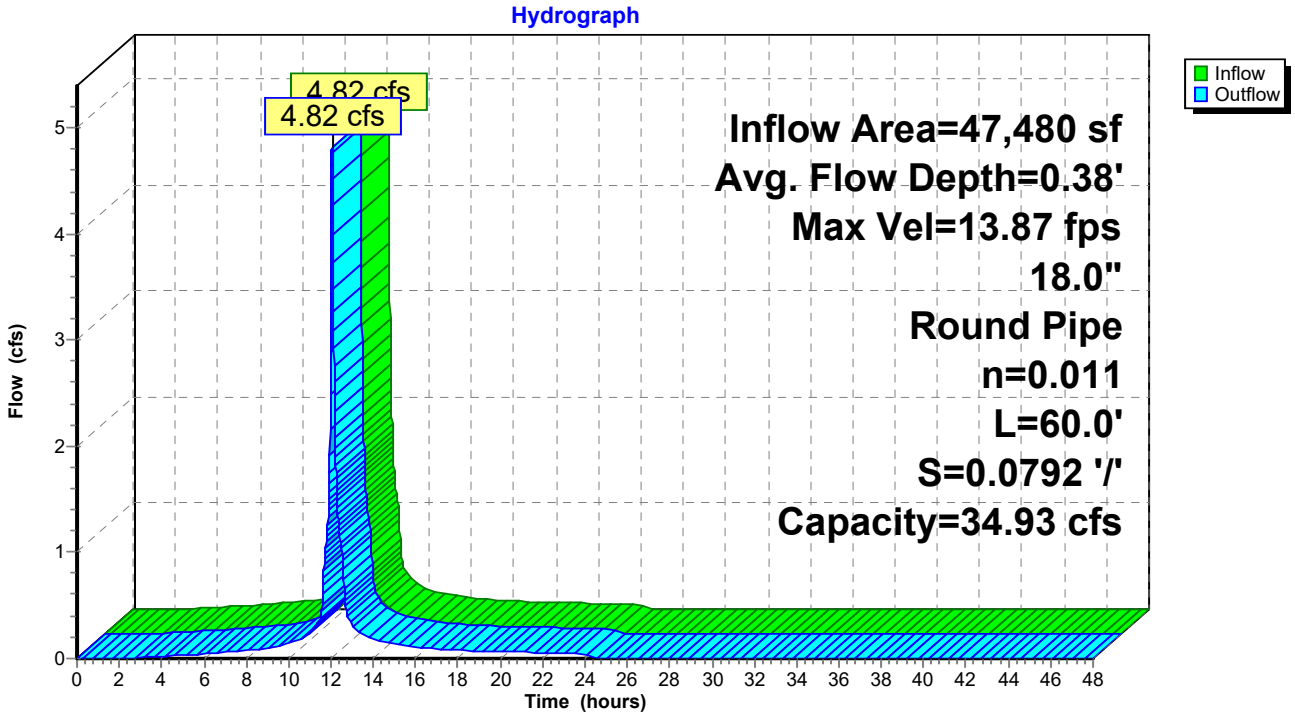
Peak Storage= 21 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.38' , Surface Width= 1.30'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 34.93 cfs

18.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 60.0' Slope= 0.0792 '/'
Inlet Invert= 683.75', Outlet Invert= 679.00'

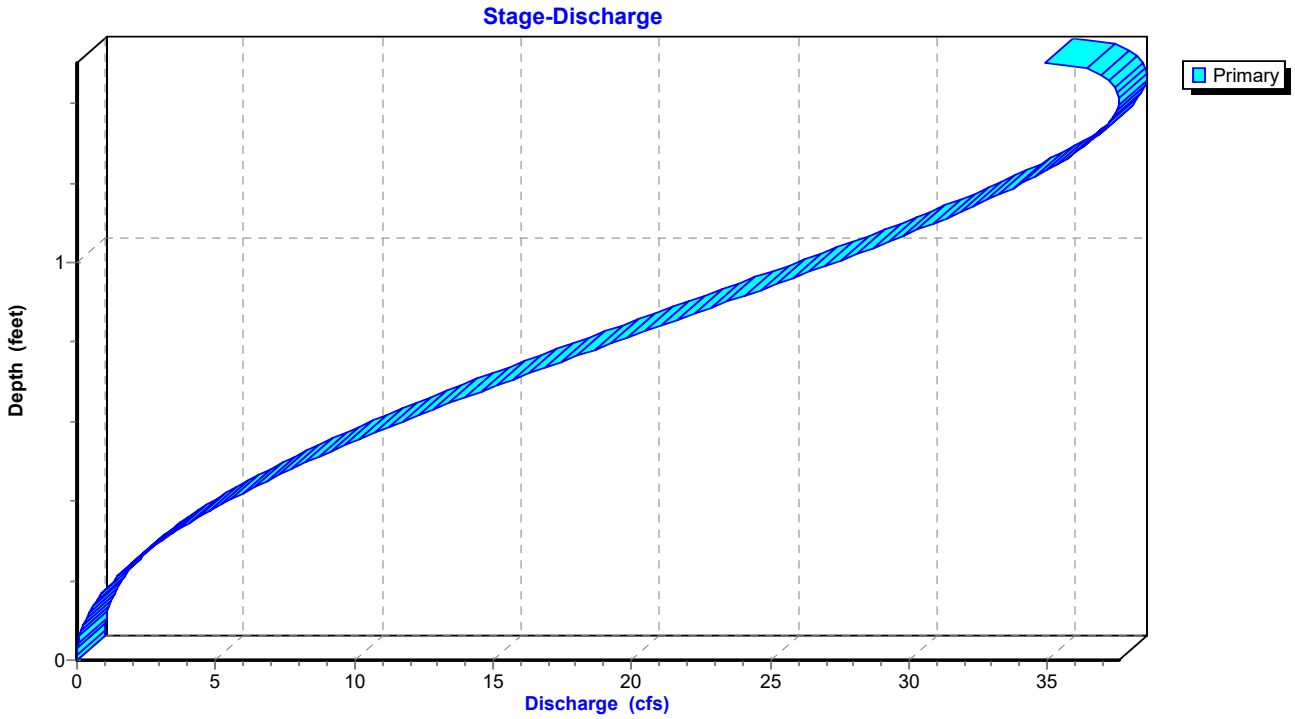




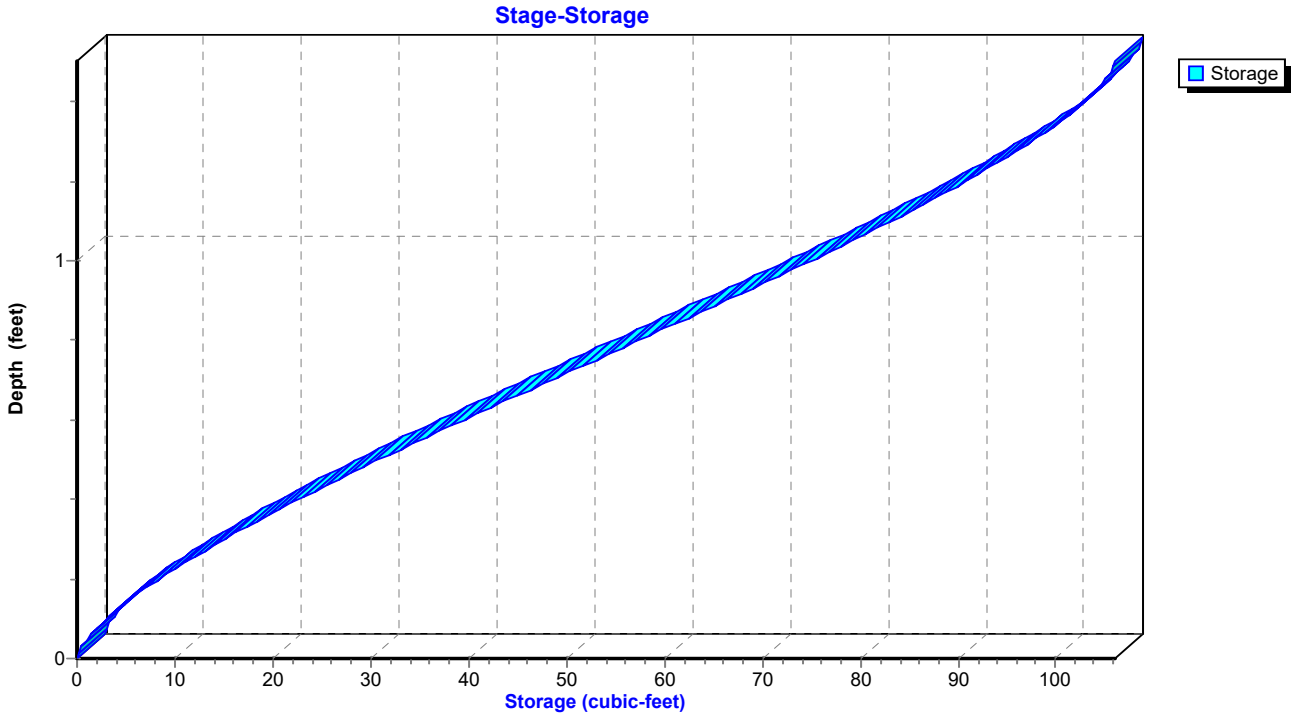
Reach CD4C: Cross Drain 4C



Reach CD4C: Cross Drain 4C



Reach CD4C: Cross Drain 4C



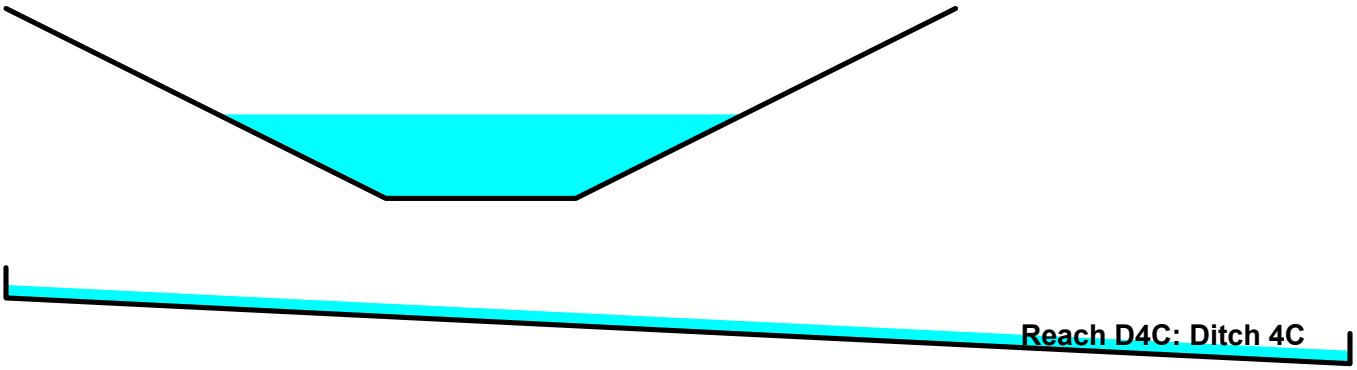
Summary for Reach D4C: Ditch 4C

Inflow Area = 47,480 sf, 0.00% Impervious, Inflow Depth = 3.44" for 2-yr event
Inflow = 5.14 cfs @ 12.03 hrs, Volume= 13,615 cf
Outflow = 4.82 cfs @ 12.05 hrs, Volume= 13,615 cf, Atten= 6%, Lag= 1.2 min
Routed to Reach CD4C : Cross Drain 4C

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.57 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 0.72 fps, Avg. Travel Time= 7.2 min

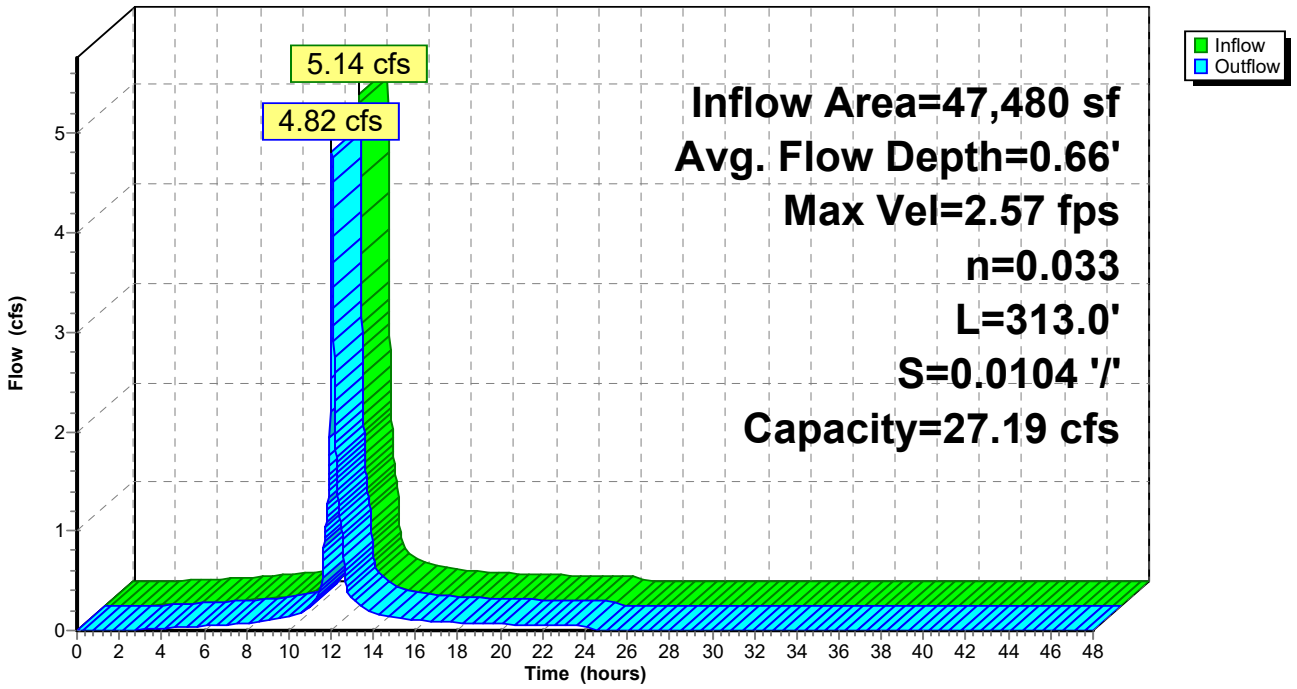
Peak Storage= 586 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.66' , Surface Width= 4.15'
Bank-Full Depth= 1.50' Flow Area= 6.8 sf, Capacity= 27.19 cfs

1.50' x 1.50' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 7.50'
Length= 313.0' Slope= 0.0104 '/'
Inlet Invert= 687.00', Outlet Invert= 683.75'



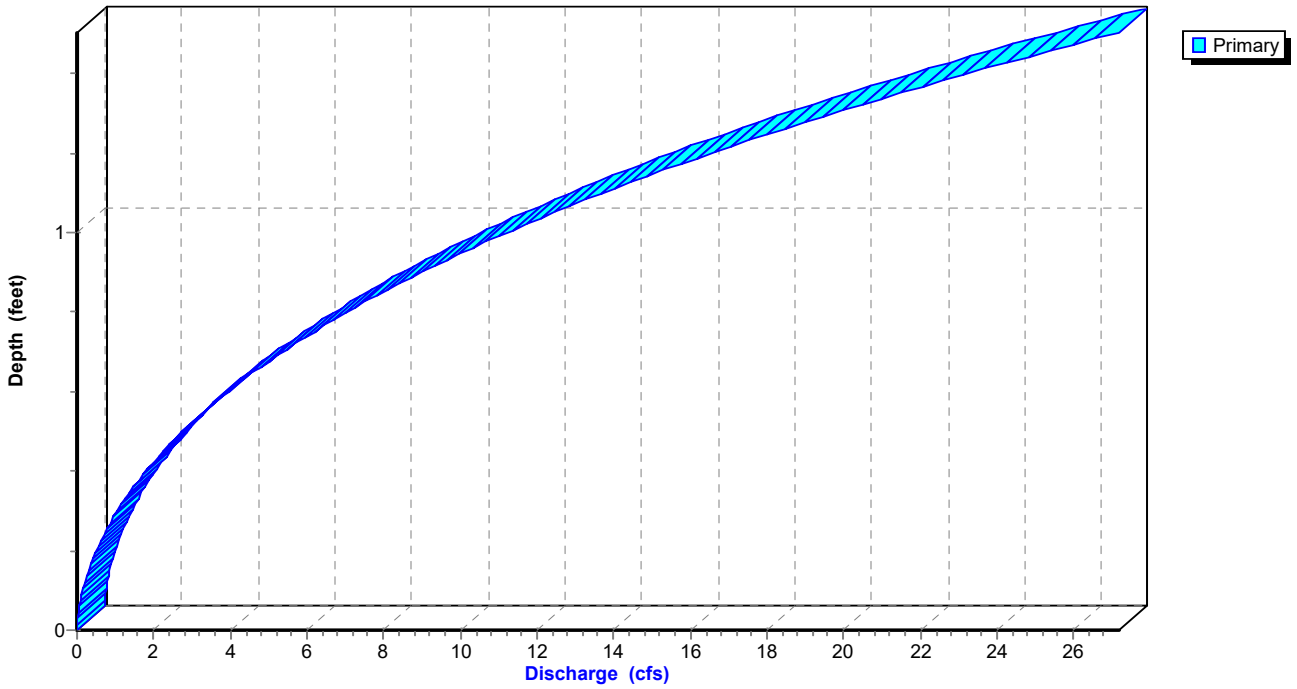
Reach D4C: Ditch 4C

Hydrograph

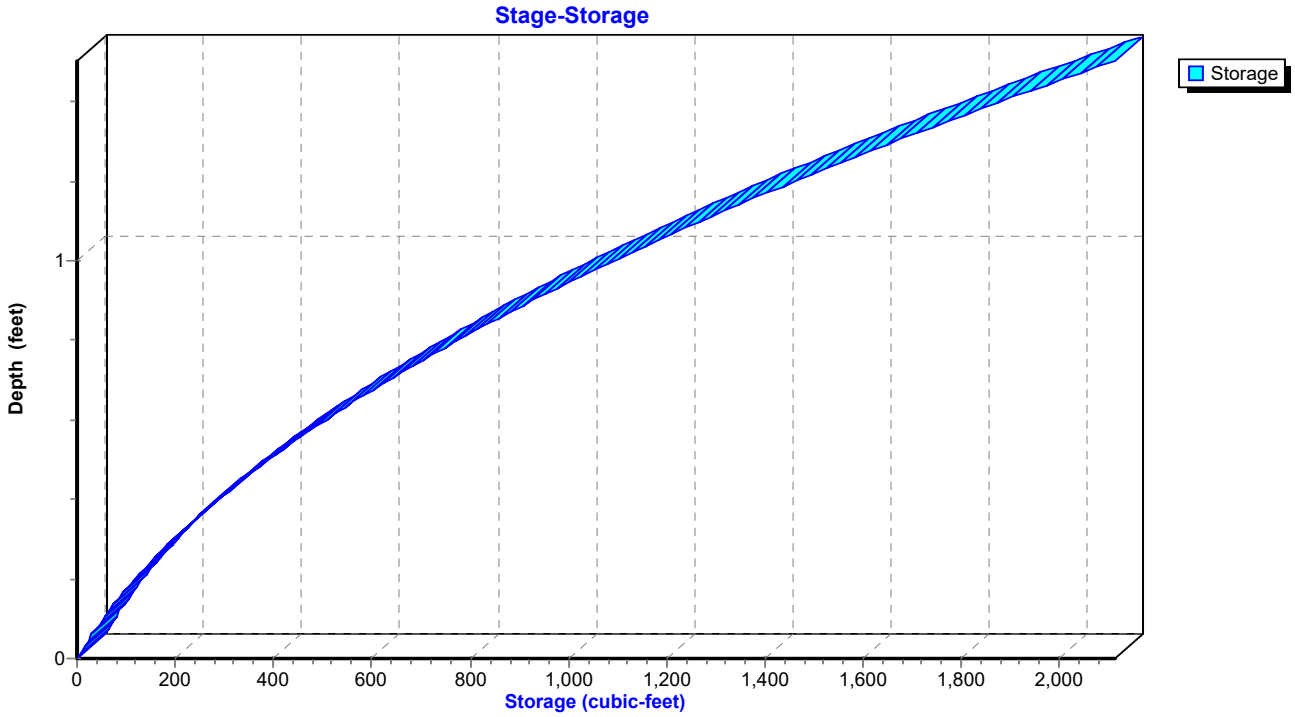


Reach D4C: Ditch 4C

Stage-Discharge



Reach D4C: Ditch 4C



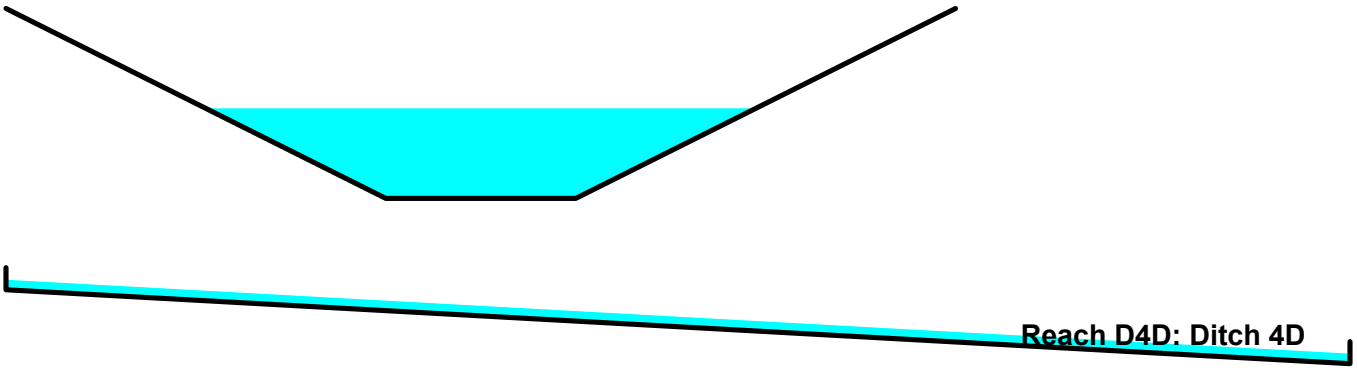
Summary for Reach D4D: Ditch 4D

Inflow Area = 64,469 sf, 0.00% Impervious, Inflow Depth = 3.44" for 2-yr event
Inflow = 6.99 cfs @ 12.03 hrs, Volume= 18,486 cf
Outflow = 6.63 cfs @ 12.04 hrs, Volume= 18,486 cf, Atten= 5%, Lag= 1.1 min
Routed to Pond CD4DCE : Cross Drain 4DCE

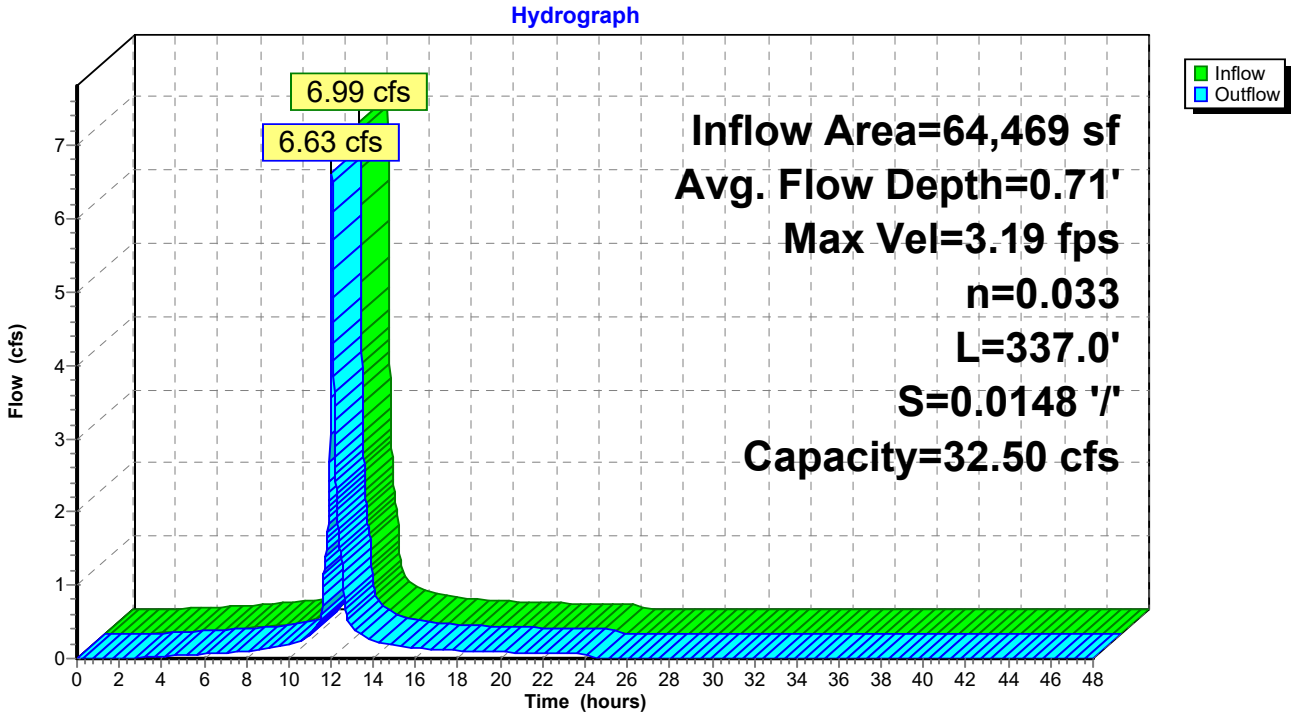
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.19 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.91 fps, Avg. Travel Time= 6.2 min

Peak Storage= 700 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.71' , Surface Width= 4.34'
Bank-Full Depth= 1.50' Flow Area= 6.8 sf, Capacity= 32.50 cfs

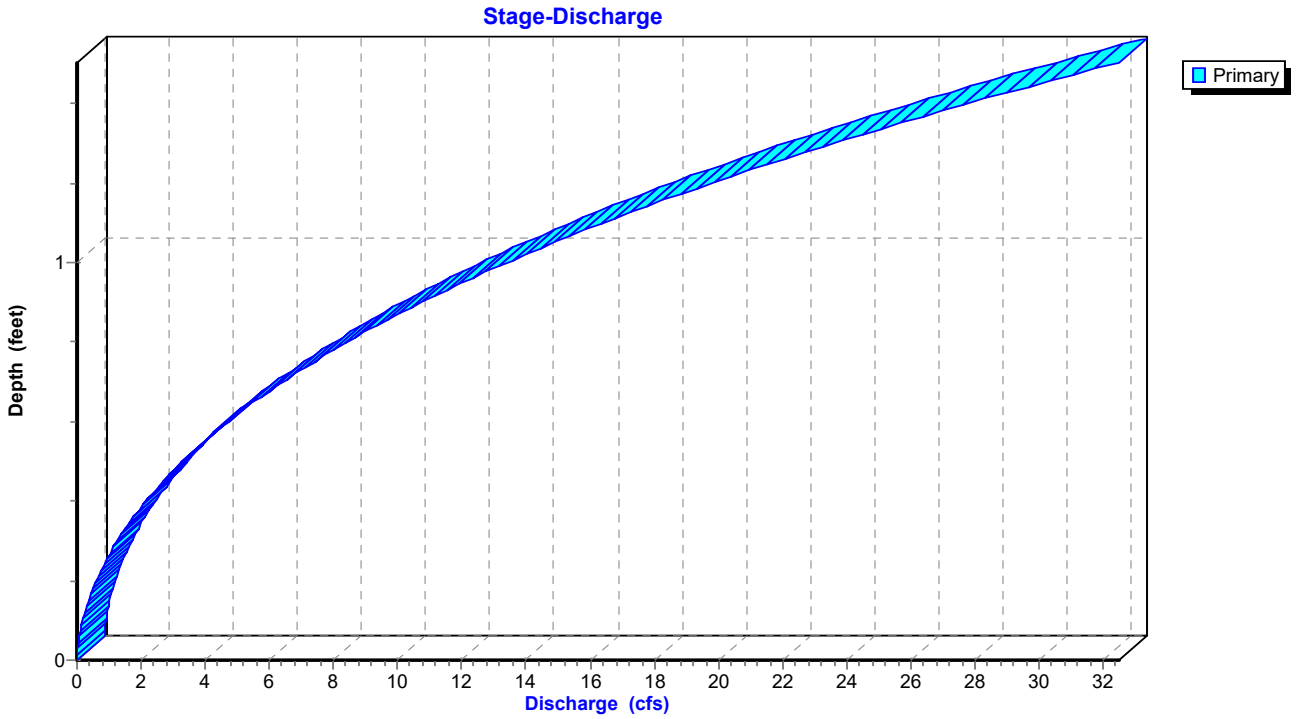
1.50' x 1.50' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 7.50'
Length= 337.0' Slope= 0.0148 '/'
Inlet Invert= 688.00', Outlet Invert= 683.00'



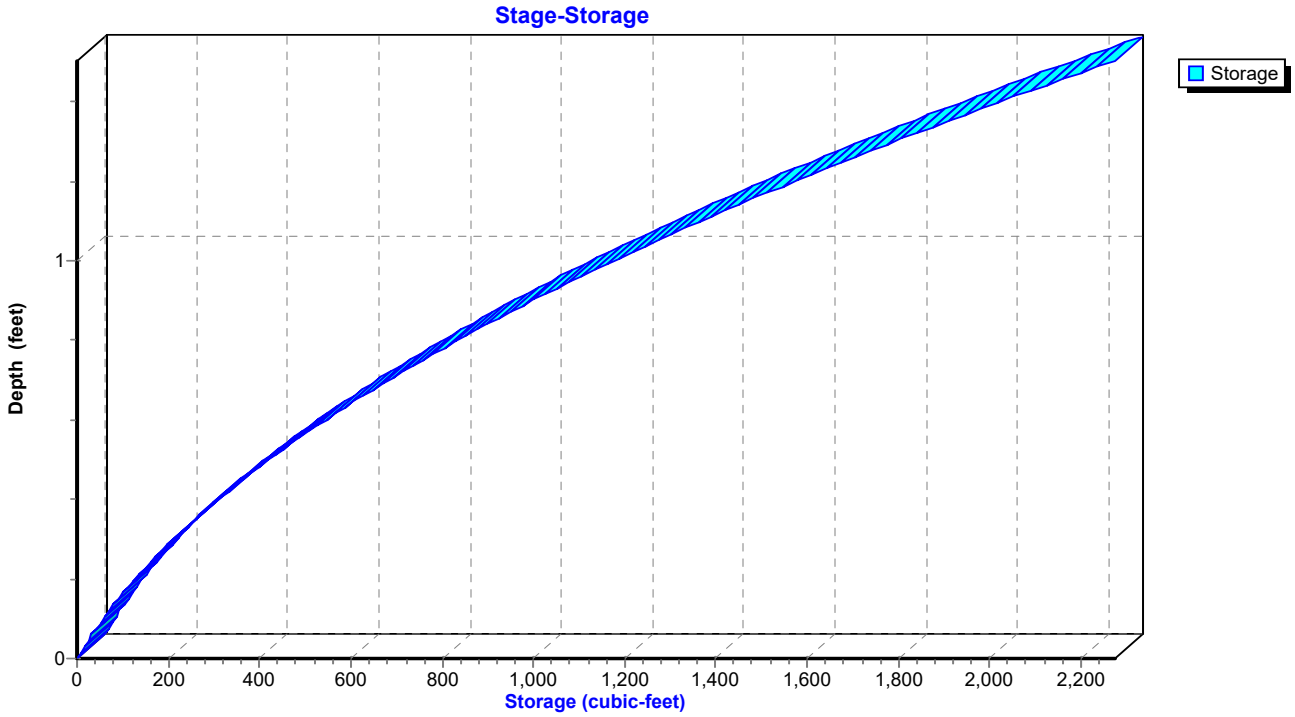
Reach D4D: Ditch 4D



Reach D4D: Ditch 4D



Reach D4D: Ditch 4D



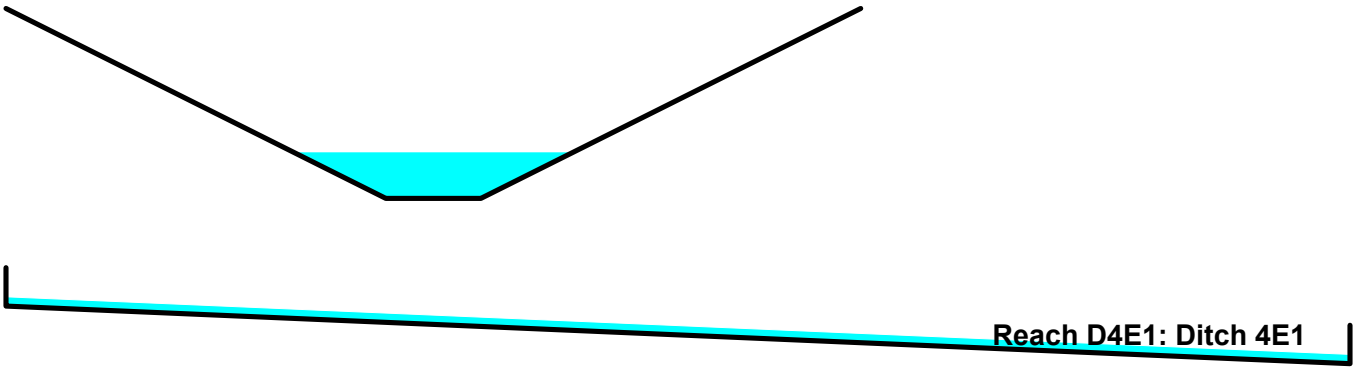
Summary for Reach D4E1: Ditch 4E1

Inflow Area = 364,162 sf, 11.96% Impervious, Inflow Depth = 0.92" for 2-yr event
Inflow = 4.66 cfs @ 12.40 hrs, Volume= 27,820 cf
Outflow = 4.45 cfs @ 12.49 hrs, Volume= 27,820 cf, Atten= 5%, Lag= 5.4 min
Routed to Pond CD4E : Cross Drain 4E

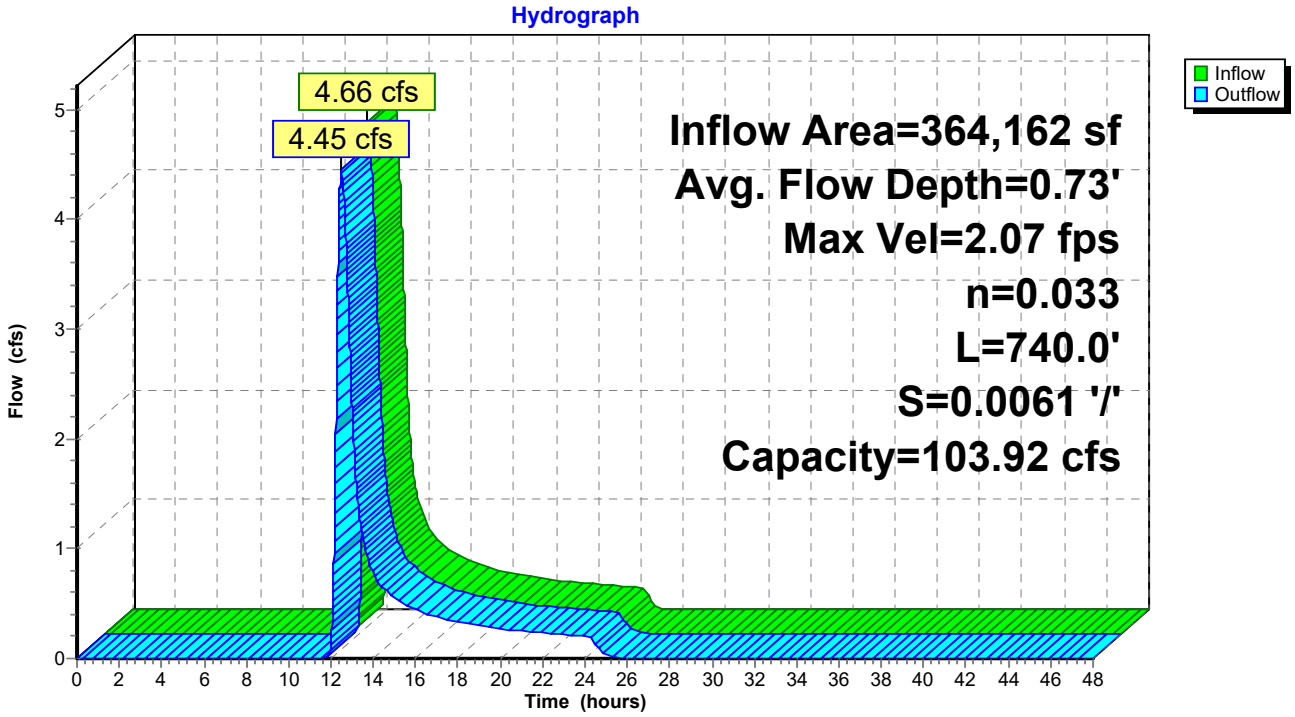
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.07 fps, Min. Travel Time= 6.0 min
Avg. Velocity = 0.87 fps, Avg. Travel Time= 14.2 min

Peak Storage= 1,591 cf @ 12.49 hrs
Average Depth at Peak Storage= 0.73' , Surface Width= 4.41'
Bank-Full Depth= 3.00' Flow Area= 22.5 sf, Capacity= 103.92 cfs

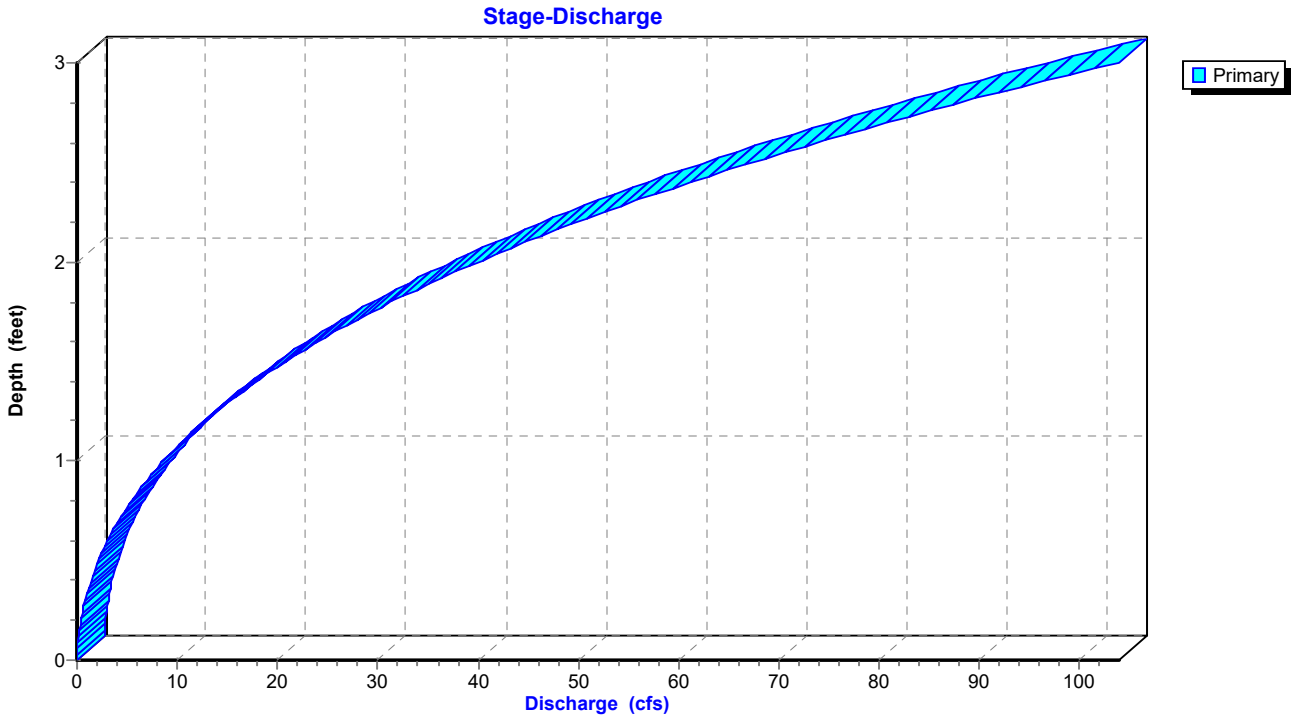
1.50' x 3.00' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 13.50'
Length= 740.0' Slope= 0.0061 '/'
Inlet Invert= 684.00', Outlet Invert= 679.50'



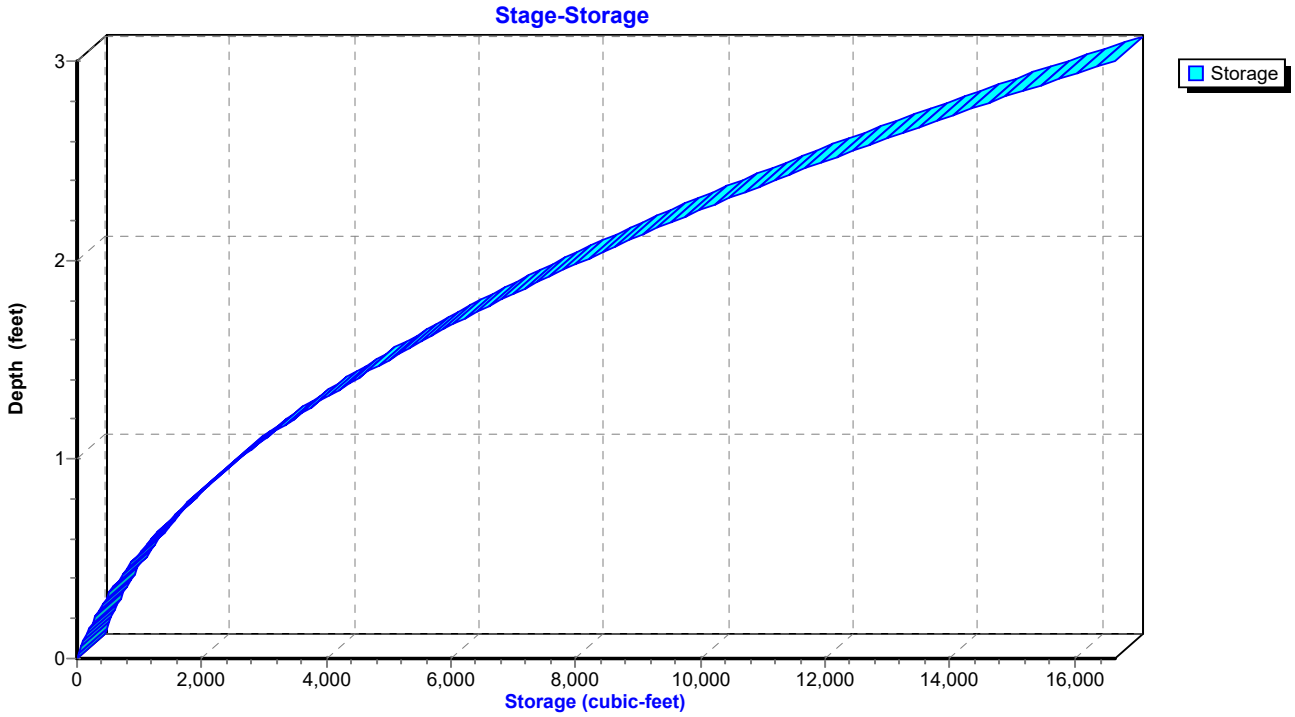
Reach D4E1: Ditch 4E1



Reach D4E1: Ditch 4E1



Reach D4E1: Ditch 4E1



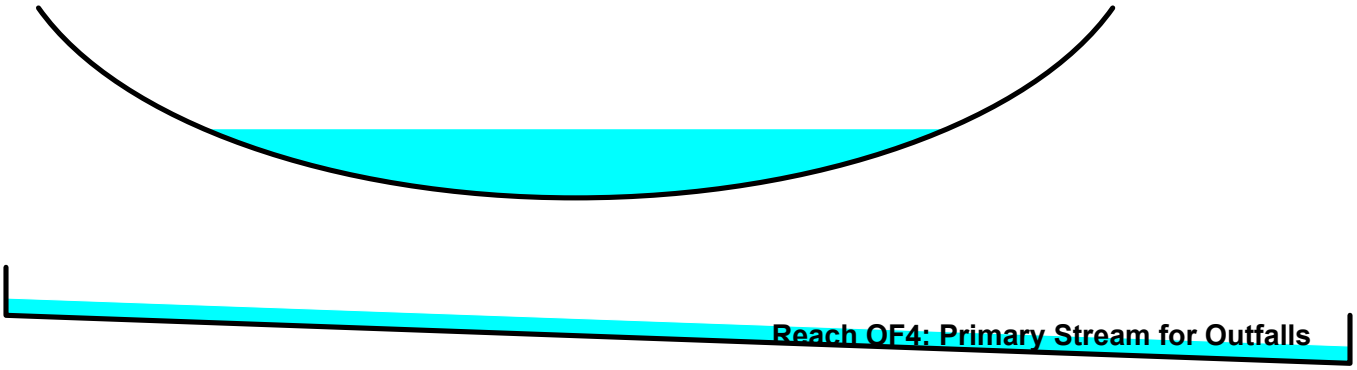
Summary for Reach OF4: Primary Stream for Outfalls

Inflow Area = 9,972,626 sf, 1.09% Impervious, Inflow Depth = 1.41" for 2-yr event
Inflow = 72.15 cfs @ 13.67 hrs, Volume= 1,167,806 cf
Outflow = 72.08 cfs @ 13.83 hrs, Volume= 1,167,806 cf, Atten= 0%, Lag= 9.4 min

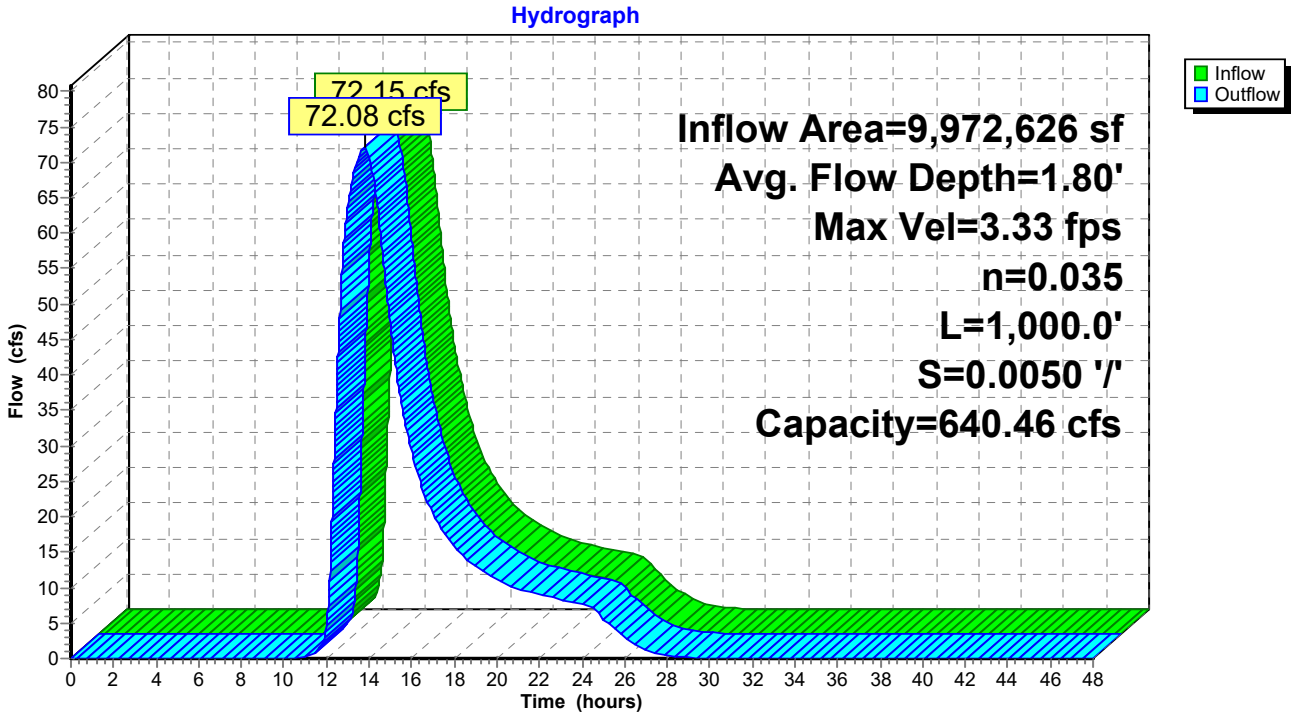
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.33 fps, Min. Travel Time= 5.0 min
Avg. Velocity = 1.36 fps, Avg. Travel Time= 12.3 min

Peak Storage= 21,620 cf @ 13.83 hrs
Average Depth at Peak Storage= 1.80' , Surface Width= 18.01'
Bank-Full Depth= 5.00' Flow Area= 100.0 sf, Capacity= 640.46 cfs

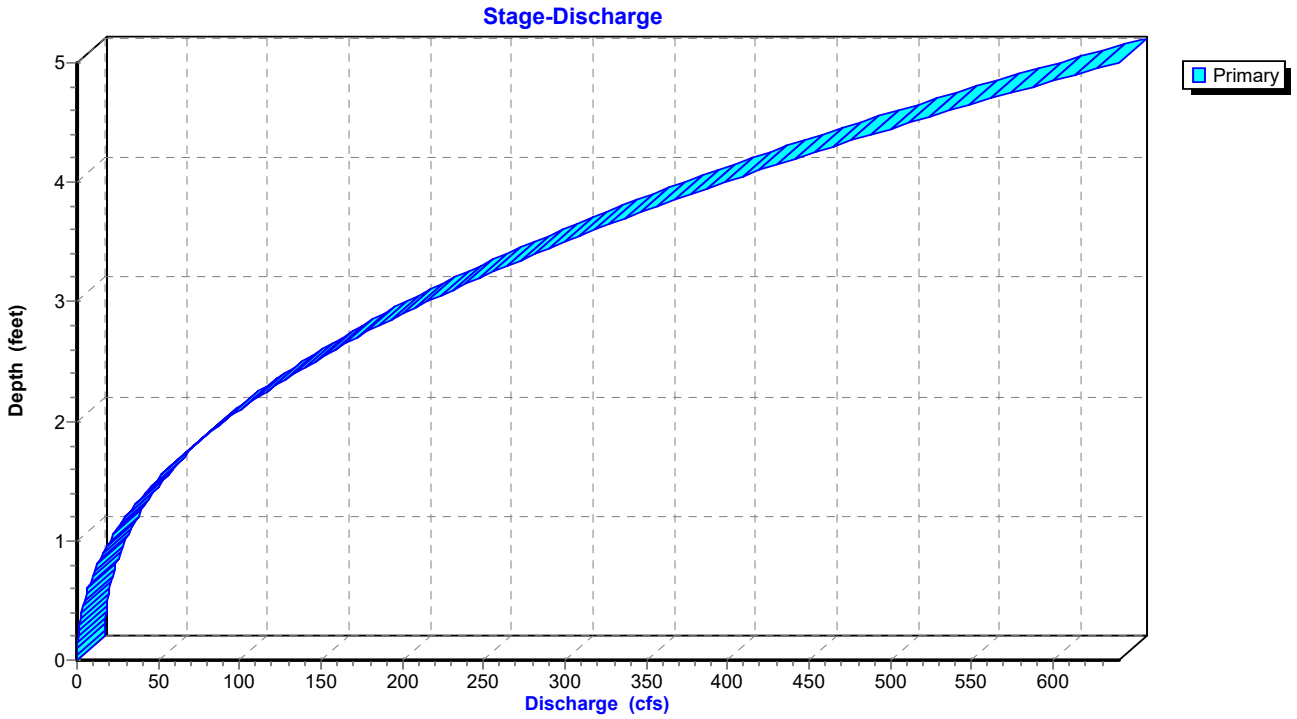
30.00' x 5.00' deep Parabolic Channel, n= 0.035
Length= 1,000.0' Slope= 0.0050 '/'
Inlet Invert= 675.00', Outlet Invert= 670.00'



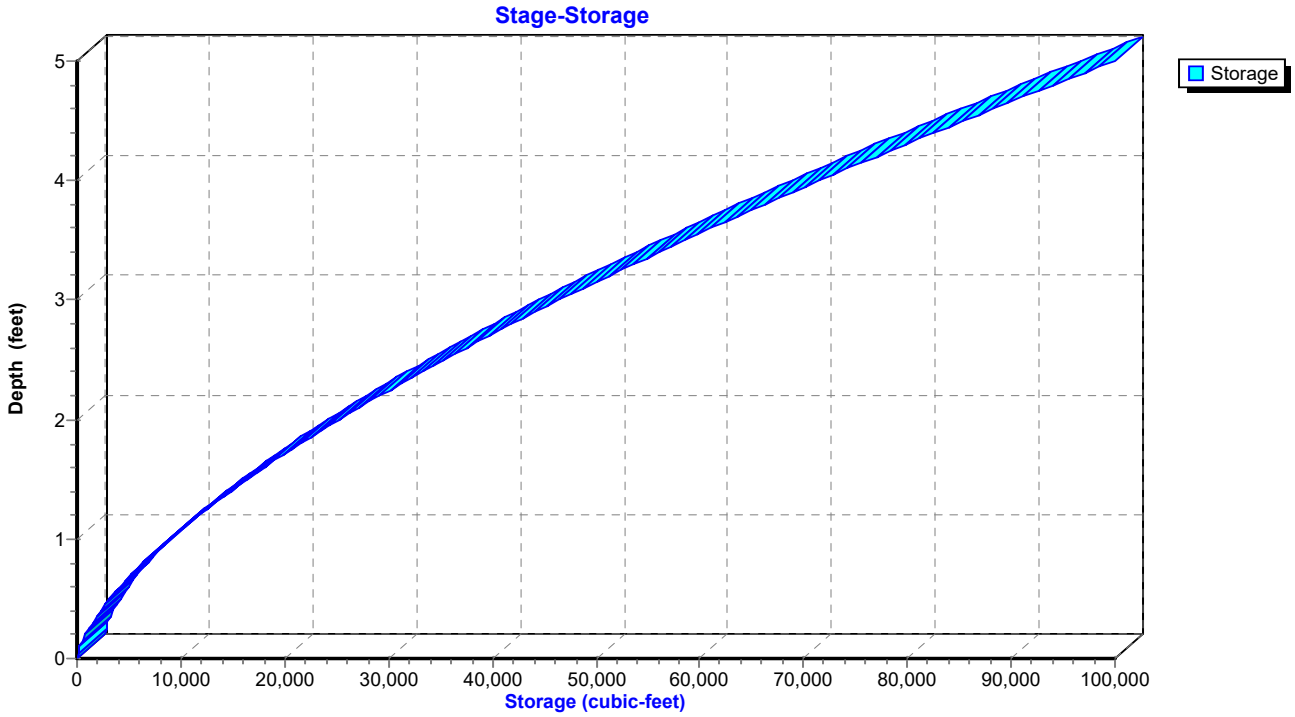
Reach OF4: Primary Stream for Outfalls



Reach OF4: Primary Stream for Outfalls



Reach OF4: Primary Stream for Outfalls



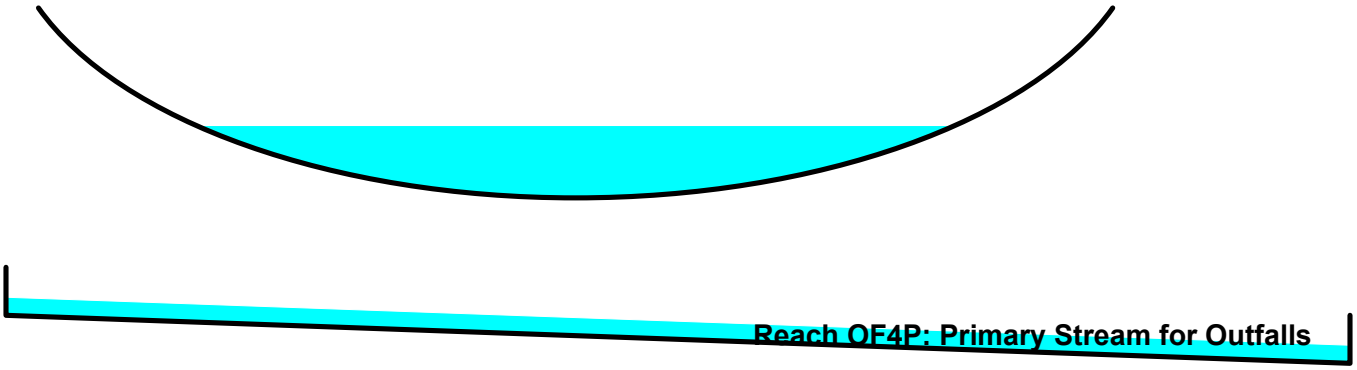
Summary for Reach OF4P: Primary Stream for Outfalls

Inflow Area = 9,824,522 sf, 2.88% Impervious, Inflow Depth = 1.53" for 2-yr event
Inflow = 79.87 cfs @ 13.51 hrs, Volume= 1,252,289 cf
Outflow = 79.63 cfs @ 13.57 hrs, Volume= 1,252,286 cf, Atten= 0%, Lag= 3.6 min

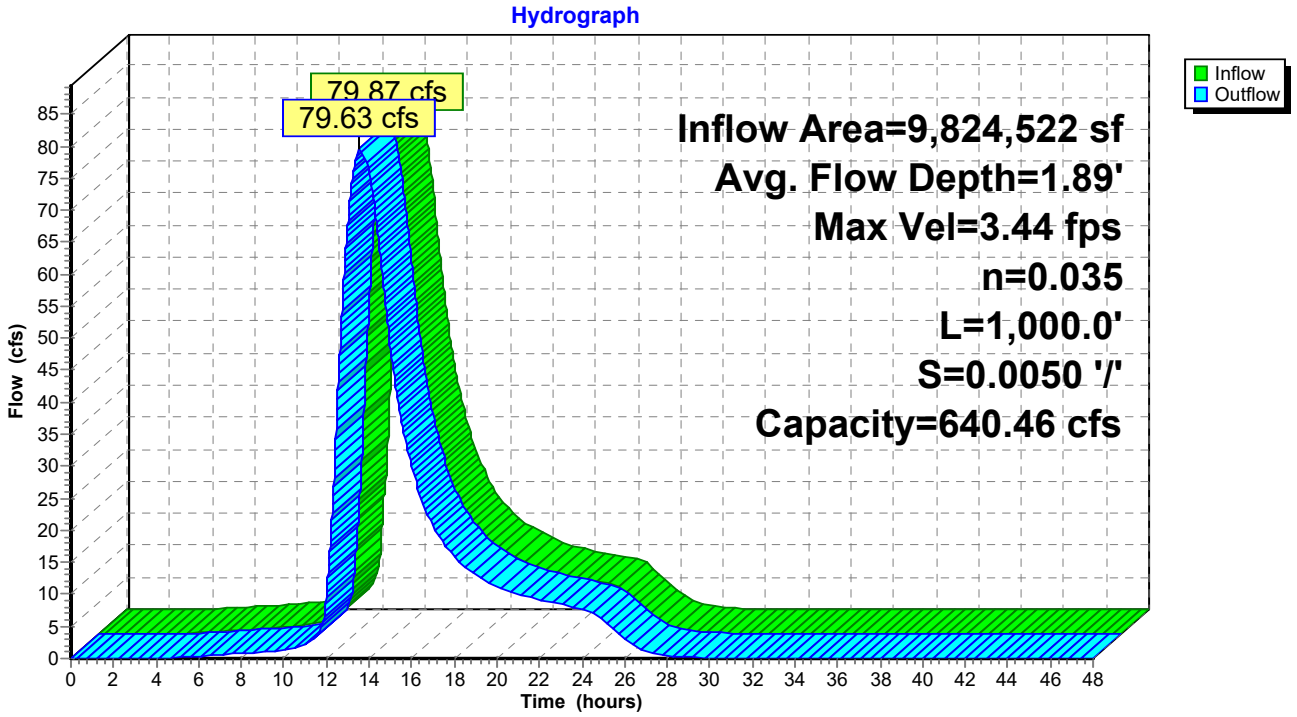
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.44 fps, Min. Travel Time= 4.9 min
Avg. Velocity = 1.05 fps, Avg. Travel Time= 15.9 min

Peak Storage= 23,174 cf @ 13.57 hrs
Average Depth at Peak Storage= 1.89' , Surface Width= 18.43'
Bank-Full Depth= 5.00' Flow Area= 100.0 sf, Capacity= 640.46 cfs

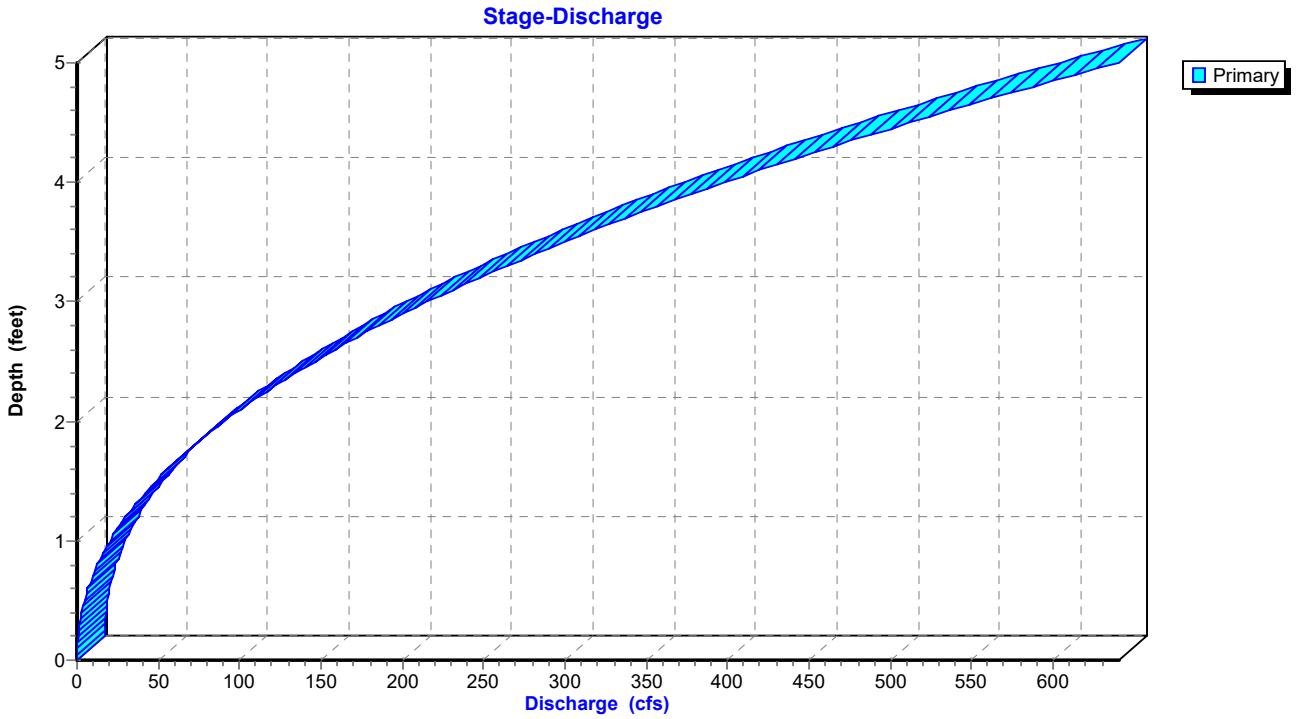
30.00' x 5.00' deep Parabolic Channel, n= 0.035
Length= 1,000.0' Slope= 0.0050 '/'
Inlet Invert= 675.00', Outlet Invert= 670.00'



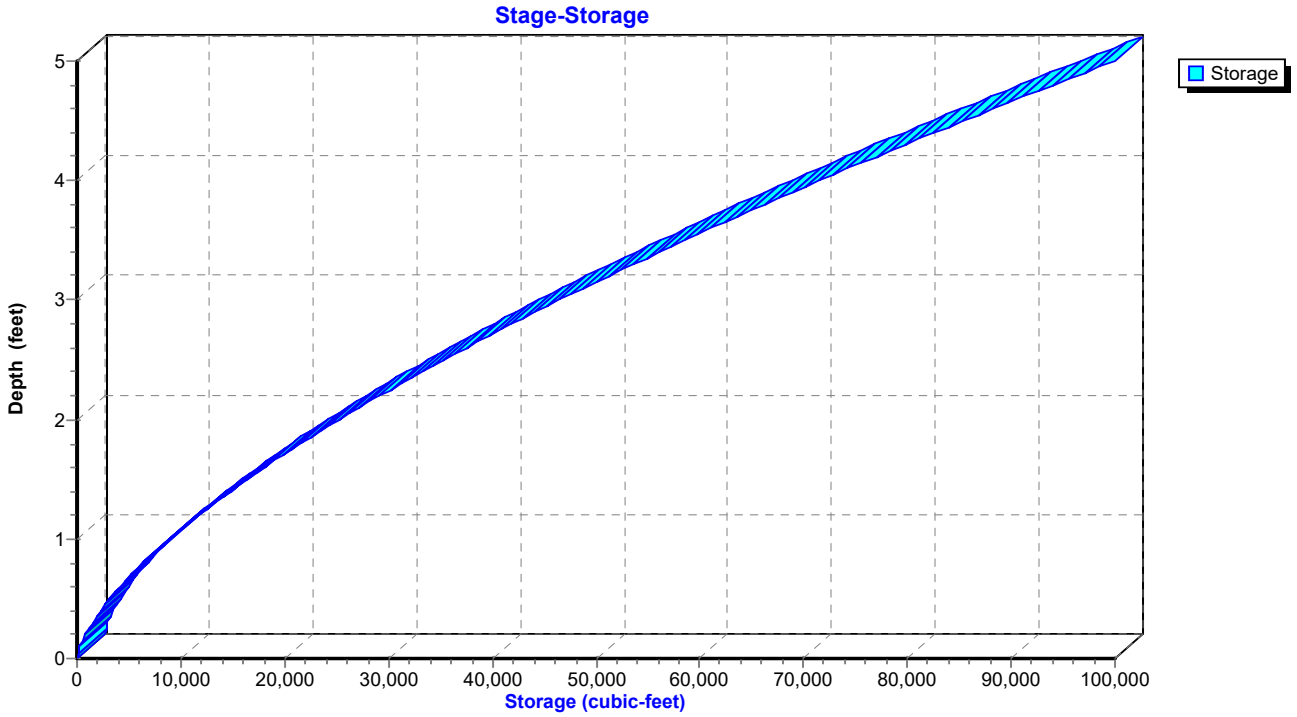
Reach OF4P: Primary Stream for Outfalls



Reach OF4P: Primary Stream for Outfalls



Reach OF4P: Primary Stream for Outfalls



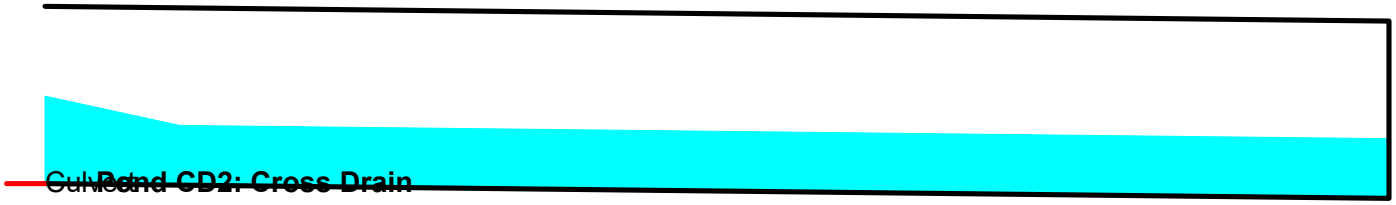
Summary for Pond CD2: Cross Drain

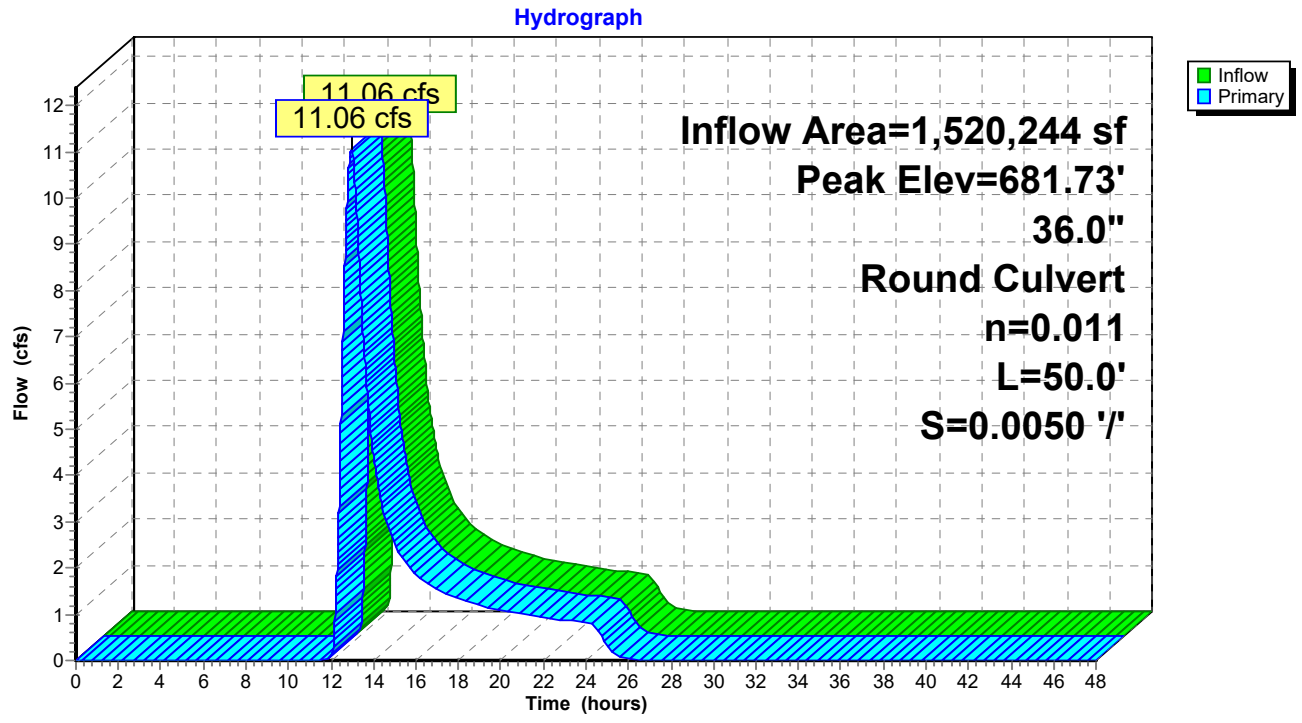
Inflow Area = 1,520,244 sf, 0.00% Impervious, Inflow Depth = 0.81" for 2-yr event
Inflow = 11.06 cfs @ 12.95 hrs, Volume= 102,914 cf
Outflow = 11.06 cfs @ 12.95 hrs, Volume= 102,914 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.06 cfs @ 12.95 hrs, Volume= 102,914 cf
Routed to Reach OF4P : Primary Stream for Outfalls

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 681.73' @ 12.95 hrs

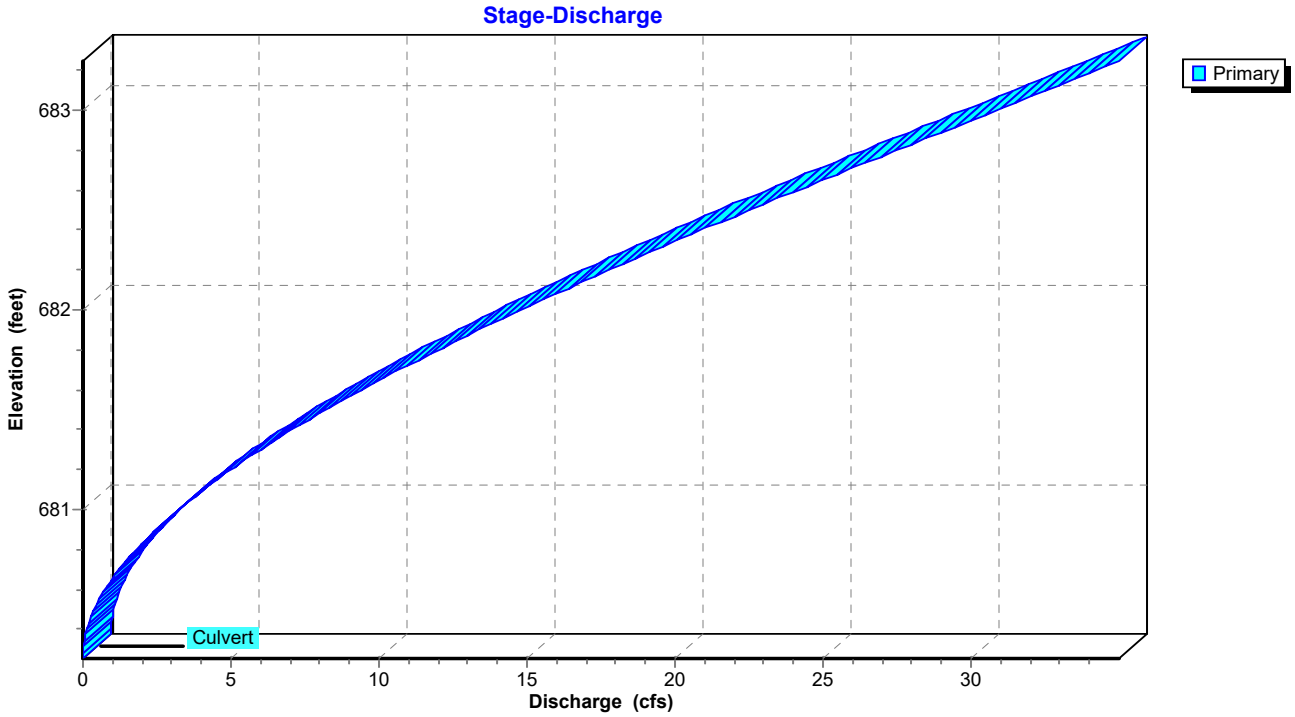
Device	Routing	Invert	Outlet Devices
#1	Primary	680.25'	**36.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 680.25' / 680.00' S= 0.0050 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=11.06 cfs @ 12.95 hrs HW=681.73' (Free Discharge)
1=Culvert (Barrel Controls 11.06 cfs @ 4.65 fps)

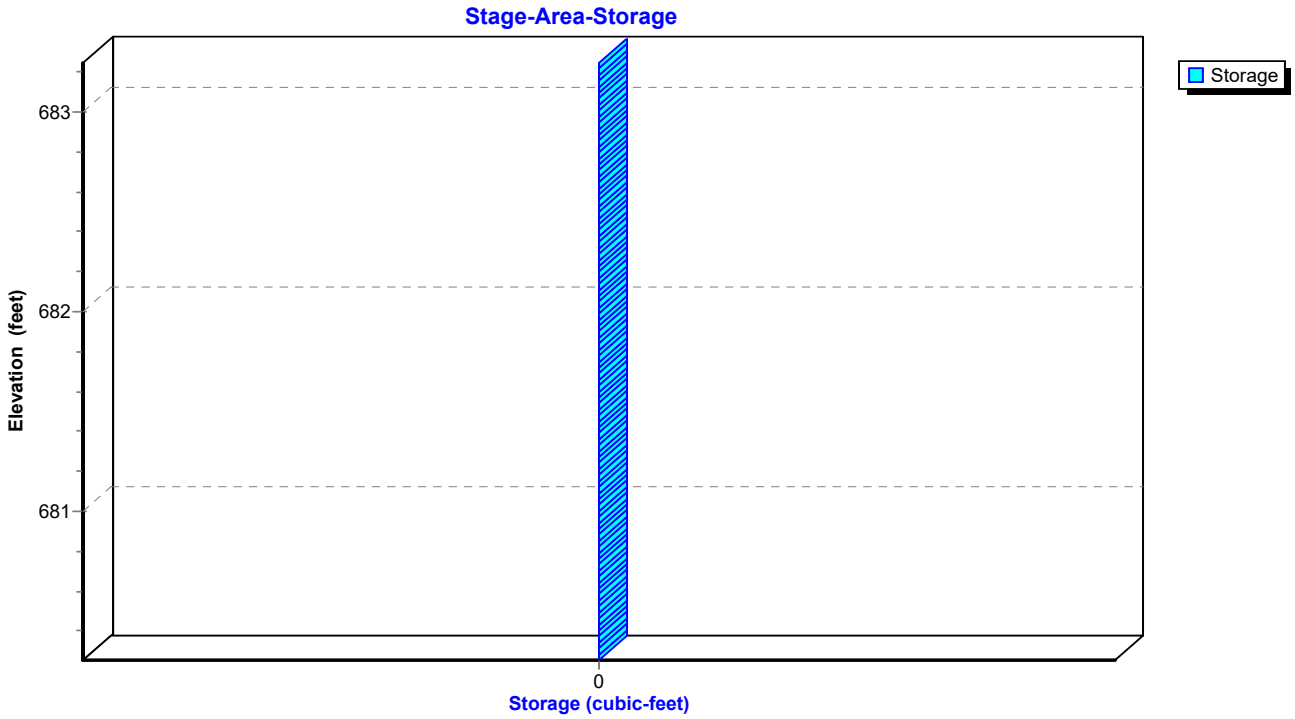




Pond CD2: Cross Drain



Pond CD2: Cross Drain



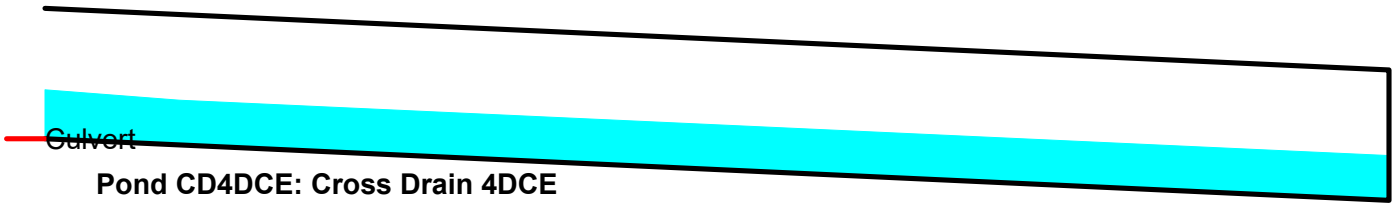
Summary for Pond CD4DCE: Cross Drain 4DCE

Inflow Area = 1,234,055 sf, 3.53% Impervious, Inflow Depth = 1.32" for 2-yr event
Inflow = 18.01 cfs @ 12.54 hrs, Volume= 135,848 cf
Outflow = 18.01 cfs @ 12.54 hrs, Volume= 135,848 cf, Atten= 0%, Lag= 0.0 min
Primary = 18.01 cfs @ 12.54 hrs, Volume= 135,848 cf
Routed to Pond POND1P : PROP POND

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 679.89' @ 12.54 hrs

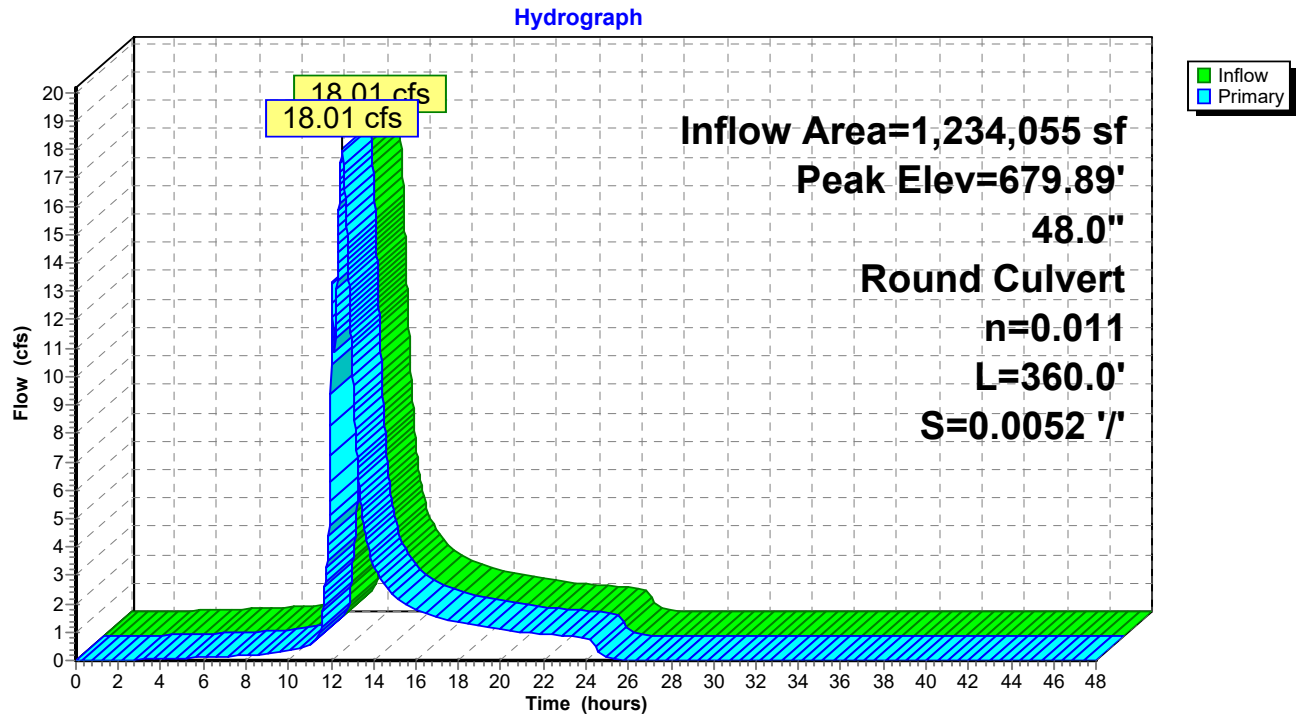
Device	Routing	Invert	Outlet Devices
#1	Primary	678.39'	**48.0" Round Culvert** L= 360.0' Ke= 0.500 Inlet / Outlet Invert= 678.39' / 676.50' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 12.57 sf

Primary OutFlow Max=18.00 cfs @ 12.54 hrs HW=679.89' (Free Discharge)
1=Culvert (Inlet Controls 18.00 cfs @ 4.17 fps)

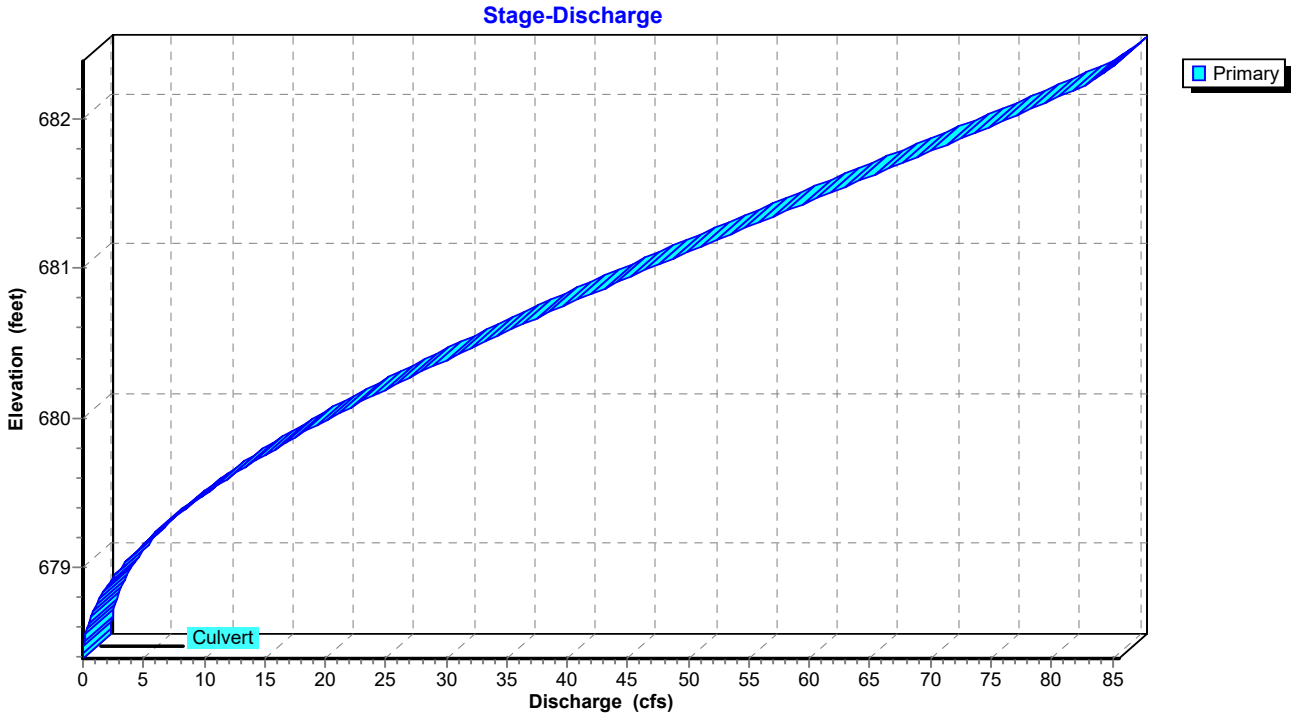


Pond CD4DCE: Cross Drain 4DCE

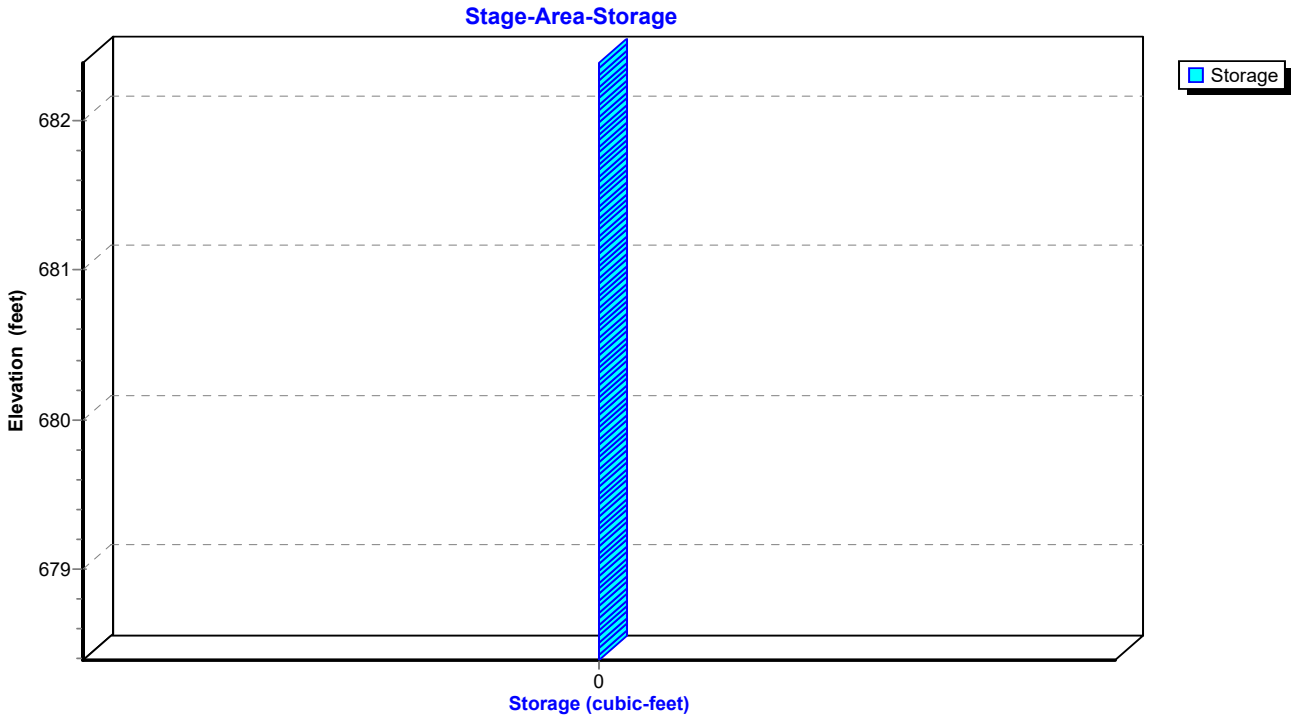
Pond CD4DCE: Cross Drain 4DCE



Pond CD4DCE: Cross Drain 4DCE



Pond CD4DCE: Cross Drain 4DCE



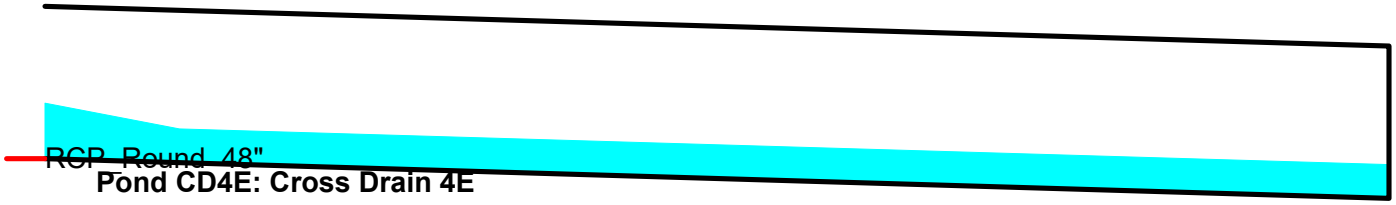
Summary for Pond CD4E: Cross Drain 4E

Inflow Area = 1,122,106 sf, 3.88% Impervious, Inflow Depth = 1.11" for 2-yr event
Inflow = 15.82 cfs @ 12.56 hrs, Volume= 103,746 cf
Outflow = 15.82 cfs @ 12.56 hrs, Volume= 103,746 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.82 cfs @ 12.56 hrs, Volume= 103,746 cf
Routed to Pond CD4DCE : Cross Drain 4DCE

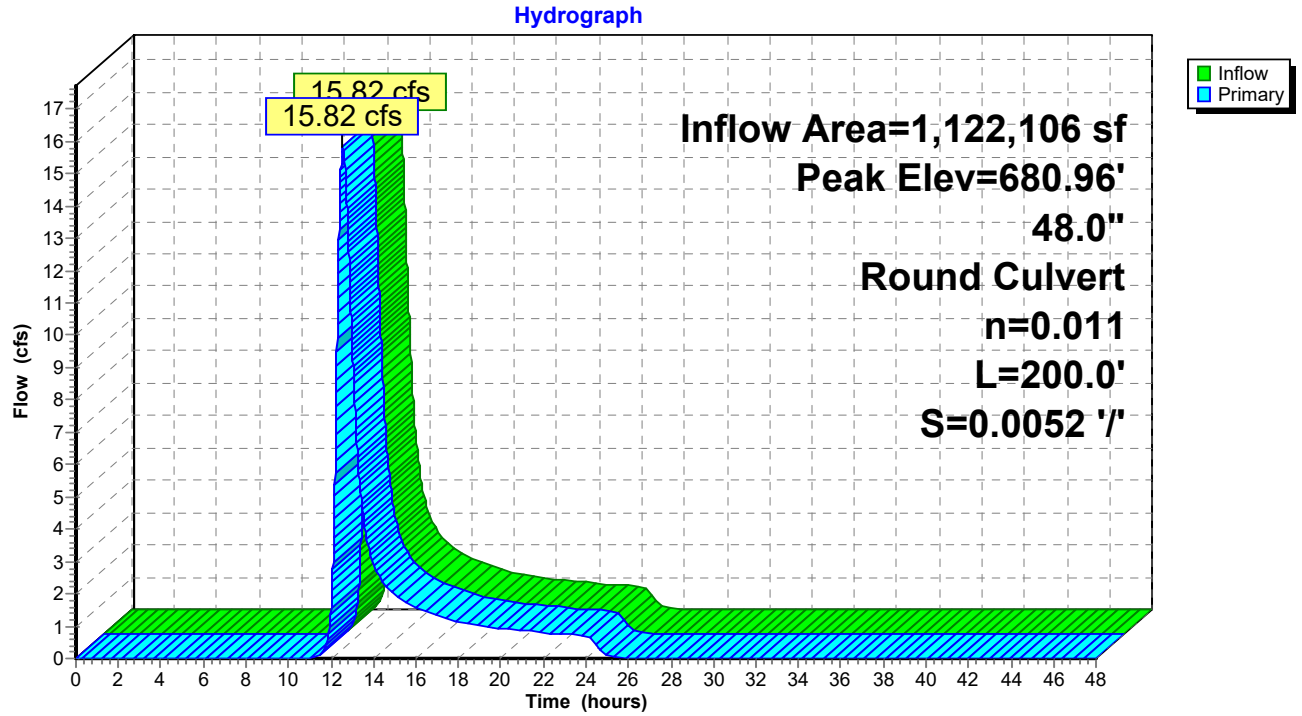
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 680.96' @ 12.56 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	679.50'	**48.0" Round RCP_Round 48"** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 679.50' / 678.46' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 12.57 sf

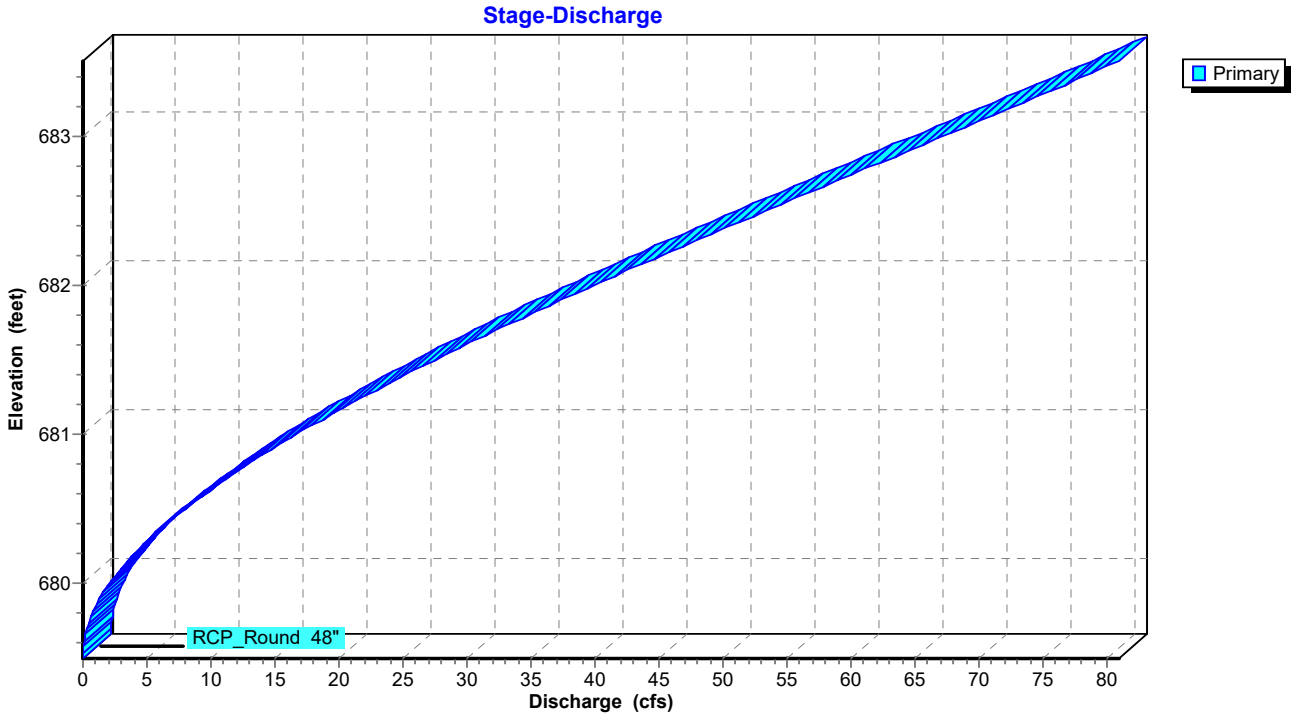
Primary OutFlow Max=15.82 cfs @ 12.56 hrs HW=680.96' (Free Discharge)
└**1=RCP_Round 48"** (Barrel Controls 15.82 cfs @ 5.68 fps)



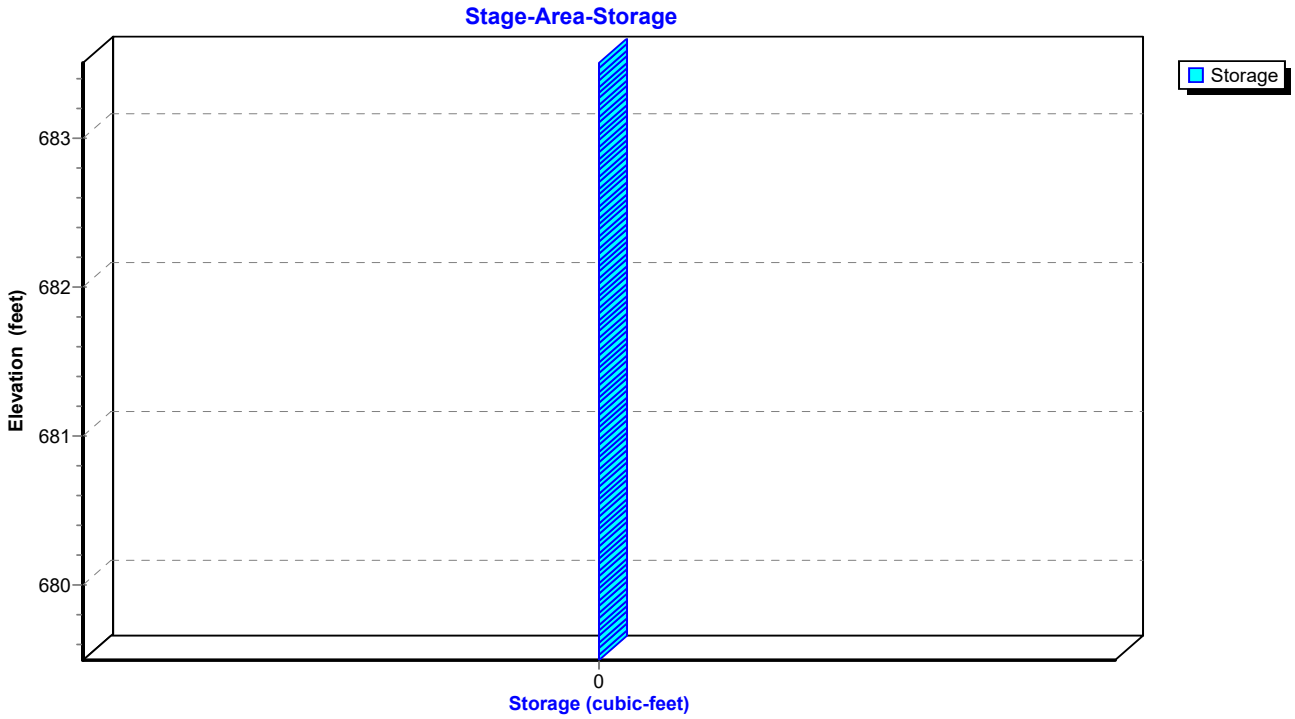
Pond CD4E: Cross Drain 4E



Pond CD4E: Cross Drain 4E



Pond CD4E: Cross Drain 4E



Summary for Pond POND1P: PROP POND

Inflow Area = 1,765,922 sf, 9.87% Impervious, Inflow Depth = 1.96" for 2-yr event
Inflow = 43.04 cfs @ 12.44 hrs, Volume= 288,362 cf
Outflow = 27.73 cfs @ 12.82 hrs, Volume= 287,796 cf, Atten= 36%, Lag= 22.8 min
Primary = 27.73 cfs @ 12.82 hrs, Volume= 287,796 cf
Routed to Reach OF4P : Primary Stream for Outfalls

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 679.29' @ 12.82 hrs Surf.Area= 31,893 sf Storage= 57,560 cf

Plug-Flow detention time= 39.1 min calculated for 287,736 cf (100% of inflow)
Center-of-Mass det. time= 38.0 min (871.7 - 833.8)

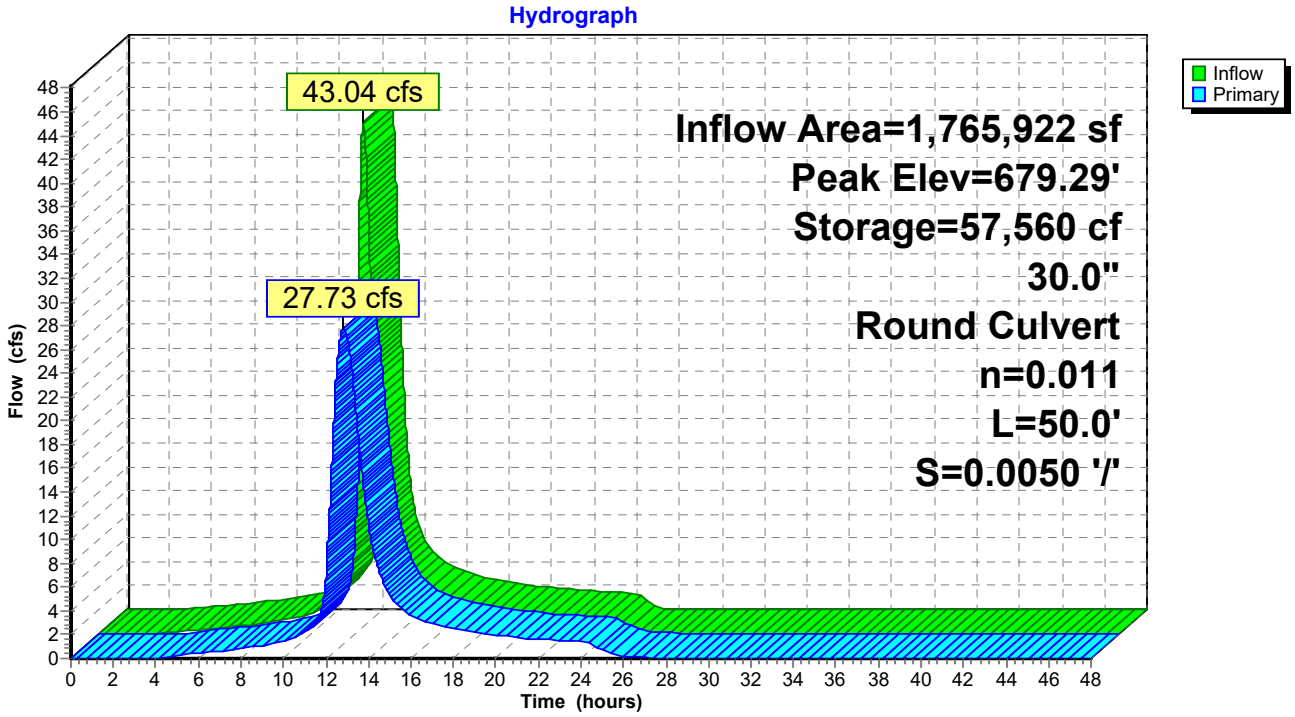
Volume	Invert	Avail.Storage	Storage Description
#1	676.00'	327,838 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
676.00	505	0	0
677.00	14,000	7,253	7,253
678.00	20,000	17,000	24,253
679.00	29,000	24,500	48,753
680.00	39,000	34,000	82,753
681.00	47,000	43,000	125,753
682.00	119,057	83,029	208,781
683.00	119,057	119,057	327,838

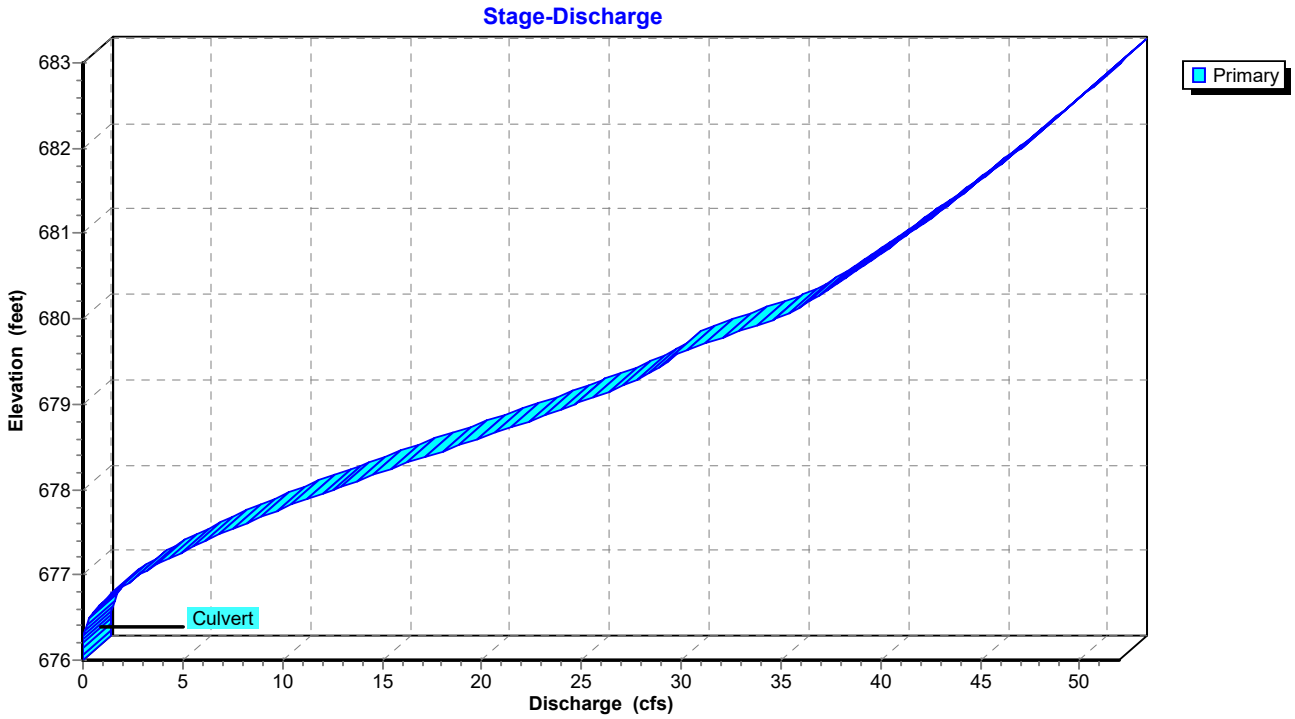
Device	Routing	Invert	Outlet Devices
#1	Primary	676.25'	**30.0" Round Culvert** L= 50.0' Ke= 0.600 Inlet / Outlet Invert= 676.25' / 676.00' S= 0.0050 '/' Cc= 0.900 n= 0.011, Flow Area= 4.91 sf

Primary OutFlow Max=27.73 cfs @ 12.82 hrs HW=679.29' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 27.73 cfs @ 5.91 fps)

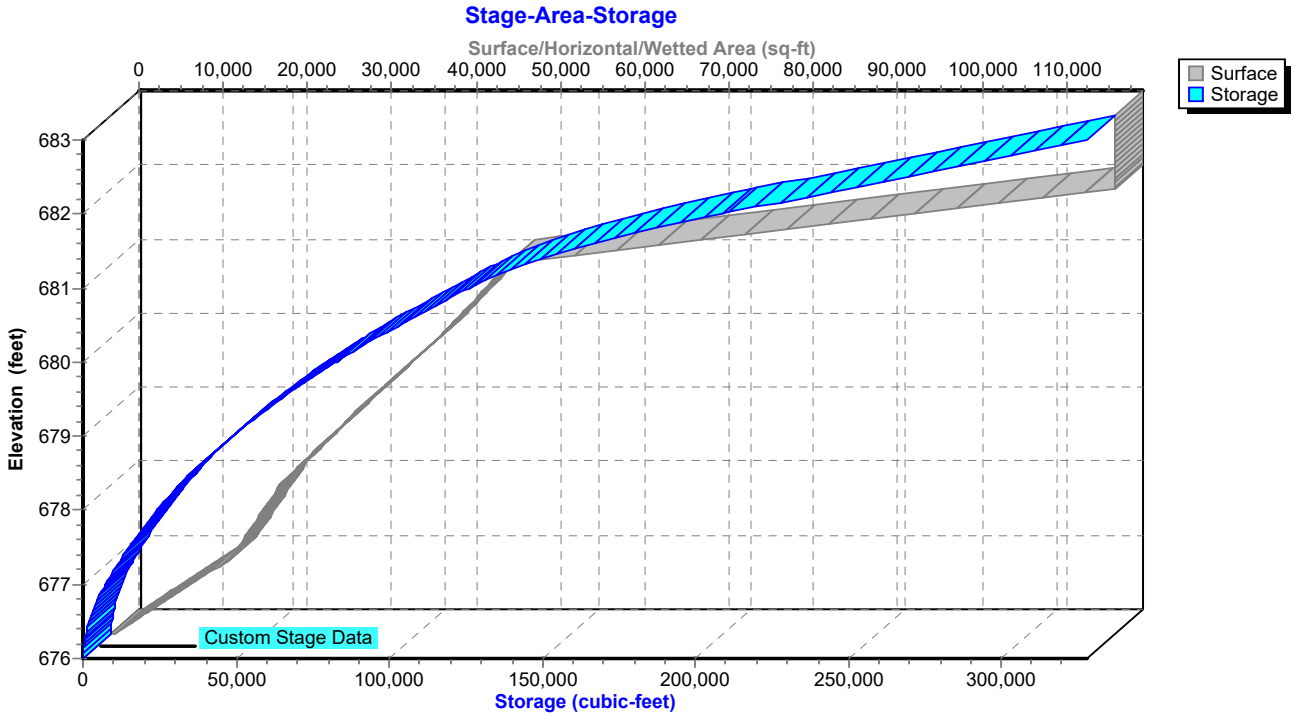
Pond POND1P: PROP POND



Pond POND1P: PROP POND



Pond POND1P: PROP POND



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment DA 1: BASIN 1 PRE Runoff Area=143.000 ac 1.75% Impervious Runoff Depth=2.25"
Flow Length=5,750' Tc=143.0 min CN=75 Runoff=85.33 cfs 1,166,980 cf

Subcatchment DA 2: BASIN 2 PRE Runoff Area=34.900 ac 0.00% Impervious Runoff Depth=1.29"
Flow Length=2,150' Slope=0.0150 '/' Tc=62.3 min CN=62 Runoff=19.26 cfs 162,997 cf

Subcatchment DA 3: BASIN 3 PRE Runoff Area=9.540 ac 0.00% Impervious Runoff Depth=2.01"
Flow Length=500' Slope=0.0200 '/' Tc=20.2 min CN=72 Runoff=15.67 cfs 69,509 cf

Subcatchment DA 4: BASIN 4 PRE Runoff Area=41.500 ac 0.00% Impervious Runoff Depth=1.85"
Flow Length=1,500' Tc=50.3 min CN=70 Runoff=39.97 cfs 279,135 cf

Subcatchment DA1P: BASIN 1 PROPOSED Runoff Area=143.000 ac 1.75% Impervious Runoff Depth=2.25"
Flow Length=5,750' Tc=143.0 min CN=75 Runoff=85.33 cfs 1,166,980 cf

Subcatchment DA2P: BASIN 2 PROPOSED Runoff Area=34.900 ac 0.00% Impervious Runoff Depth=1.29"
Flow Length=2,150' Slope=0.0150 '/' Tc=62.3 min CN=62 Runoff=19.26 cfs 162,997 cf

Subcatchment DA3P: BASIN 3 PRE Runoff Area=2.130 ac 0.00% Impervious Runoff Depth=2.59"
Tc=5.0 min CN=79 Runoff=7.85 cfs 20,008 cf

Subcatchment DA4A: BASIN 4A PROPOSED Runoff Area=4.970 ac 0.00% Impervious Runoff Depth=1.70"
Flow Length=300' Tc=28.4 min CN=68 Runoff=5.74 cfs 30,738 cf

Subcatchment DA4B: BASIN 4B Runoff Area=12.210 ac 24.57% Impervious Runoff Depth=4.28"
Flow Length=1,000' Tc=33.8 min CN=96 Runoff=31.91 cfs 189,884 cf

Subcatchment DA4C: BASIN 4C PROPOSED Runoff Area=1.090 ac 0.00% Impervious Runoff Depth=4.28"
Tc=5.0 min CN=96 Runoff=6.12 cfs 16,951 cf

Subcatchment DA4D: BASIN 4D PROPOSED Runoff Area=1.480 ac 0.00% Impervious Runoff Depth=4.28"
Tc=5.0 min CN=96 Runoff=8.30 cfs 23,016 cf

Subcatchment DA4E1: BASIN 4E1 Runoff Area=8.360 ac 11.96% Impervious Runoff Depth=1.42"
Flow Length=500' Tc=28.1 min CN=64 Runoff=7.79 cfs 43,111 cf

Subcatchment DA4E2: BASIN 4E2 Runoff Area=17.400 ac 0.00% Impervious Runoff Depth=1.78"
Flow Length=1,000' Tc=41.1 min CN=69 Runoff=17.74 cfs 112,284 cf

Reach CD4C: Cross Drain 4C Avg. Flow Depth=0.41' Max Vel=14.61 fps Inflow=5.77 cfs 16,951 cf
18.0" Round Pipe n=0.011 L=60.0' S=0.0792 '/' Capacity=34.93 cfs Outflow=5.77 cfs 16,951 cf

Reach D4C: Ditch 4C Avg. Flow Depth=0.72' Max Vel=2.70 fps Inflow=6.12 cfs 16,951 cf
n=0.033 L=313.0' S=0.0104 '/' Capacity=27.19 cfs Outflow=5.77 cfs 16,951 cf

Reach D4D: Ditch 4D Avg. Flow Depth=0.78' Max Vel=3.35 fps Inflow=8.30 cfs 23,016 cf
n=0.033 L=337.0' S=0.0148 '/' Capacity=32.50 cfs Outflow=7.93 cfs 23,016 cf

Reach D4E1: Ditch 4E1 Avg. Flow Depth=0.94' Max Vel=2.37 fps Inflow=7.79 cfs 43,111 cf
n=0.033 L=740.0' S=0.0061 '/' Capacity=103.92 cfs Outflow=7.52 cfs 43,111 cf

Reach OF4: Primary Stream for Avg. Flow Depth=2.16' Max Vel=3.75 fps Inflow=106.39 cfs 1,678,621 cf
n=0.035 L=1,000.0' S=0.0050 '/' Capacity=640.46 cfs Outflow=106.20 cfs 1,678,621 cf

Reach OF4P: Primary Stream for Avg. Flow Depth=2.27' Max Vel=3.87 fps Inflow=118.61 cfs 1,765,403 cf
n=0.035 L=1,000.0' S=0.0050 '/' Capacity=640.46 cfs Outflow=118.35 cfs 1,765,401 cf

Pond CD2: Cross Drain Peak Elev=682.30' Inflow=19.26 cfs 162,997 cf
36.0" Round Culvert n=0.011 L=50.0' S=0.0050 '/' Outflow=19.26 cfs 162,997 cf

Pond CD4DCE: Cross Drain 4DCE Peak Elev=680.31' Inflow=27.84 cfs 195,363 cf
48.0" Round Culvert n=0.011 L=360.0' S=0.0052 '/' Outflow=27.84 cfs 195,363 cf

Pond CD4E: Cross Drain 4E Peak Elev=681.39' Inflow=24.90 cfs 155,395 cf
48.0" Round Culvert n=0.011 L=200.0' S=0.0052 '/' Outflow=24.90 cfs 155,395 cf

Pond POND1P: PROP POND Peak Elev=680.04' Storage=84,175 cf Inflow=58.83 cfs 385,246 cf
30.0" Round Culvert n=0.011 L=50.0' S=0.0050 '/' Outflow=35.13 cfs 384,680 cf

Total Runoff Area = 19,797,149 sf Runoff Volume = 3,444,590 cf Average Runoff Depth = 2.09"
98.02% Pervious = 19,405,109 sf 1.98% Impervious = 392,040 sf

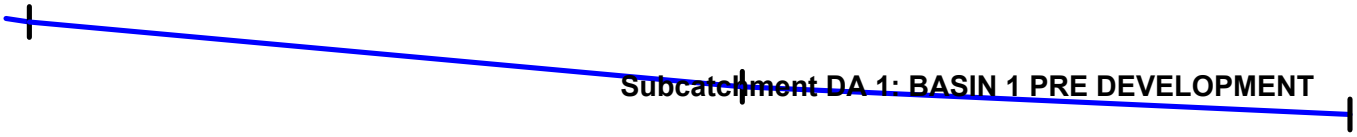
Summary for Subcatchment DA 1: BASIN 1 PRE DEVELOPMENT

Runoff = 85.33 cfs @ 13.83 hrs, Volume= 1,166,980 cf, Depth= 2.25"
Routed to Reach OF4 : Primary Stream for Outfalls

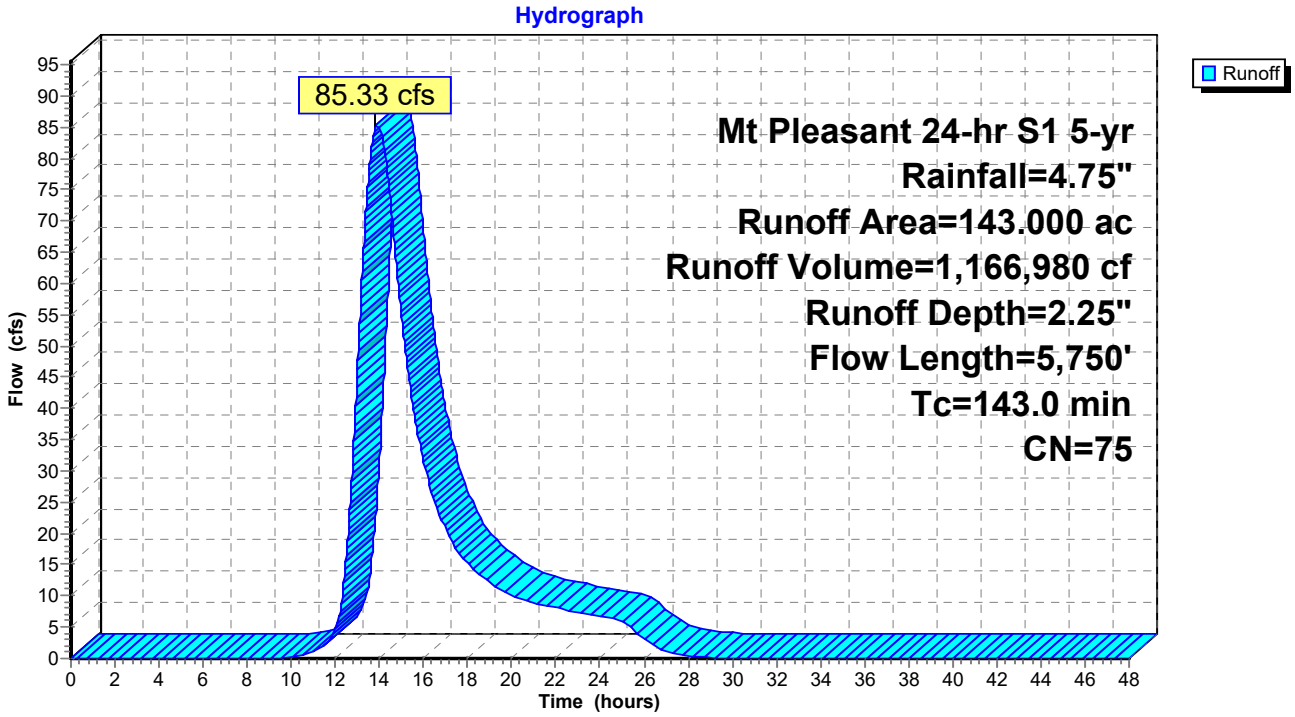
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
69.500	74	>75% Grass cover, Good, HSG C
71.000	76	Woods/grass comb., Fair, HSG C
2.500	98	Paved parking, HSG C
143.000	75	Weighted Average
140.500		98.25% Pervious Area
2.500		1.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.4	100	0.0200	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
92.8	3,050	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	2,600	0.0060	2.93	11.71	**Channel Flow,** Area= 4.0 sf Perim= 6.0' r= 0.67' n= 0.030
143.0	5,750	Total			



Subcatchment DA 1: BASIN 1 PRE DEVELOPMENT



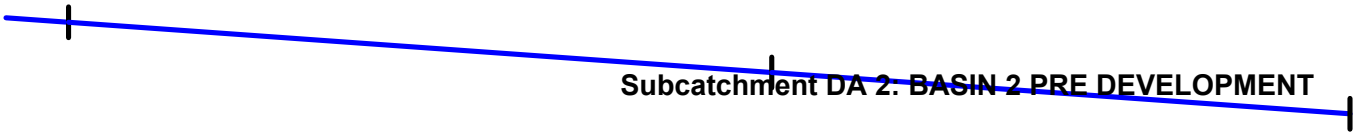
Summary for Subcatchment DA 2: BASIN 2 PRE DEVELOPMENT

Runoff = 19.26 cfs @ 12.94 hrs, Volume= 162,997 cf, Depth= 1.29"
Routed to Reach OF4 : Primary Stream for Outfalls

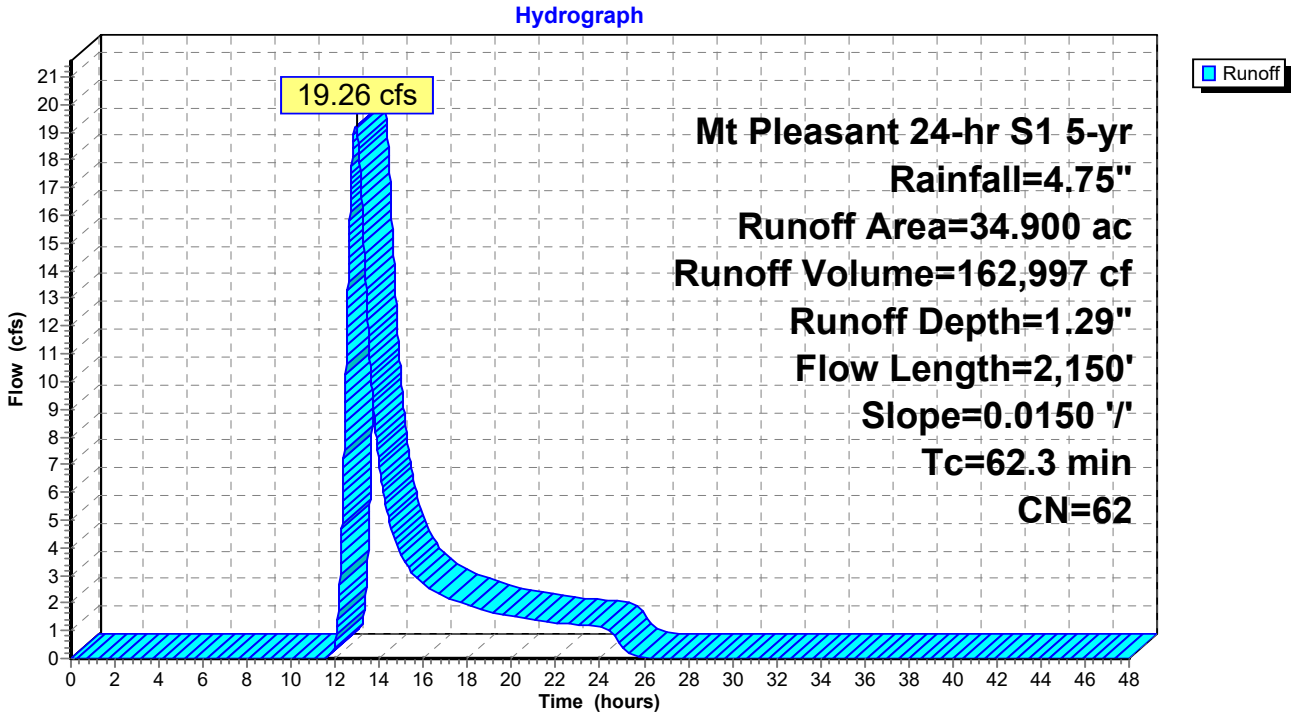
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
17.450	58	Meadow, non-grazed, HSG B
14.450	60	Woods, Fair, HSG B
3.000	96	Gravel surface, HSG C
34.900	62	Weighted Average
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0150	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
21.9	1,125	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	925	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.3	2,150	Total			



Subcatchment DA 2: BASIN 2 PRE DEVELOPMENT



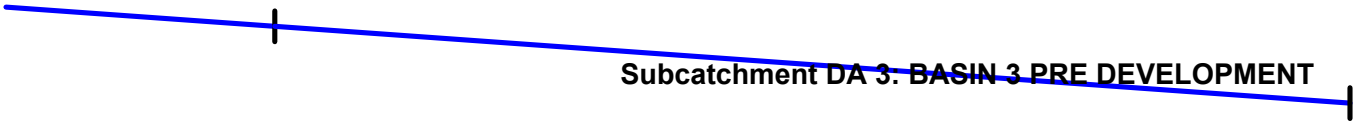
Summary for Subcatchment DA 3: BASIN 3 PRE DEVELOPMENT

Runoff = 15.67 cfs @ 12.25 hrs, Volume= 69,509 cf, Depth= 2.01"
Routed to Reach OF4 : Primary Stream for Outfalls

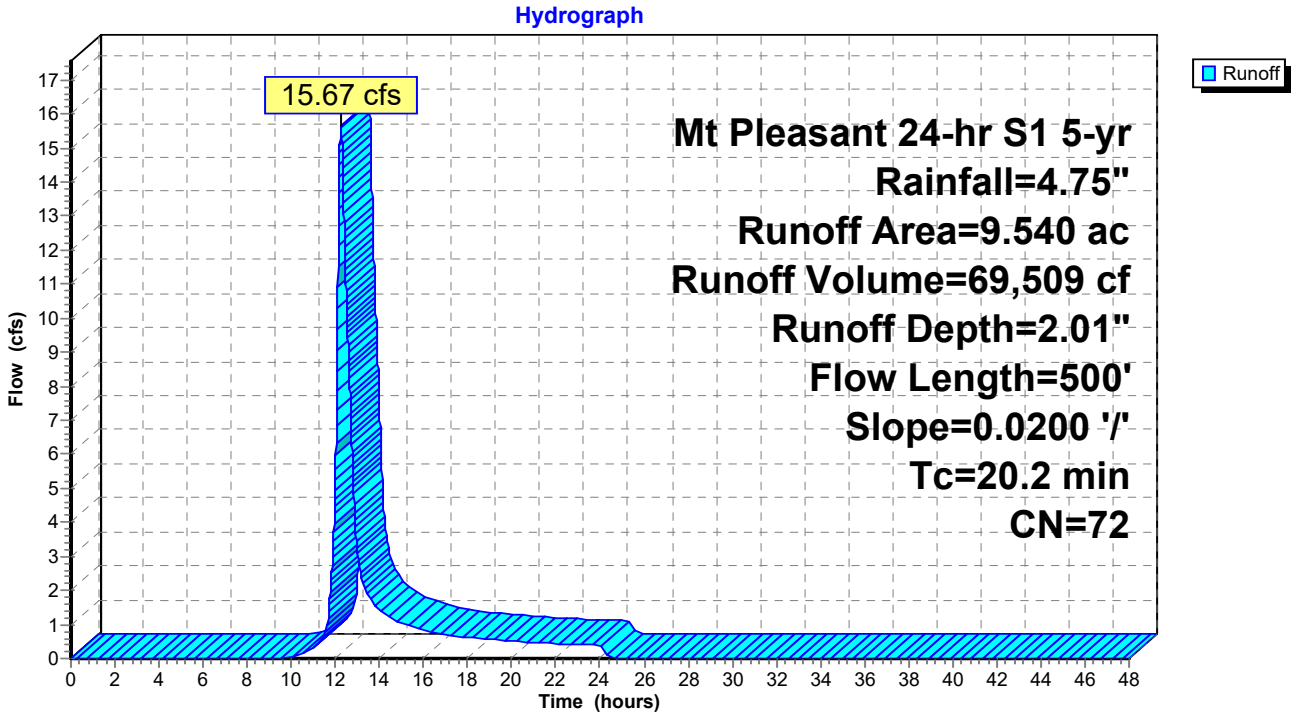
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
3.340	78	Meadow, non-grazed, HSG D
3.340	79	Woods, Fair, HSG D
2.290	58	Meadow, non-grazed, HSG B
0.570	60	Woods, Fair, HSG B
9.540	72	Weighted Average
9.540		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0200	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
6.7	400	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.2	500	Total			



Subcatchment DA 3: BASIN 3 PRE DEVELOPMENT



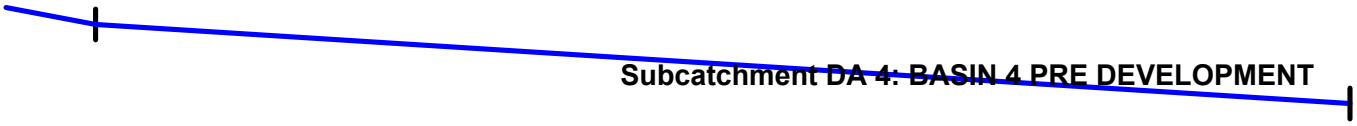
Summary for Subcatchment DA 4: BASIN 4 PRE DEVELOPMENT

Runoff = 39.97 cfs @ 12.69 hrs, Volume= 279,135 cf, Depth= 1.85"
Routed to Reach OF4 : Primary Stream for Outfalls

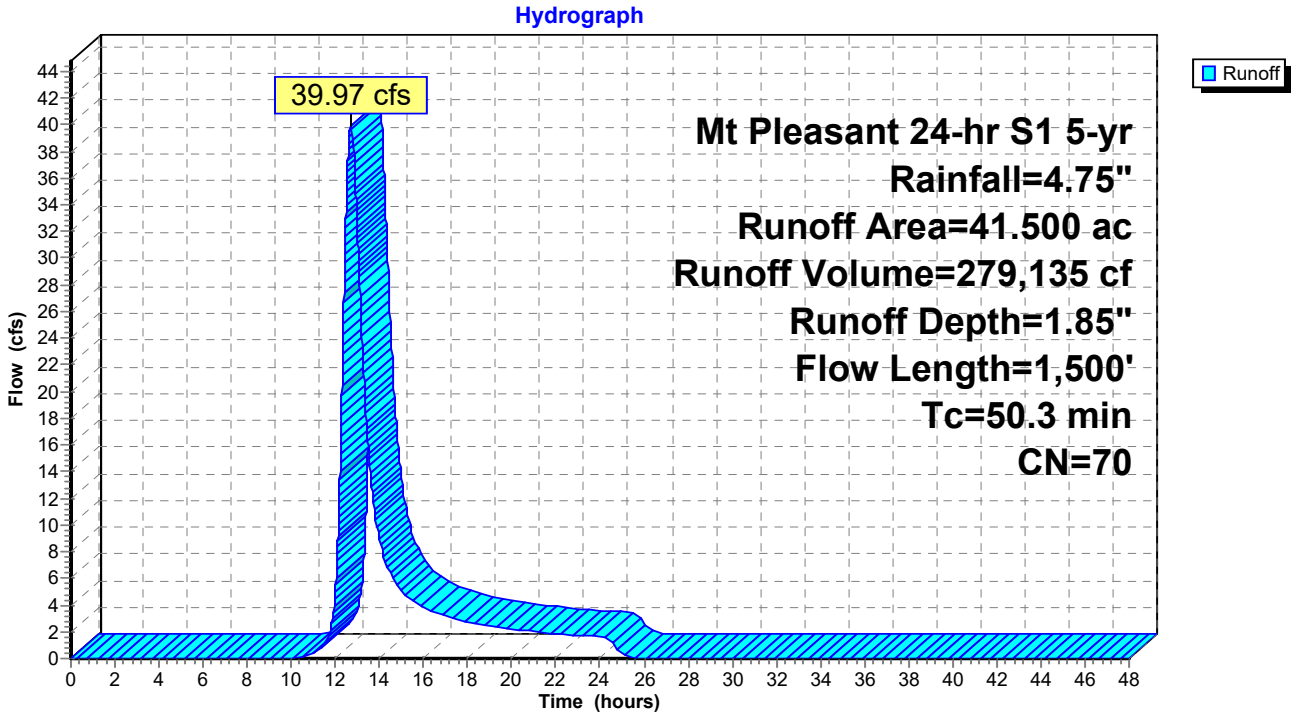
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
7.300	78	Meadow, non-grazed, HSG D
1.830	79	Woods, Fair, HSG D
7.640	58	Meadow, non-grazed, HSG B
1.910	60	Woods, Fair, HSG B
4.150	73	Woods, Fair, HSG C
9.960	71	Meadow, non-grazed, HSG C
2.490	73	Woods, Fair, HSG C
4.970	71	Meadow, non-grazed, HSG C
1.250	73	Woods, Fair, HSG C
41.500	70	Weighted Average
41.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
25.8	1,400	0.0167	0.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
50.3	1,500	Total			



Subcatchment DA 4: BASIN 4 PRE DEVELOPMENT



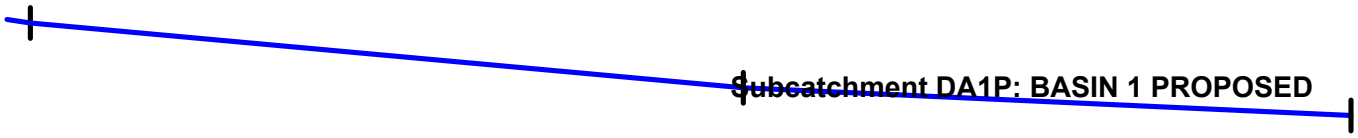
Summary for Subcatchment DA1P: BASIN 1 PROPOSED

Runoff = 85.33 cfs @ 13.83 hrs, Volume= 1,166,980 cf, Depth= 2.25"
Routed to Reach OF4P : Primary Stream for Outfalls

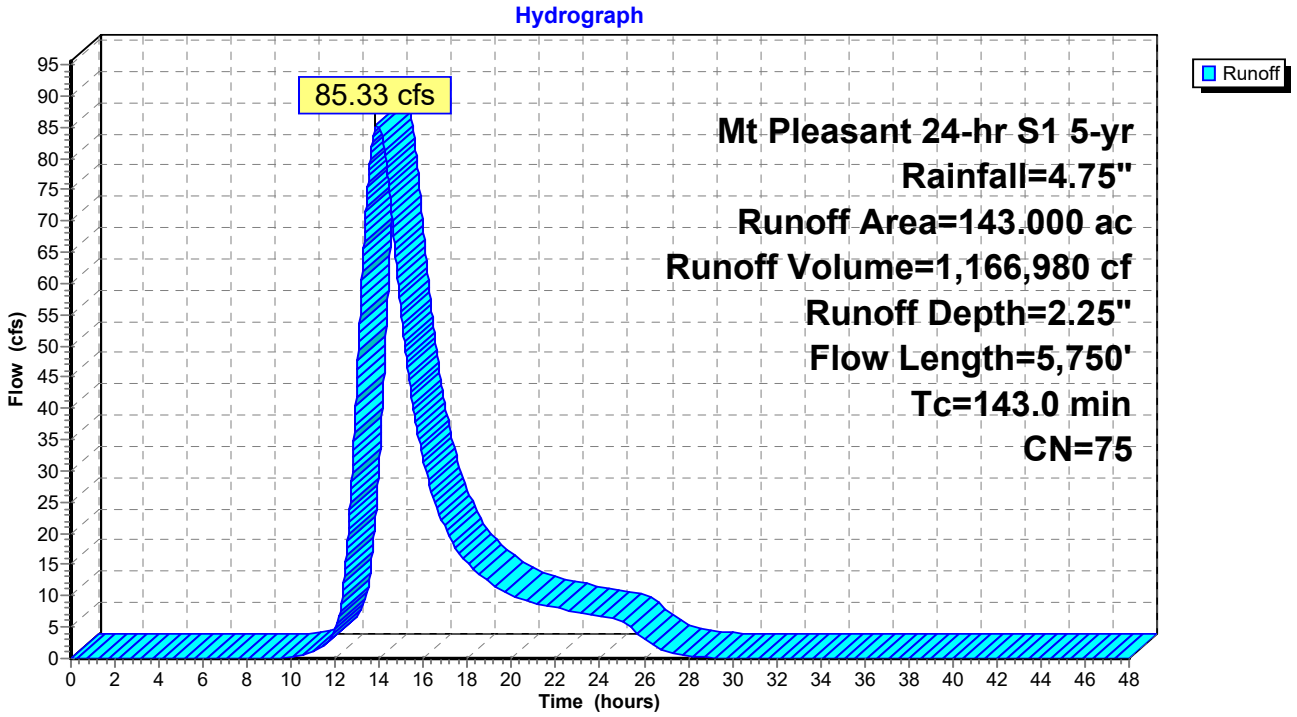
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
69.500	74	>75% Grass cover, Good, HSG C
71.000	76	Woods/grass comb., Fair, HSG C
2.500	98	Paved parking, HSG C
143.000	75	Weighted Average
140.500		98.25% Pervious Area
2.500		1.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.4	100	0.0200	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
92.8	3,050	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	2,600	0.0060	2.93	11.71	**Channel Flow,** Area= 4.0 sf Perim= 6.0' r= 0.67' n= 0.030
143.0	5,750	Total			



Subcatchment DA1P: BASIN 1 PROPOSED



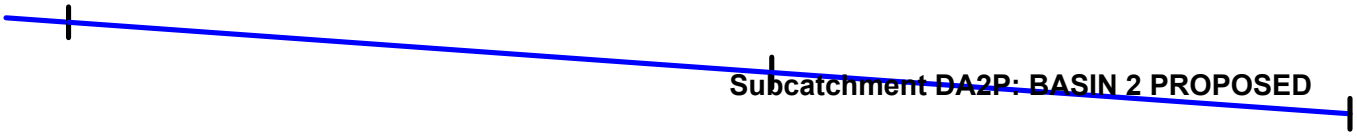
Summary for Subcatchment DA2P: BASIN 2 PROPOSED

Runoff = 19.26 cfs @ 12.94 hrs, Volume= 162,997 cf, Depth= 1.29"
Routed to Pond CD2 : Cross Drain

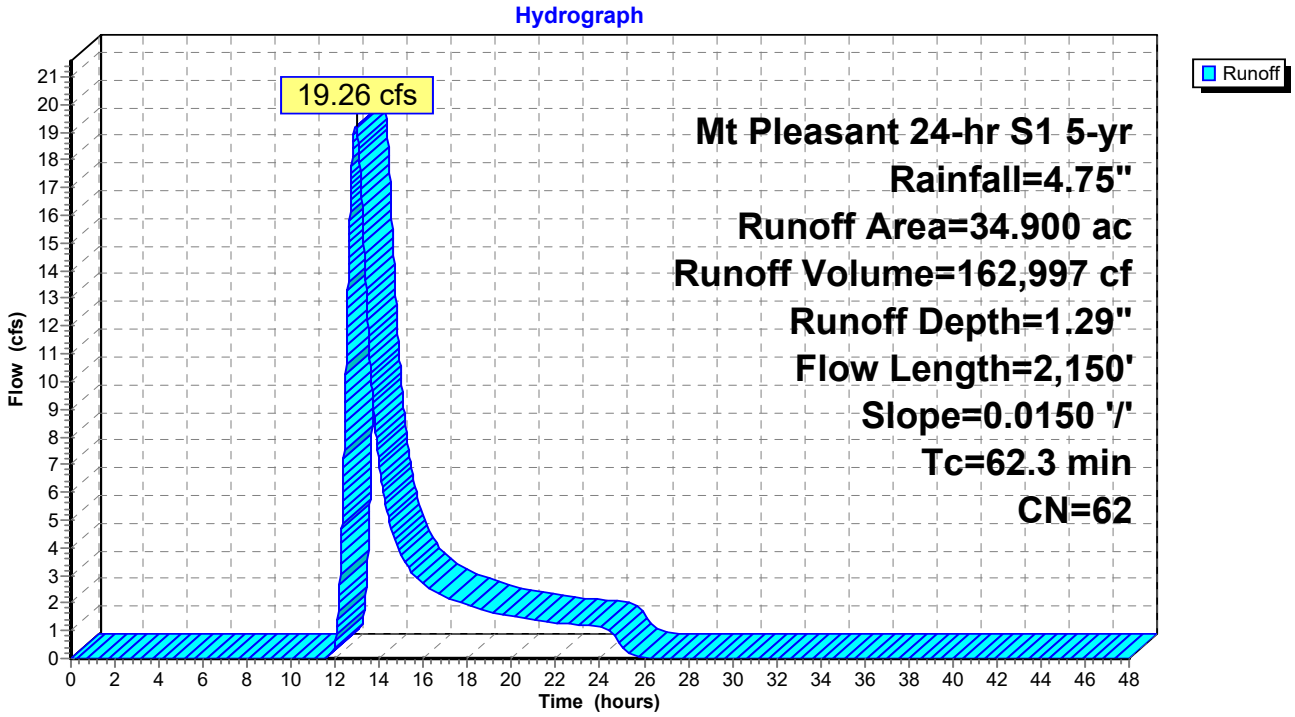
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
17.450	58	Meadow, non-grazed, HSG B
14.450	60	Woods, Fair, HSG B
3.000	96	Gravel surface, HSG C
34.900	62	Weighted Average
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0150	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
21.9	1,125	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	925	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.3	2,150	Total			



Subcatchment DA2P: BASIN 2 PROPOSED



Summary for Subcatchment DA3P: BASIN 3 PRE DEVELOPMENT

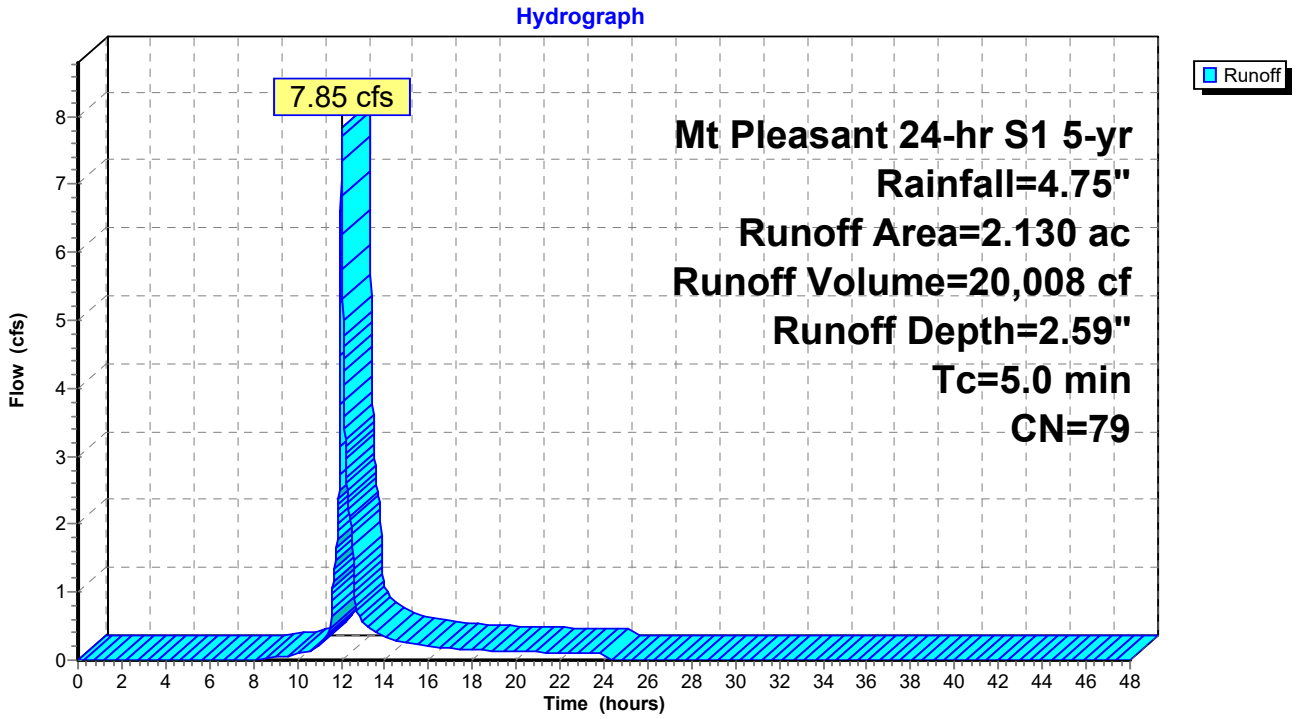
Runoff = 7.85 cfs @ 12.03 hrs, Volume= 20,008 cf, Depth= 2.59"
Routed to Reach OF4P : Primary Stream for Outfalls

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
2.130	79	Woods, Fair, HSG D
2.130		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA3P: BASIN 3 PRE DEVELOPMENT



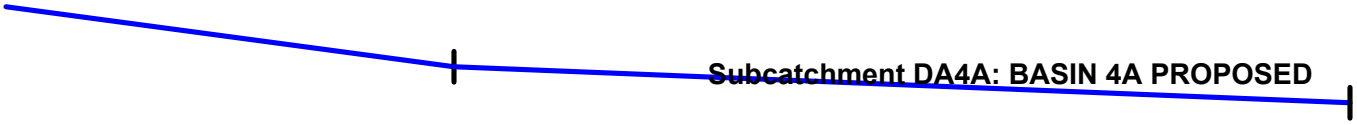
Summary for Subcatchment DA4A: BASIN 4A PROPOSED

Runoff = 5.74 cfs @ 12.38 hrs, Volume= 30,738 cf, Depth= 1.70"
Routed to Reach OF4P : Primary Stream for Outfalls

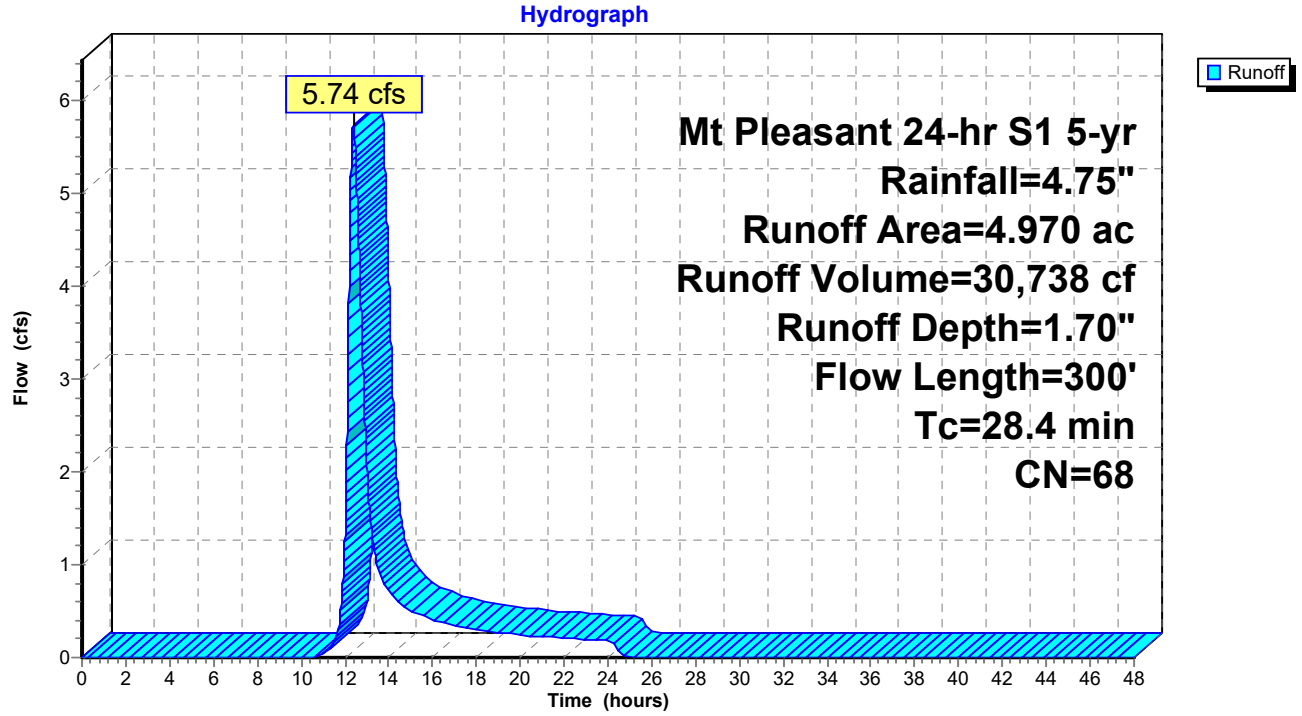
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
1.910	60	Woods, Fair, HSG B
3.060	73	Woods, Fair, HSG C
4.970	68	Weighted Average
4.970		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
3.9	200	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
28.4	300	Total			



Subcatchment DA4A: BASIN 4A PROPOSED



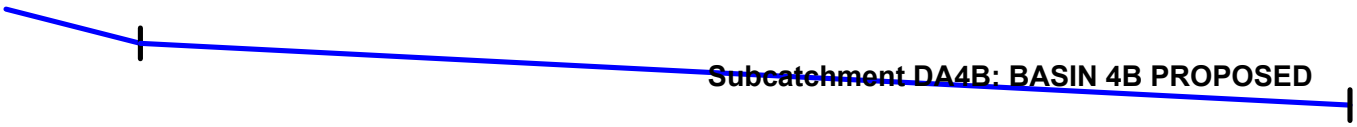
Summary for Subcatchment DA4B: BASIN 4B PROPOSED

Runoff = 31.91 cfs @ 12.40 hrs, Volume= 189,884 cf, Depth= 4.28"
Routed to Pond POND1P : PROP POND

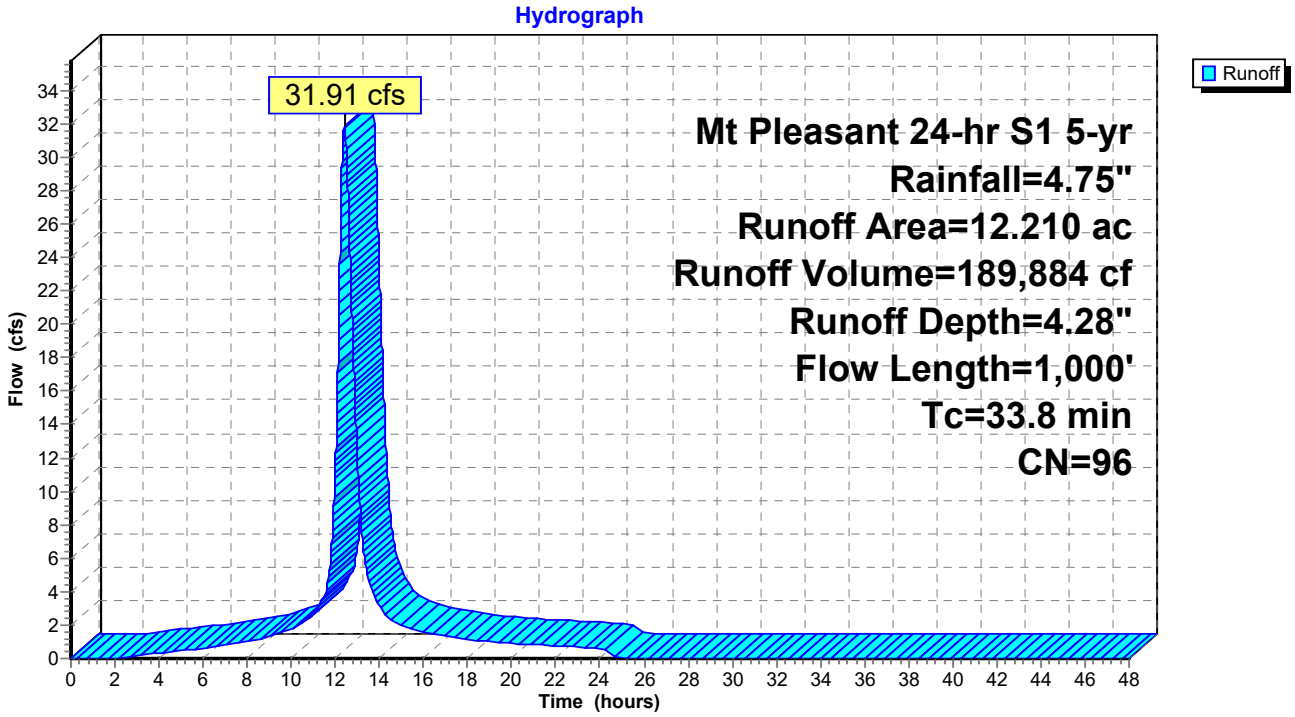
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
9.210	96	Gravel surface, HSG C
1.000	98	Paved parking, HSG D
2.000	98	Roofs, HSG D
12.210	96	Weighted Average
9.210		75.43% Pervious Area
3.000		24.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** n= 0.800 P2= 3.57"
9.3	900	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
33.8	1,000	Total			



Subcatchment DA4B: BASIN 4B PROPOSED



Summary for Subcatchment DA4C: BASIN 4C PROPOSED

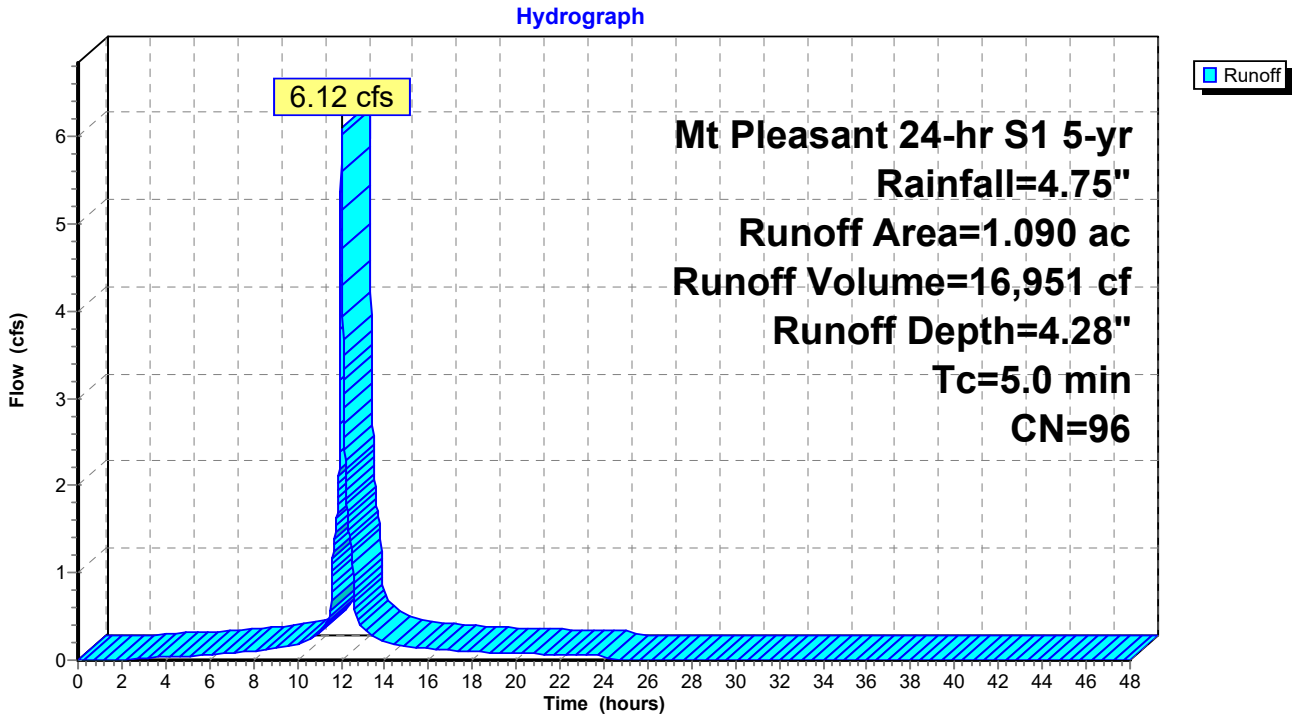
Runoff = 6.12 cfs @ 12.03 hrs, Volume= 16,951 cf, Depth= 4.28"
Routed to Reach D4C : Ditch 4C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
1.090	96	Gravel surface, HSG C
1.090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA4C: BASIN 4C PROPOSED



Summary for Subcatchment DA4D: BASIN 4D PROPOSED

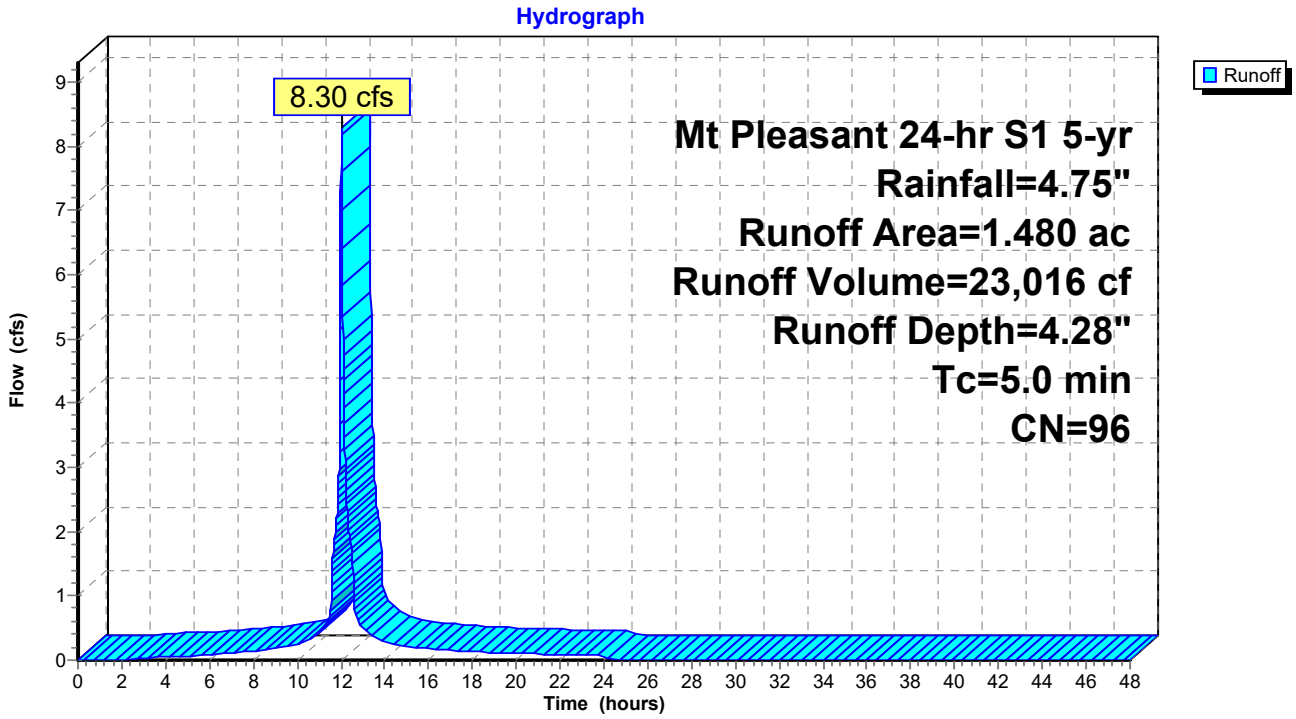
Runoff = 8.30 cfs @ 12.03 hrs, Volume= 23,016 cf, Depth= 4.28"
Routed to Reach D4D : Ditch 4D

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
1.480	96	Gravel surface, HSG C
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA4D: BASIN 4D PROPOSED



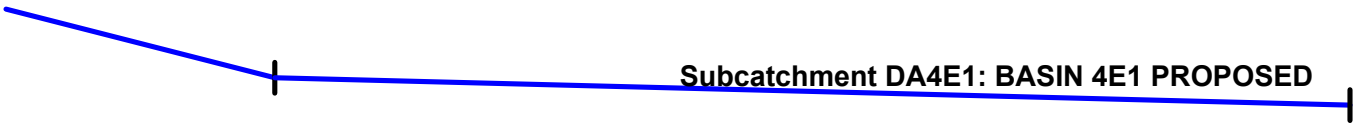
Summary for Subcatchment DA4E1: BASIN 4E1 PROPOSED

Runoff = 7.79 cfs @ 12.39 hrs, Volume= 43,111 cf, Depth= 1.42"
Routed to Reach D4E1 : Ditch 4E1

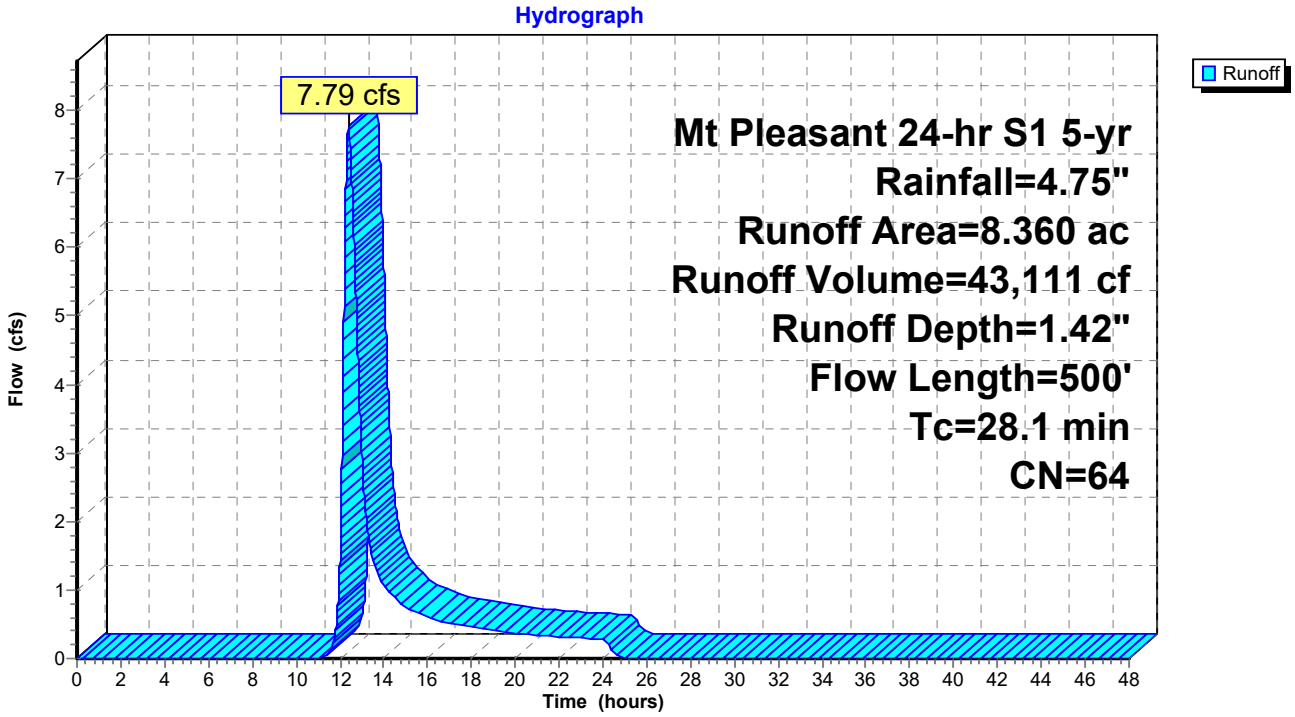
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
3.680	58	Meadow, non-grazed, HSG B
3.680	60	Woods, Fair, HSG B
1.000	98	Paved roads w/curbs & sewers, HSG B
8.360	64	Weighted Average
7.360		88.04% Pervious Area
1.000		11.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.1000	0.09		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
9.5	400	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
28.1	500	Total			



Subcatchment DA4E1: BASIN 4E1 PROPOSED



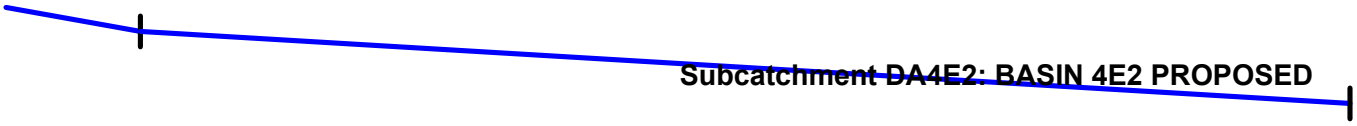
Summary for Subcatchment DA4E2: BASIN 4E2 PROPOSED

Runoff = 17.74 cfs @ 12.56 hrs, Volume= 112,284 cf, Depth= 1.78"
Routed to Pond CD4E : Cross Drain 4E

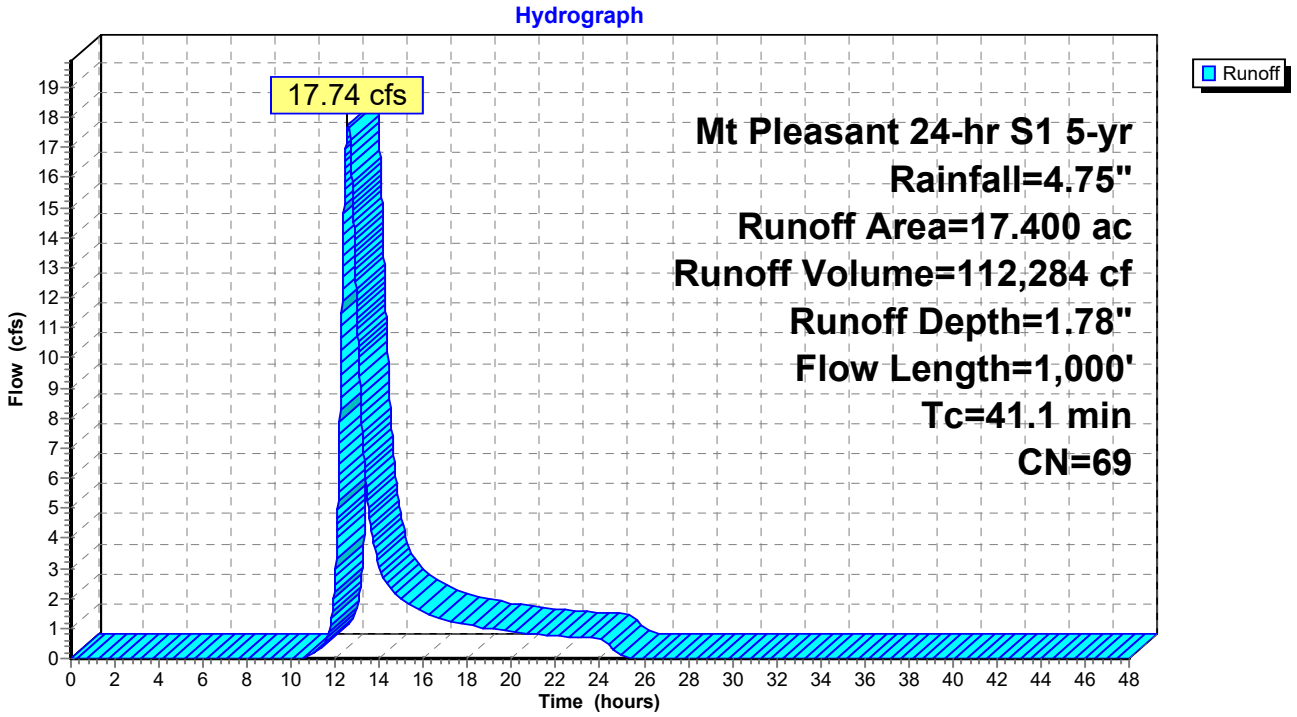
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 5-yr Rainfall=4.75"

Area (ac)	CN	Description
8.700	79	Woods, Fair, HSG D
4.350	58	Meadow, non-grazed, HSG B
4.350	60	Woods, Fair, HSG B
17.400	69	Weighted Average
17.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
16.6	900	0.0167	0.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
41.1	1,000	Total			



Subcatchment DA4E2: BASIN 4E2 PROPOSED



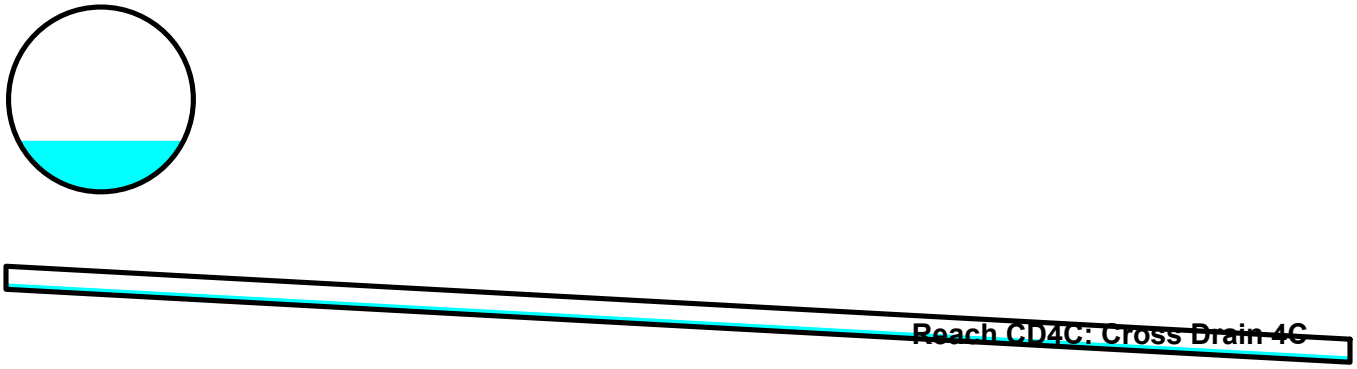
Summary for Reach CD4C: Cross Drain 4C

Inflow Area = 47,480 sf, 0.00% Impervious, Inflow Depth = 4.28" for 5-yr event
Inflow = 5.77 cfs @ 12.05 hrs, Volume= 16,951 cf
Outflow = 5.77 cfs @ 12.05 hrs, Volume= 16,951 cf, Atten= 0%, Lag= 0.1 min
Routed to Pond CD4DCE : Cross Drain 4DCE

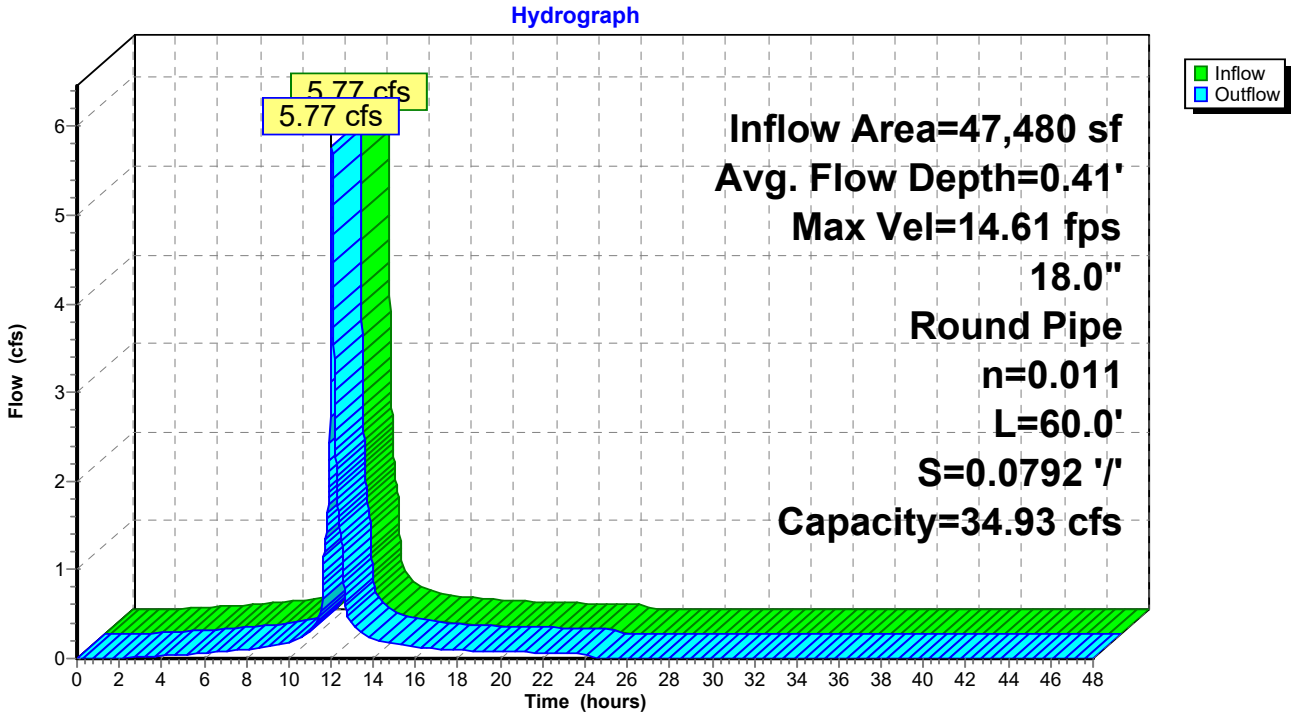
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 14.61 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 4.41 fps, Avg. Travel Time= 0.2 min

Peak Storage= 24 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.41' , Surface Width= 1.34'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 34.93 cfs

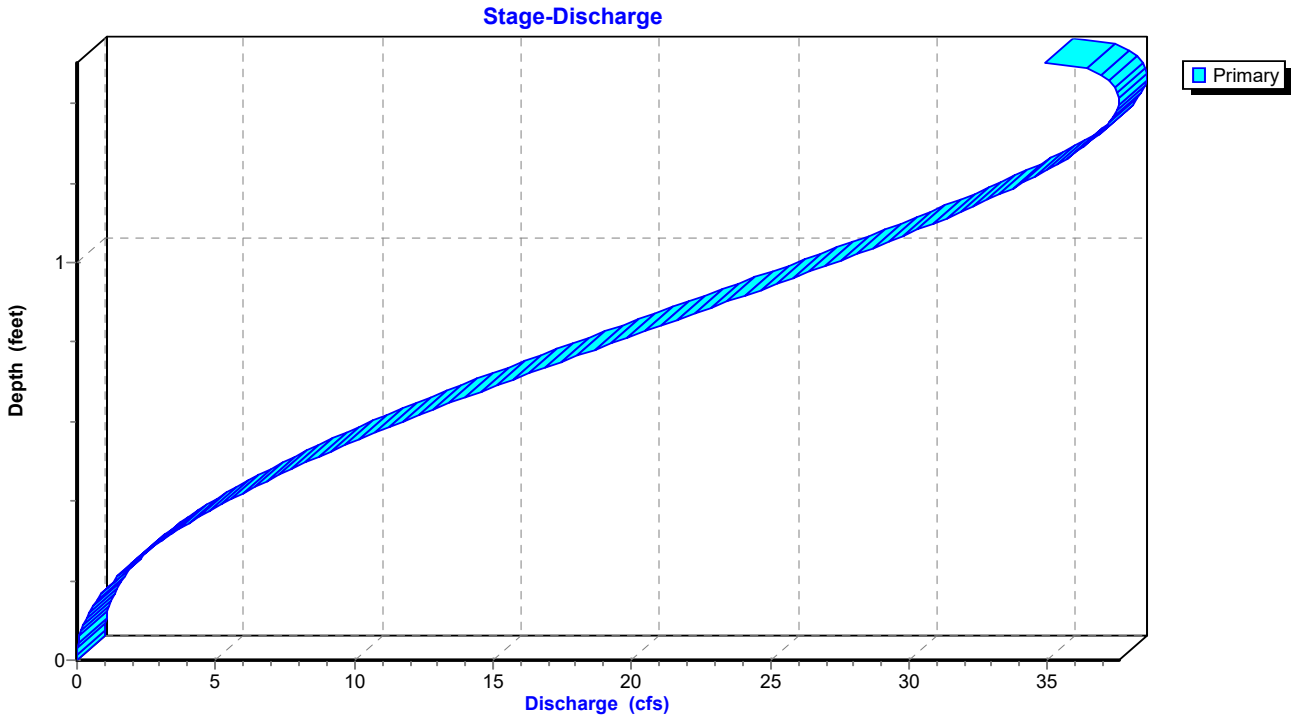
18.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 60.0' Slope= 0.0792 '/'
Inlet Invert= 683.75', Outlet Invert= 679.00'



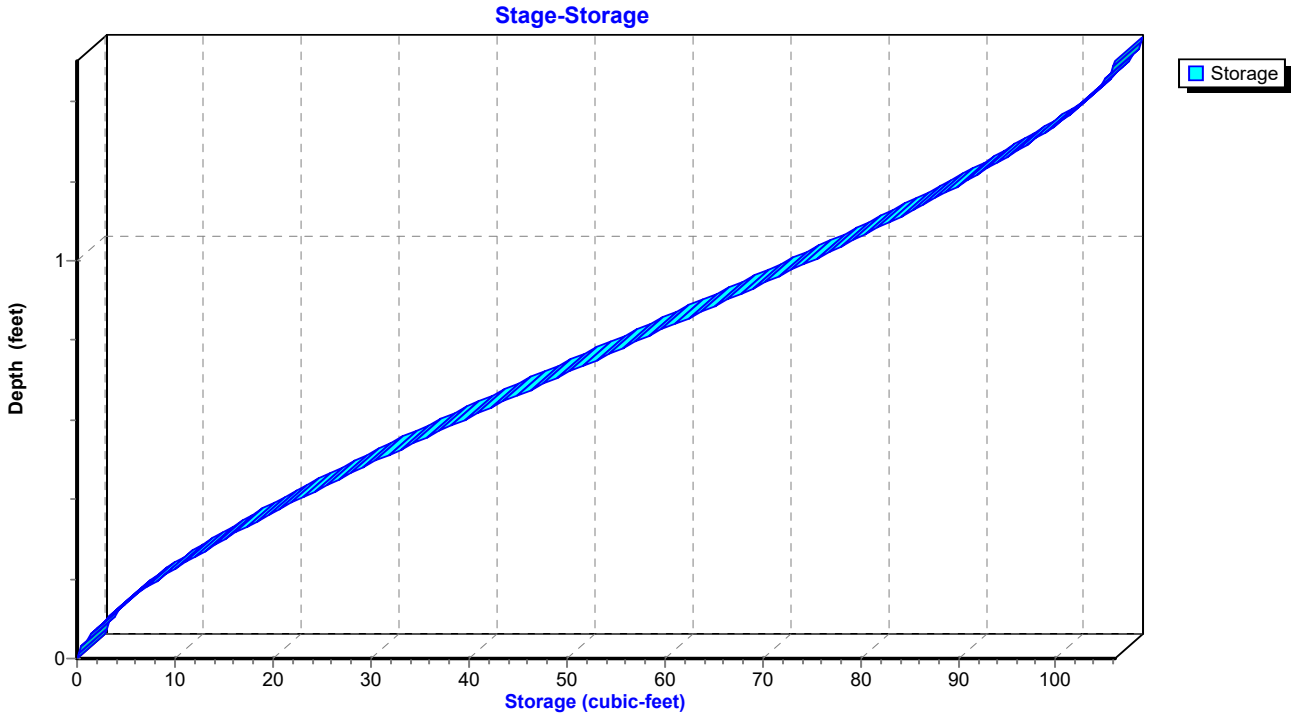
Reach CD4C: Cross Drain 4C



Reach CD4C: Cross Drain 4C



Reach CD4C: Cross Drain 4C



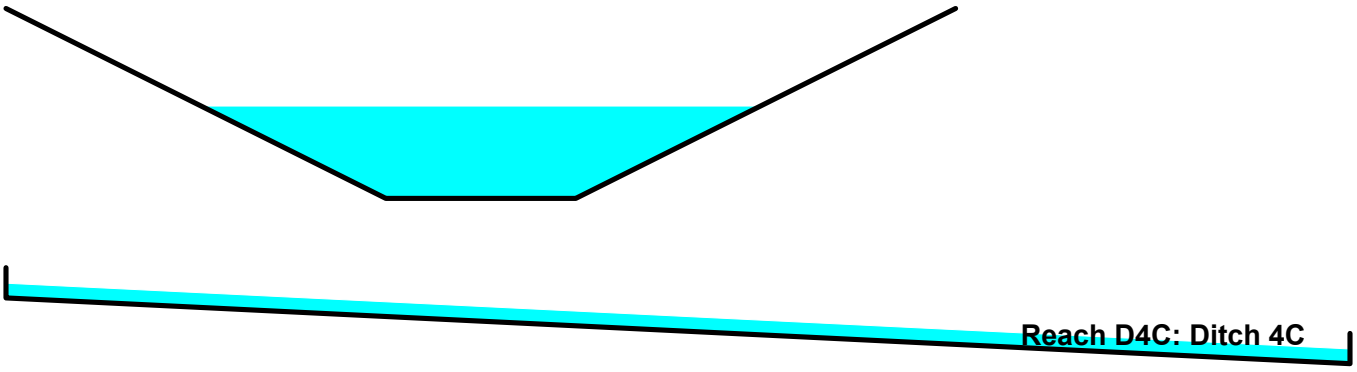
Summary for Reach D4C: Ditch 4C

Inflow Area = 47,480 sf, 0.00% Impervious, Inflow Depth = 4.28" for 5-yr event
Inflow = 6.12 cfs @ 12.03 hrs, Volume= 16,951 cf
Outflow = 5.77 cfs @ 12.05 hrs, Volume= 16,951 cf, Atten= 6%, Lag= 1.2 min
Routed to Reach CD4C : Cross Drain 4C

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.70 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 0.77 fps, Avg. Travel Time= 6.7 min

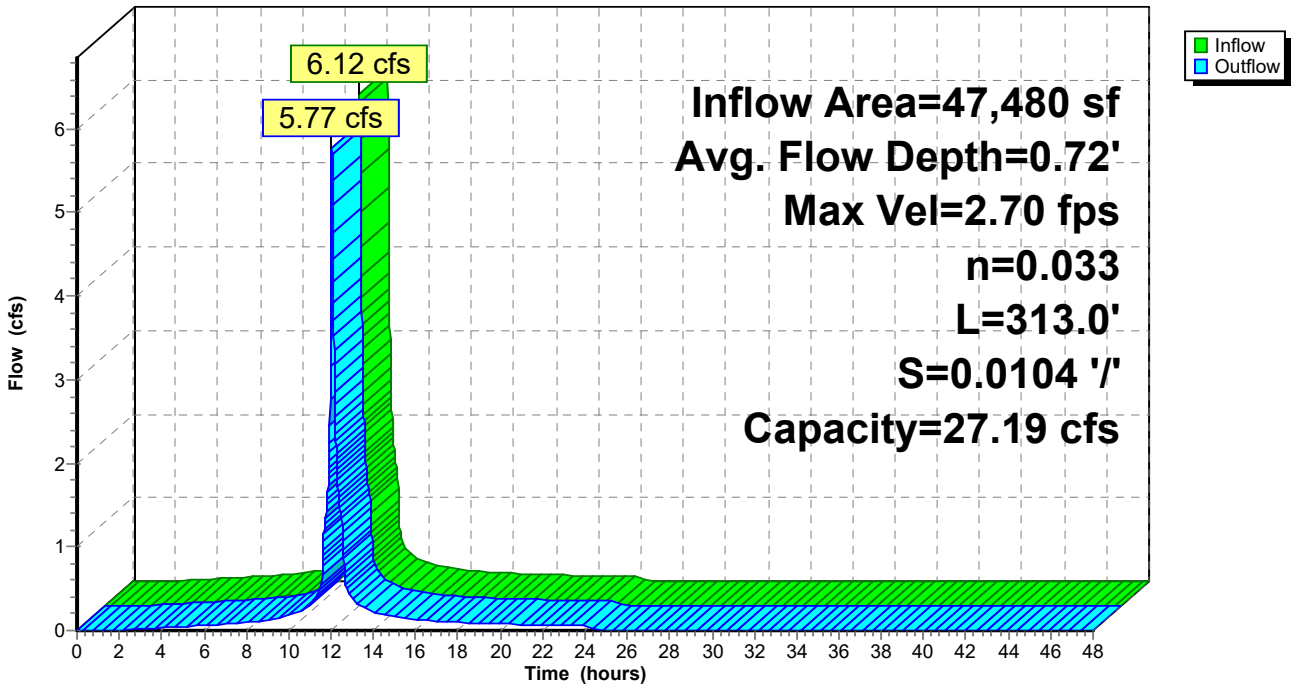
Peak Storage= 669 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.72' , Surface Width= 4.40'
Bank-Full Depth= 1.50' Flow Area= 6.8 sf, Capacity= 27.19 cfs

1.50' x 1.50' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 7.50'
Length= 313.0' Slope= 0.0104 '/'
Inlet Invert= 687.00', Outlet Invert= 683.75'



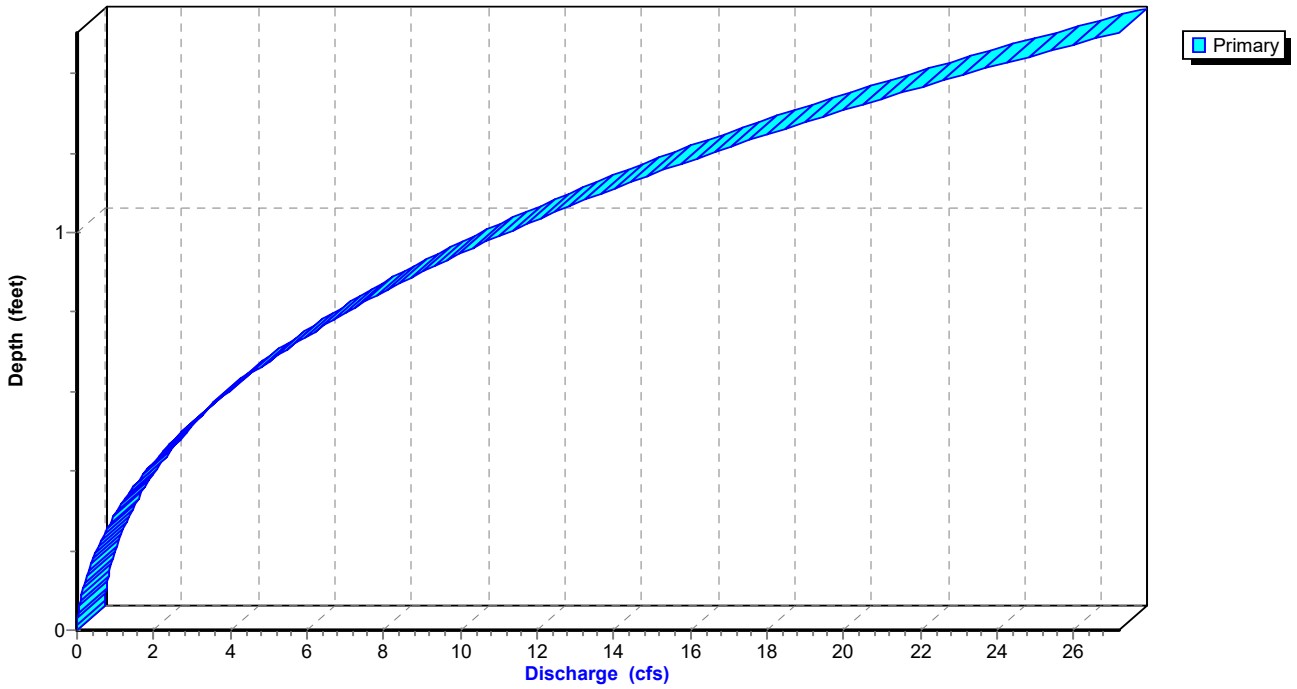
Reach D4C: Ditch 4C

Hydrograph

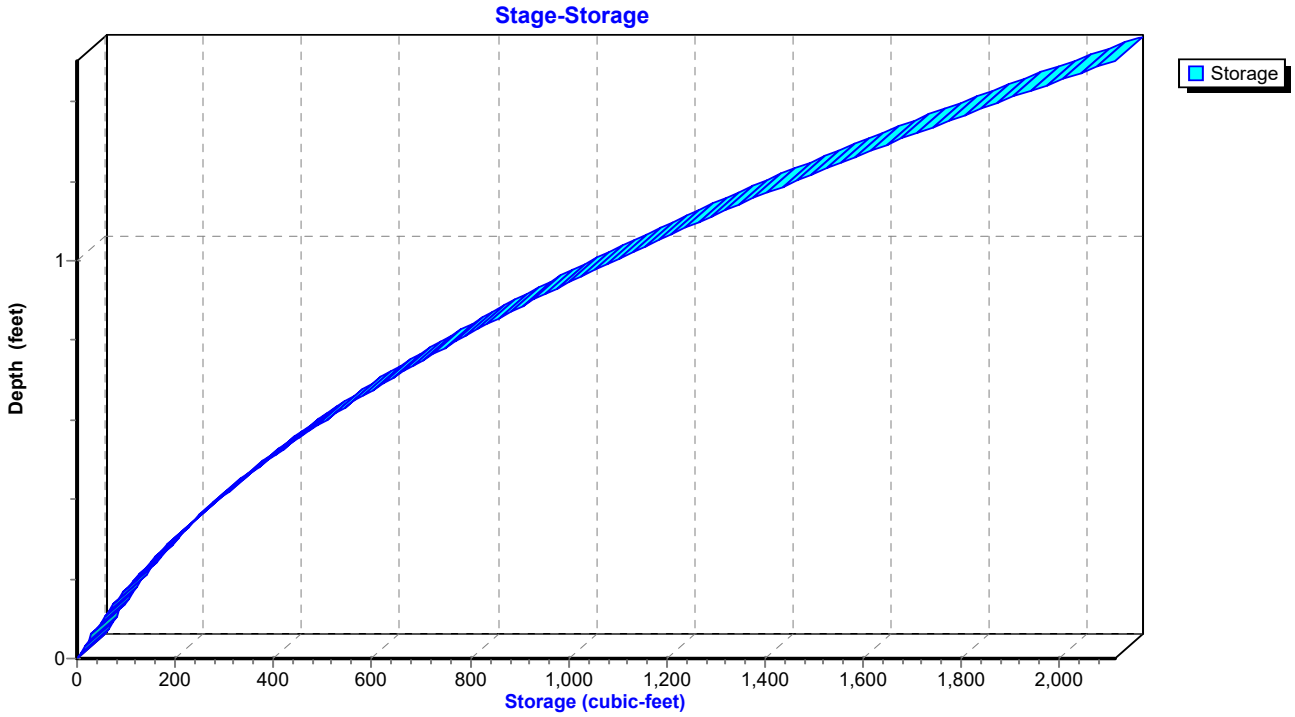


Reach D4C: Ditch 4C

Stage-Discharge



Reach D4C: Ditch 4C



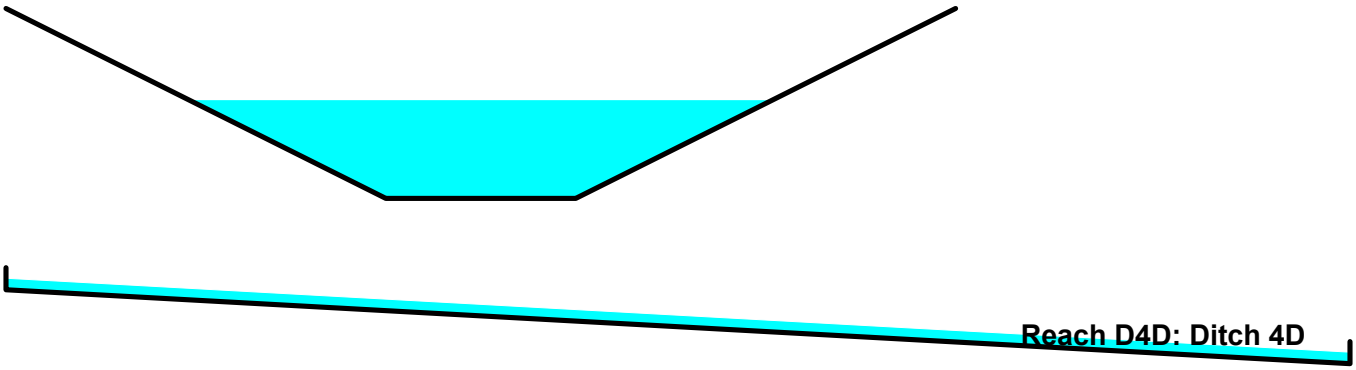
Summary for Reach D4D: Ditch 4D

Inflow Area = 64,469 sf, 0.00% Impervious, Inflow Depth = 4.28" for 5-yr event
Inflow = 8.30 cfs @ 12.03 hrs, Volume= 23,016 cf
Outflow = 7.93 cfs @ 12.04 hrs, Volume= 23,016 cf, Atten= 4%, Lag= 1.0 min
Routed to Pond CD4DCE : Cross Drain 4DCE

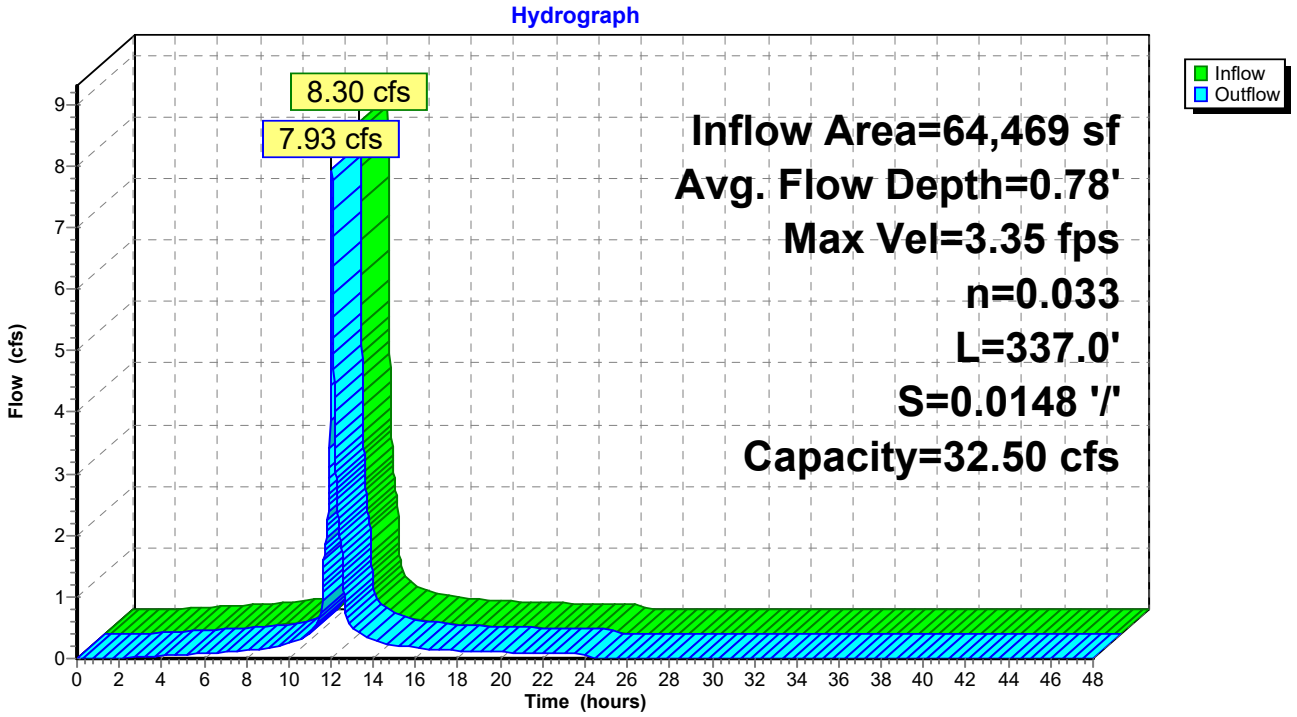
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.35 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.97 fps, Avg. Travel Time= 5.8 min

Peak Storage= 799 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.78' , Surface Width= 4.61'
Bank-Full Depth= 1.50' Flow Area= 6.8 sf, Capacity= 32.50 cfs

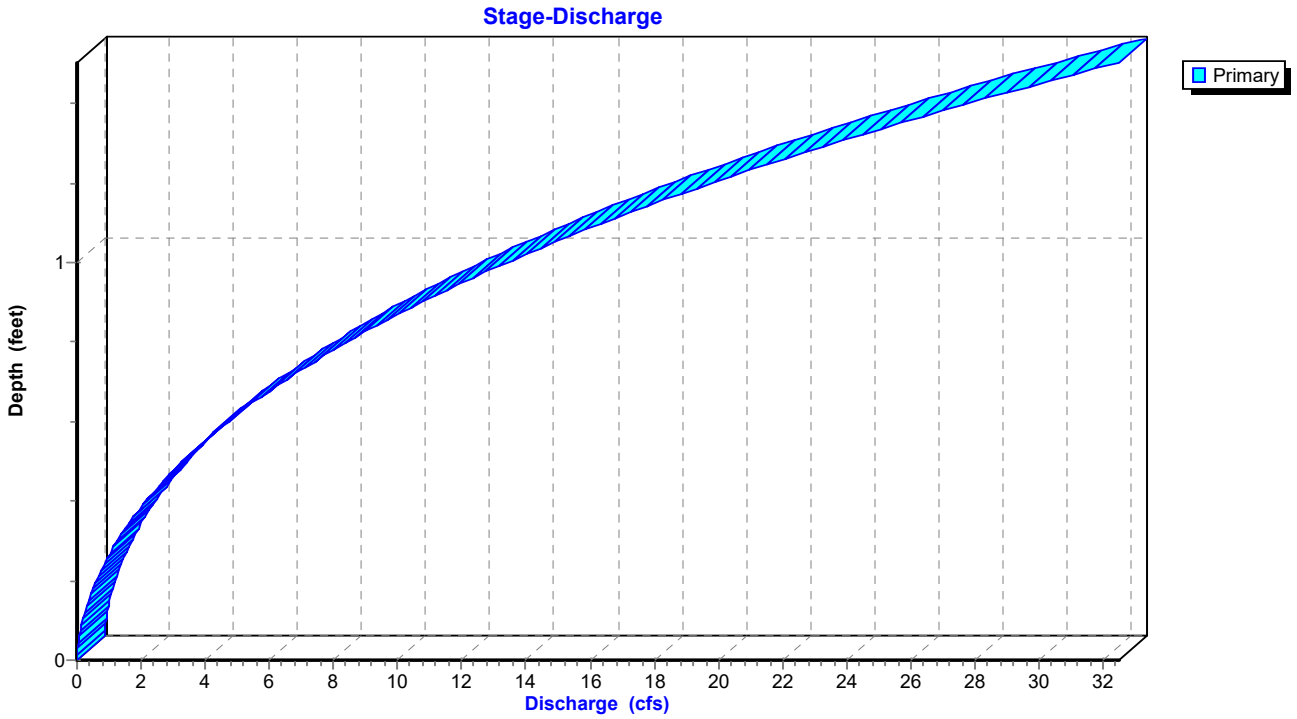
1.50' x 1.50' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 7.50'
Length= 337.0' Slope= 0.0148 '/'
Inlet Invert= 688.00', Outlet Invert= 683.00'



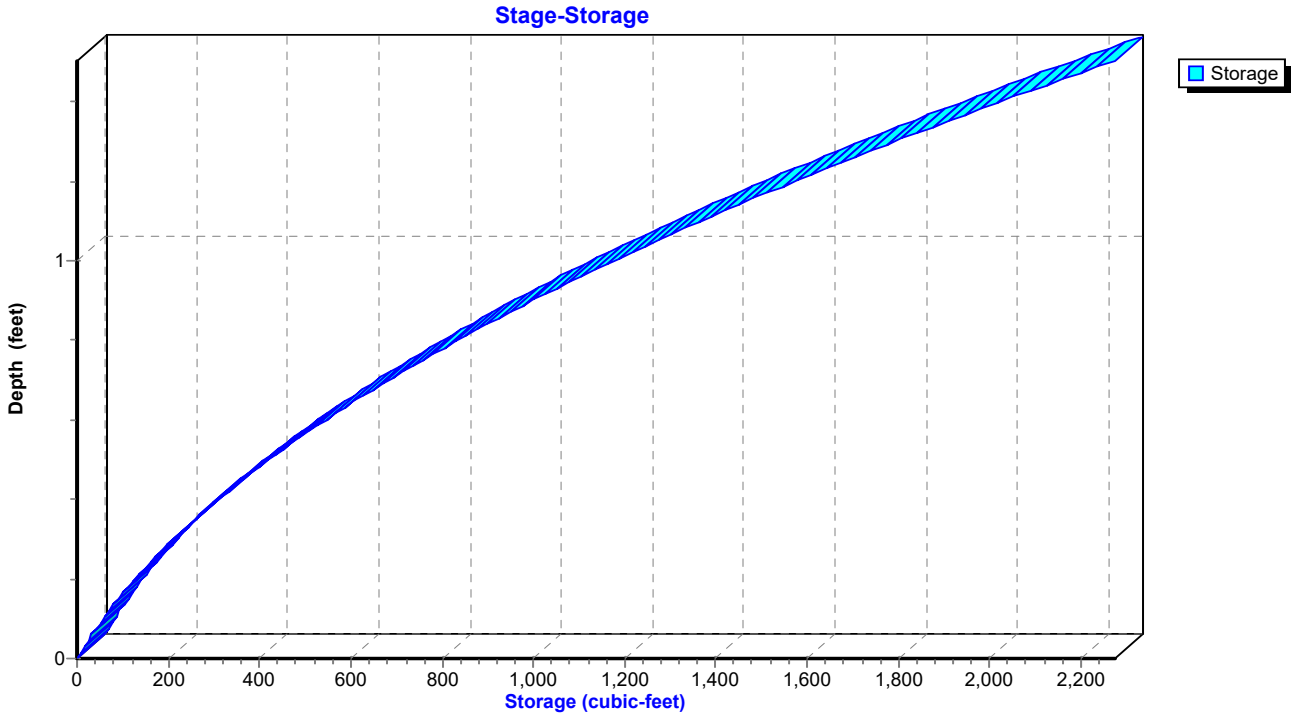
Reach D4D: Ditch 4D



Reach D4D: Ditch 4D



Reach D4D: Ditch 4D



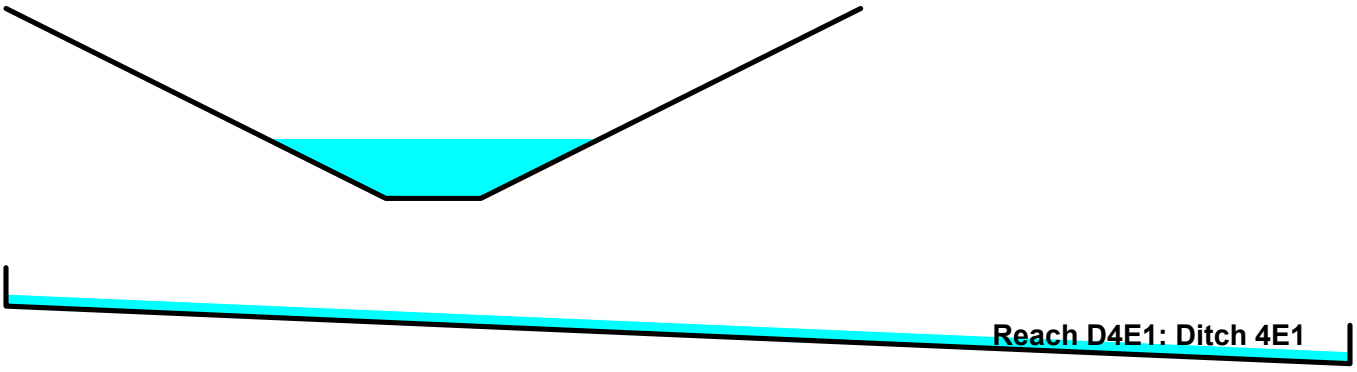
Summary for Reach D4E1: Ditch 4E1

Inflow Area = 364,162 sf, 11.96% Impervious, Inflow Depth = 1.42" for 5-yr event
Inflow = 7.79 cfs @ 12.39 hrs, Volume= 43,111 cf
Outflow = 7.52 cfs @ 12.46 hrs, Volume= 43,111 cf, Atten= 3%, Lag= 4.2 min
Routed to Pond CD4E : Cross Drain 4E

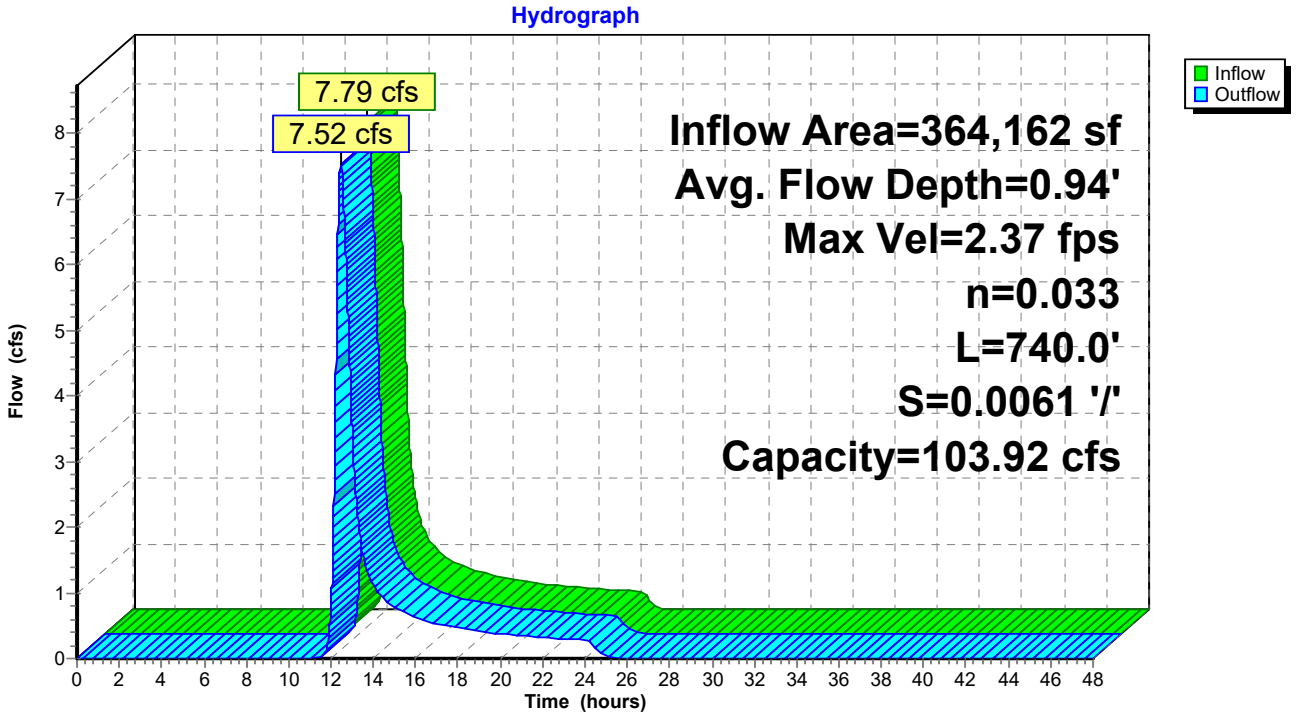
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.37 fps, Min. Travel Time= 5.2 min
Avg. Velocity = 0.95 fps, Avg. Travel Time= 13.0 min

Peak Storage= 2,343 cf @ 12.46 hrs
Average Depth at Peak Storage= 0.94' , Surface Width= 5.25'
Bank-Full Depth= 3.00' Flow Area= 22.5 sf, Capacity= 103.92 cfs

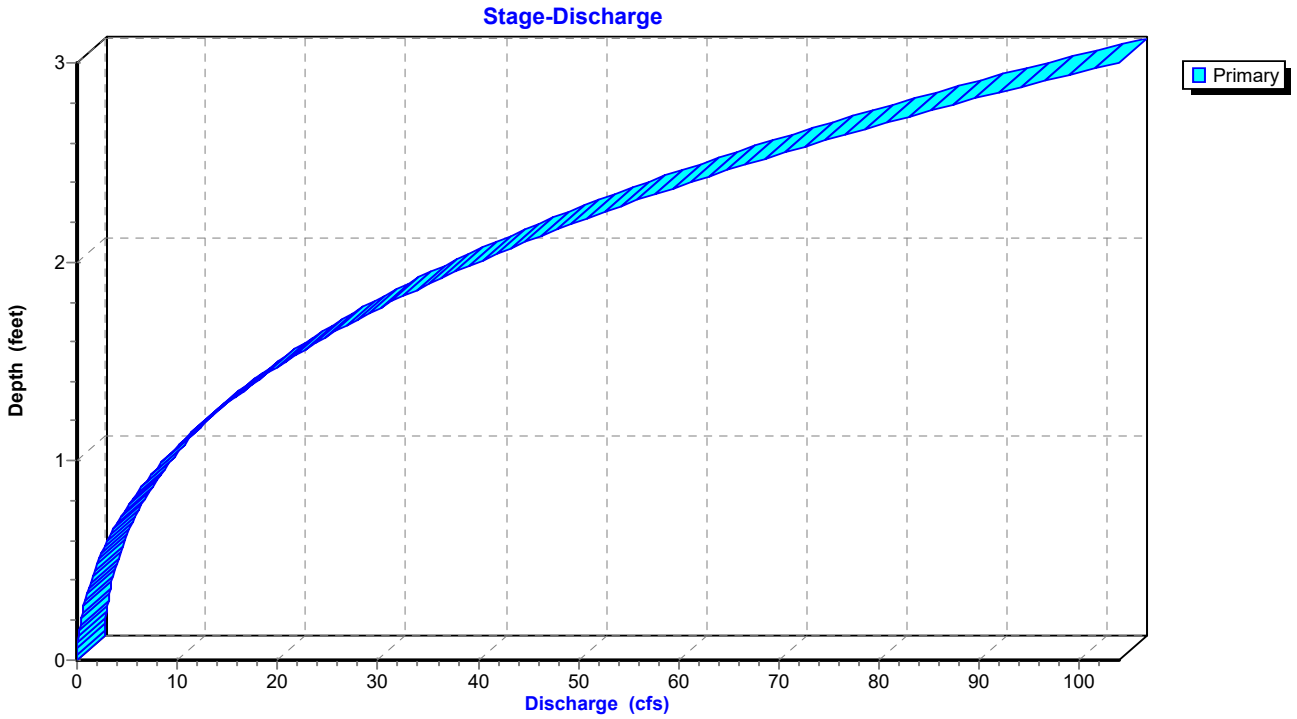
1.50' x 3.00' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 13.50'
Length= 740.0' Slope= 0.0061 '/'
Inlet Invert= 684.00', Outlet Invert= 679.50'



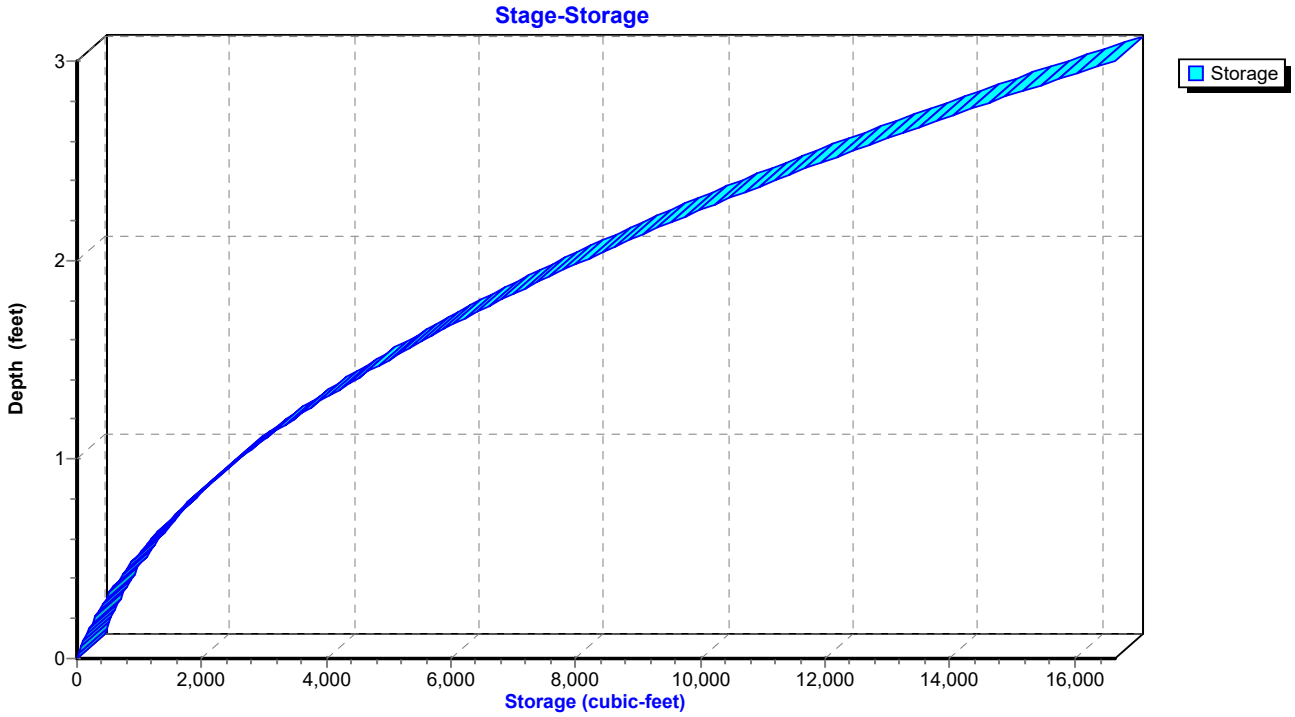
Reach D4E1: Ditch 4E1



Reach D4E1: Ditch 4E1



Reach D4E1: Ditch 4E1



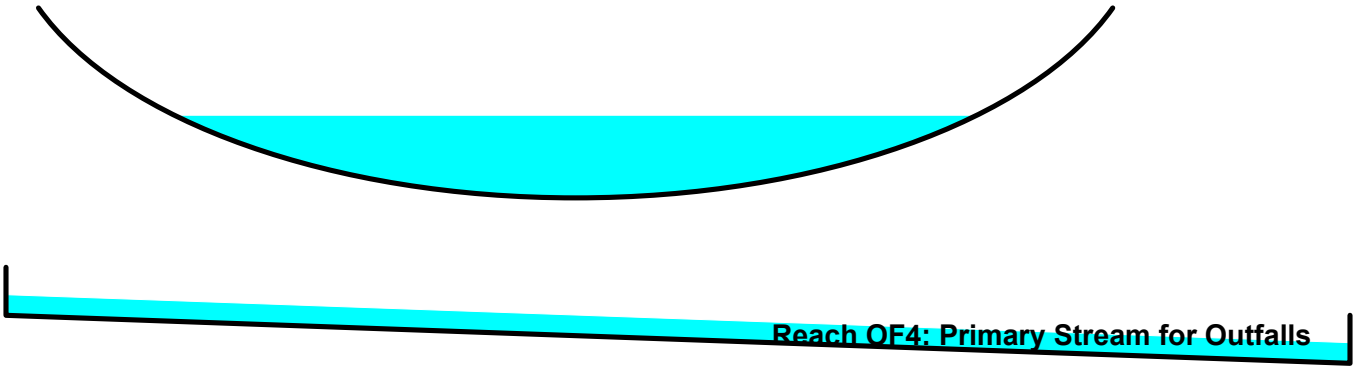
Summary for Reach OF4: Primary Stream for Outfalls

Inflow Area = 9,972,626 sf, 1.09% Impervious, Inflow Depth = 2.02" for 5-yr event
Inflow = 106.39 cfs @ 13.51 hrs, Volume= 1,678,621 cf
Outflow = 106.20 cfs @ 13.68 hrs, Volume= 1,678,621 cf, Atten= 0%, Lag= 10.0 min

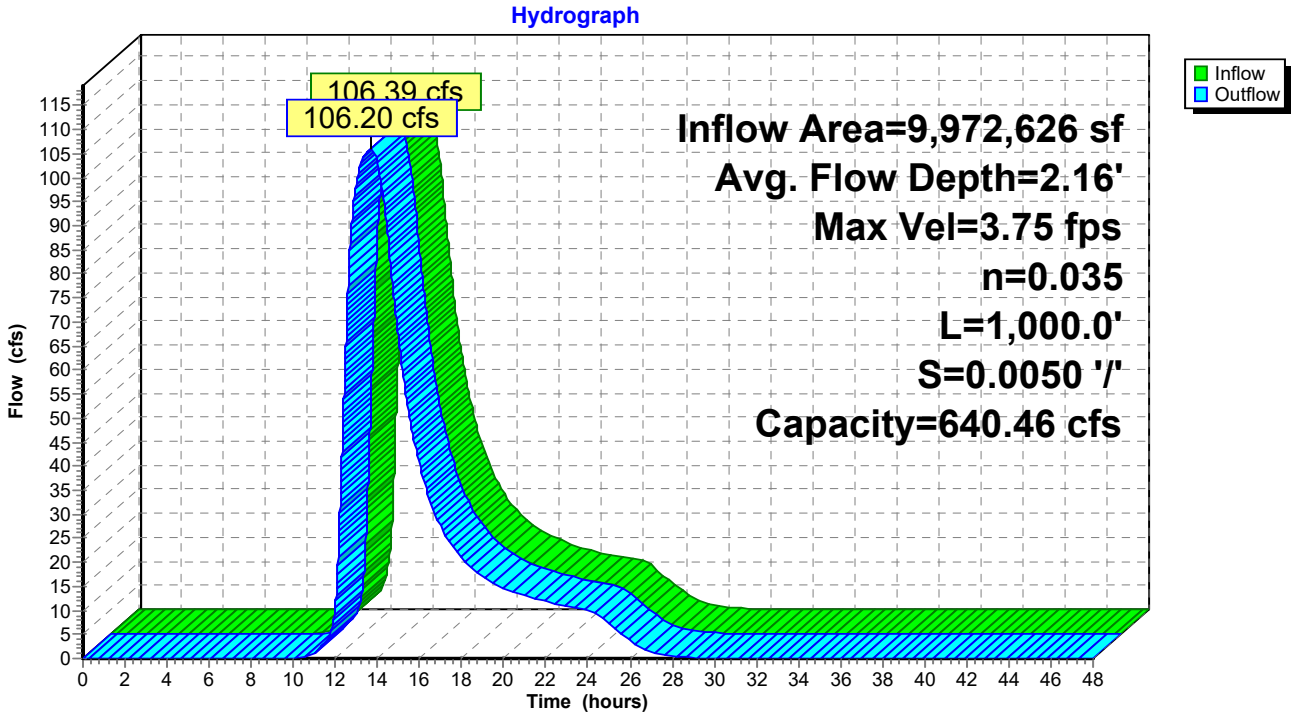
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.75 fps, Min. Travel Time= 4.4 min
Avg. Velocity = 1.47 fps, Avg. Travel Time= 11.4 min

Peak Storage= 28,337 cf @ 13.68 hrs
Average Depth at Peak Storage= 2.16' , Surface Width= 19.70'
Bank-Full Depth= 5.00' Flow Area= 100.0 sf, Capacity= 640.46 cfs

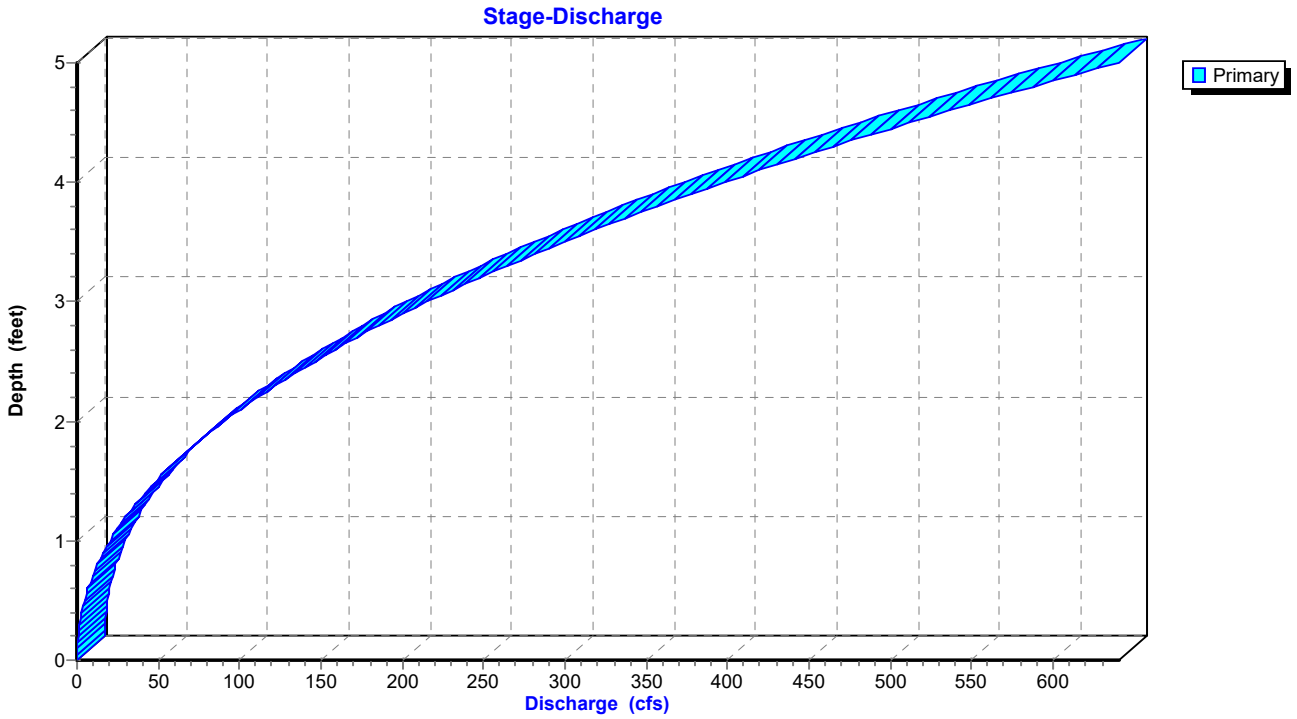
30.00' x 5.00' deep Parabolic Channel, n= 0.035
Length= 1,000.0' Slope= 0.0050 '/'
Inlet Invert= 675.00', Outlet Invert= 670.00'



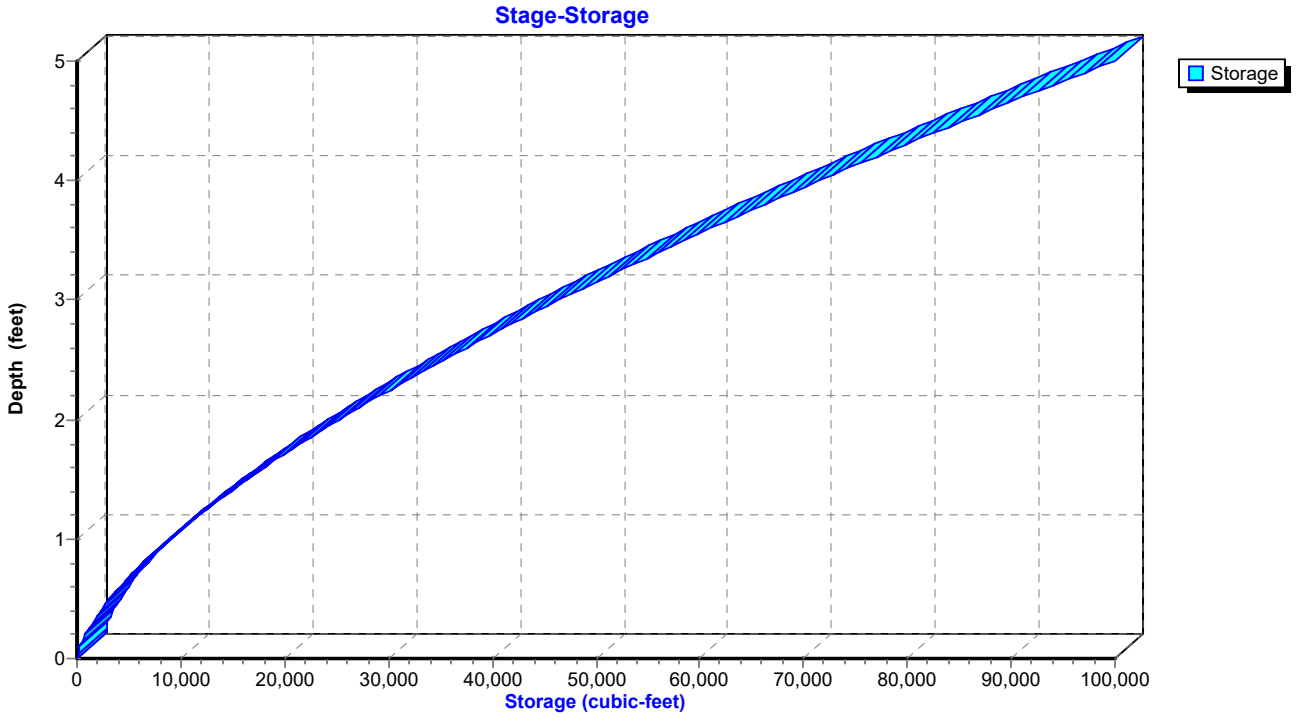
Reach OF4: Primary Stream for Outfalls



Reach OF4: Primary Stream for Outfalls



Reach OF4: Primary Stream for Outfalls



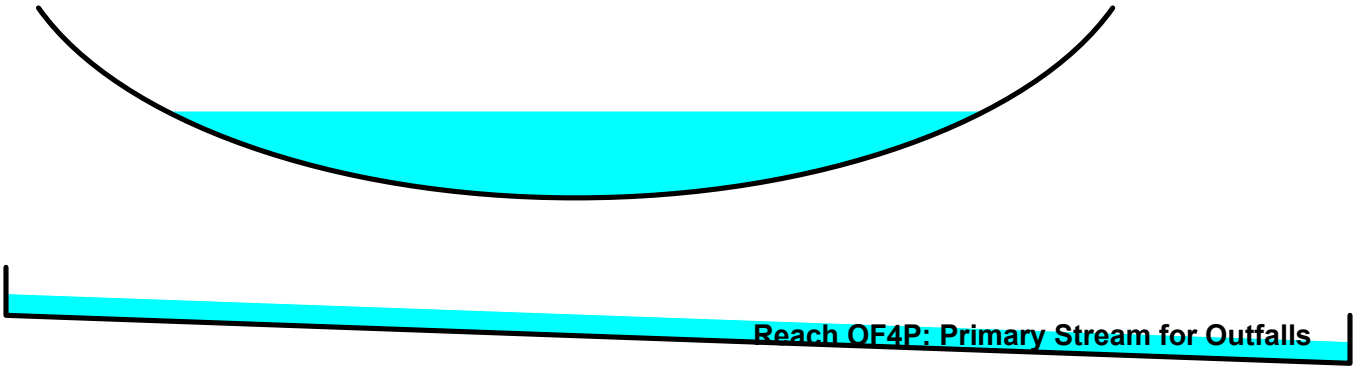
Summary for Reach OF4P: Primary Stream for Outfalls

Inflow Area = 9,824,522 sf, 2.88% Impervious, Inflow Depth = 2.16" for 5-yr event
Inflow = 118.61 cfs @ 13.51 hrs, Volume= 1,765,403 cf
Outflow = 118.35 cfs @ 13.62 hrs, Volume= 1,765,401 cf, Atten= 0%, Lag= 6.1 min

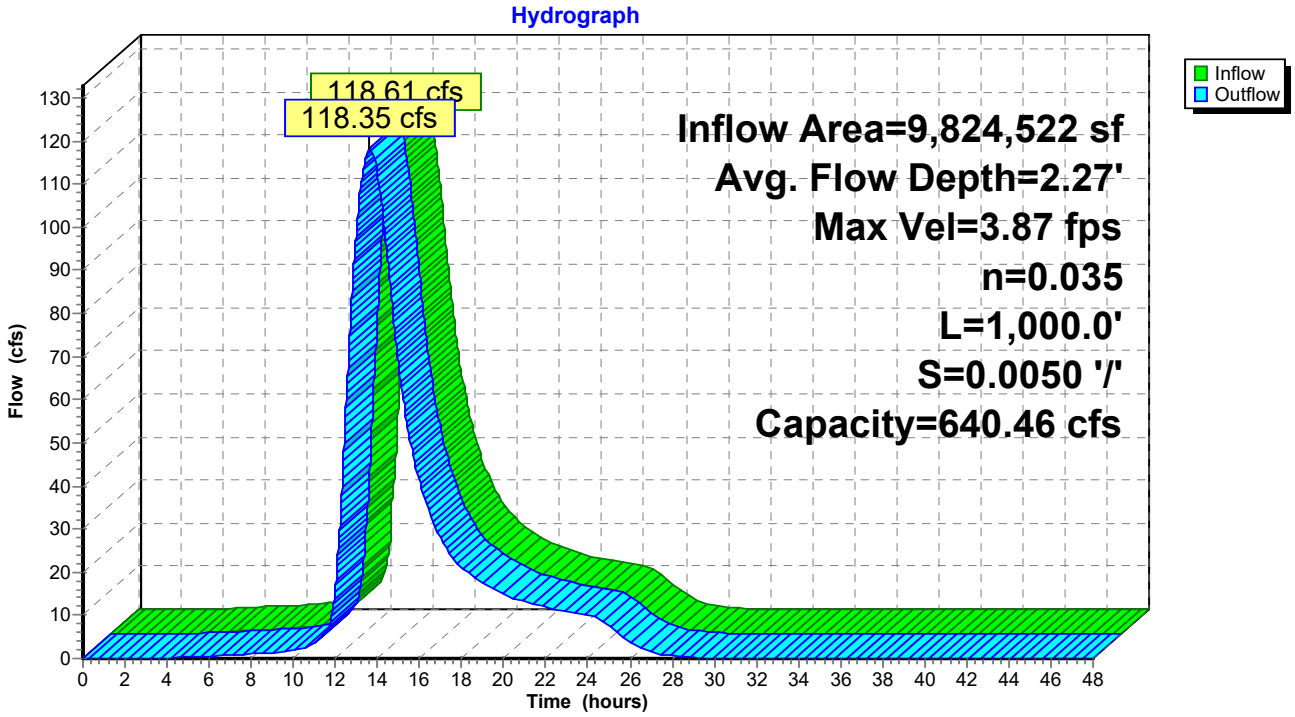
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.87 fps, Min. Travel Time= 4.3 min
Avg. Velocity = 1.14 fps, Avg. Travel Time= 14.7 min

Peak Storage= 30,564 cf @ 13.62 hrs
Average Depth at Peak Storage= 2.27' , Surface Width= 20.21'
Bank-Full Depth= 5.00' Flow Area= 100.0 sf, Capacity= 640.46 cfs

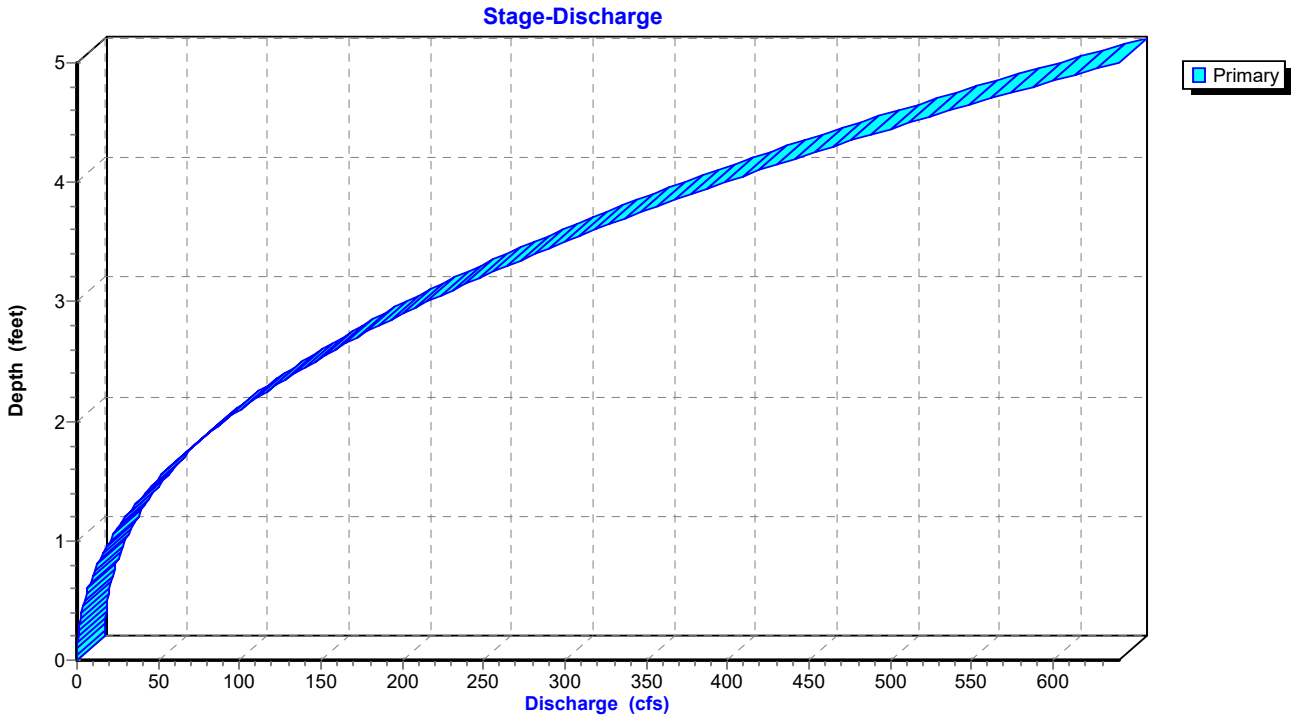
30.00' x 5.00' deep Parabolic Channel, n= 0.035
Length= 1,000.0' Slope= 0.0050 '/'
Inlet Invert= 675.00', Outlet Invert= 670.00'



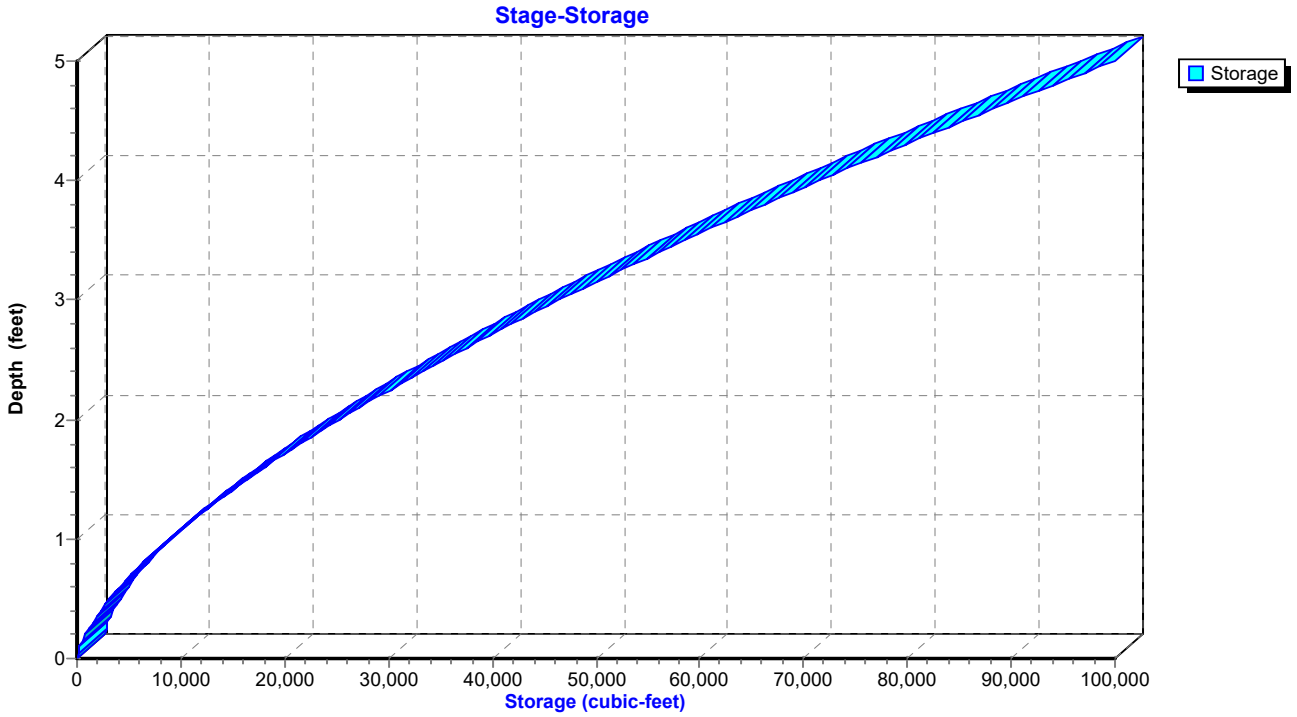
Reach OF4P: Primary Stream for Outfalls



Reach OF4P: Primary Stream for Outfalls



Reach OF4P: Primary Stream for Outfalls



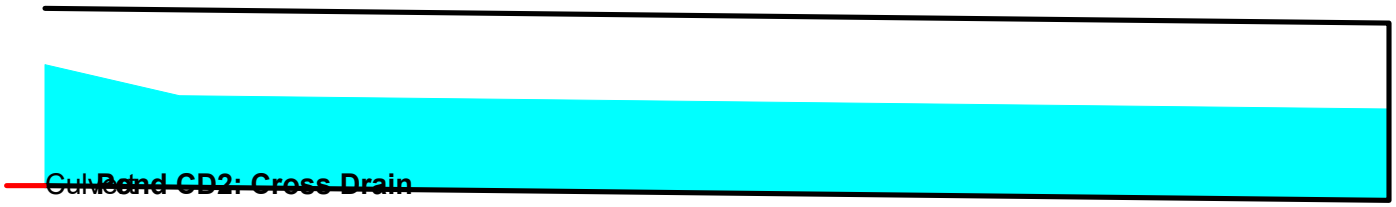
Summary for Pond CD2: Cross Drain

Inflow Area = 1,520,244 sf, 0.00% Impervious, Inflow Depth = 1.29" for 5-yr event
Inflow = 19.26 cfs @ 12.94 hrs, Volume= 162,997 cf
Outflow = 19.26 cfs @ 12.94 hrs, Volume= 162,997 cf, Atten= 0%, Lag= 0.0 min
Primary = 19.26 cfs @ 12.94 hrs, Volume= 162,997 cf
Routed to Reach OF4P : Primary Stream for Outfalls

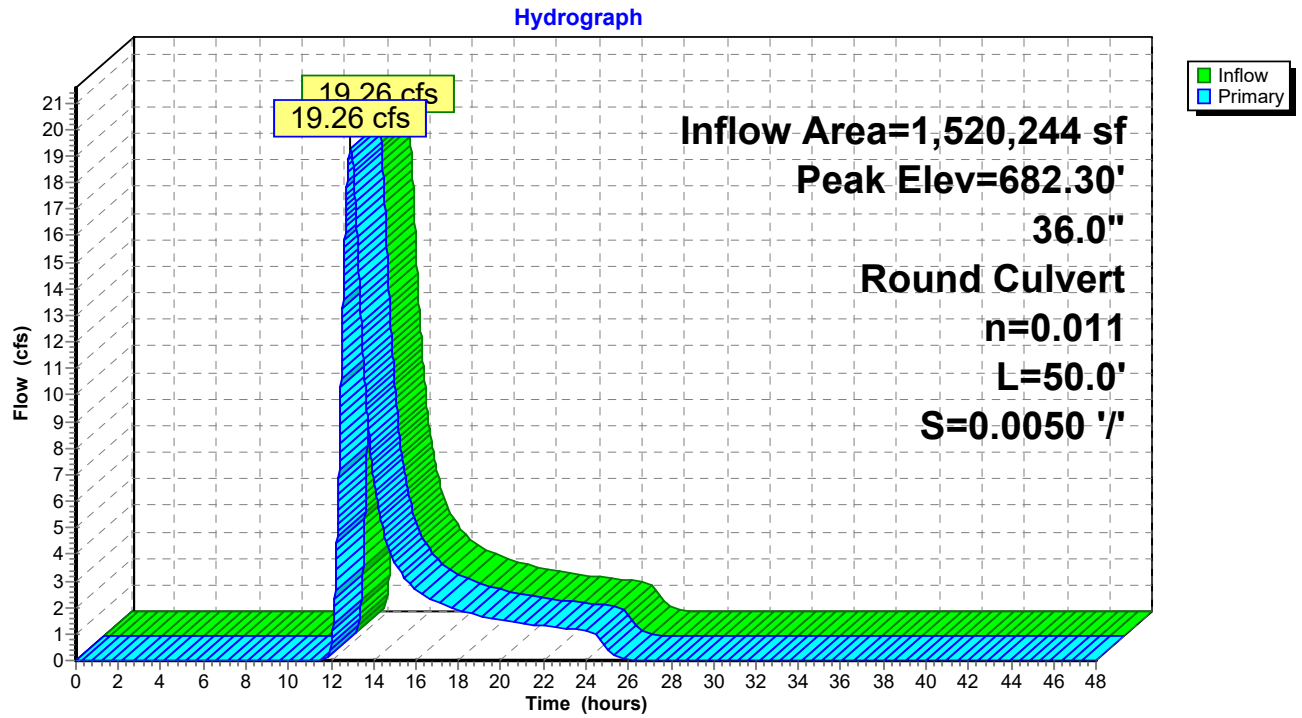
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 682.30' @ 12.94 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	680.25'	**36.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 680.25' / 680.00' S= 0.0050 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

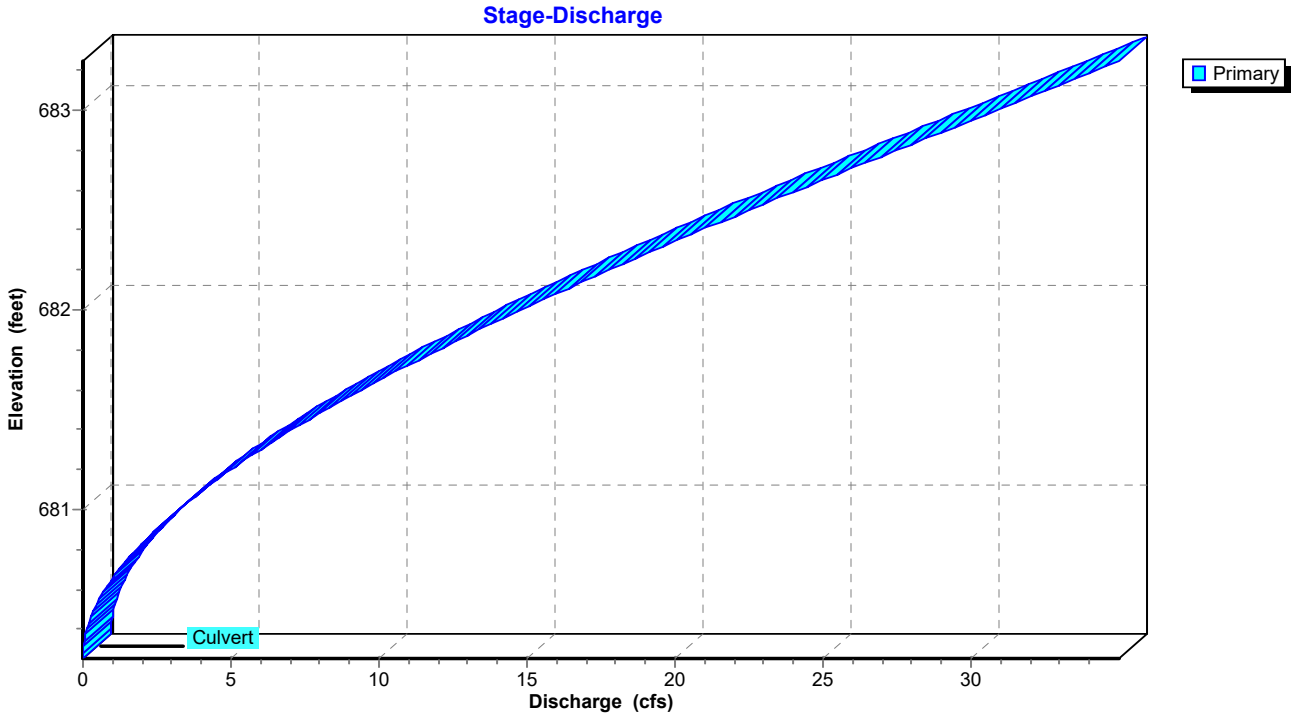
Primary OutFlow Max=19.26 cfs @ 12.94 hrs HW=682.30' (Free Discharge)
└**1=Culvert** (Barrel Controls 19.26 cfs @ 5.29 fps)



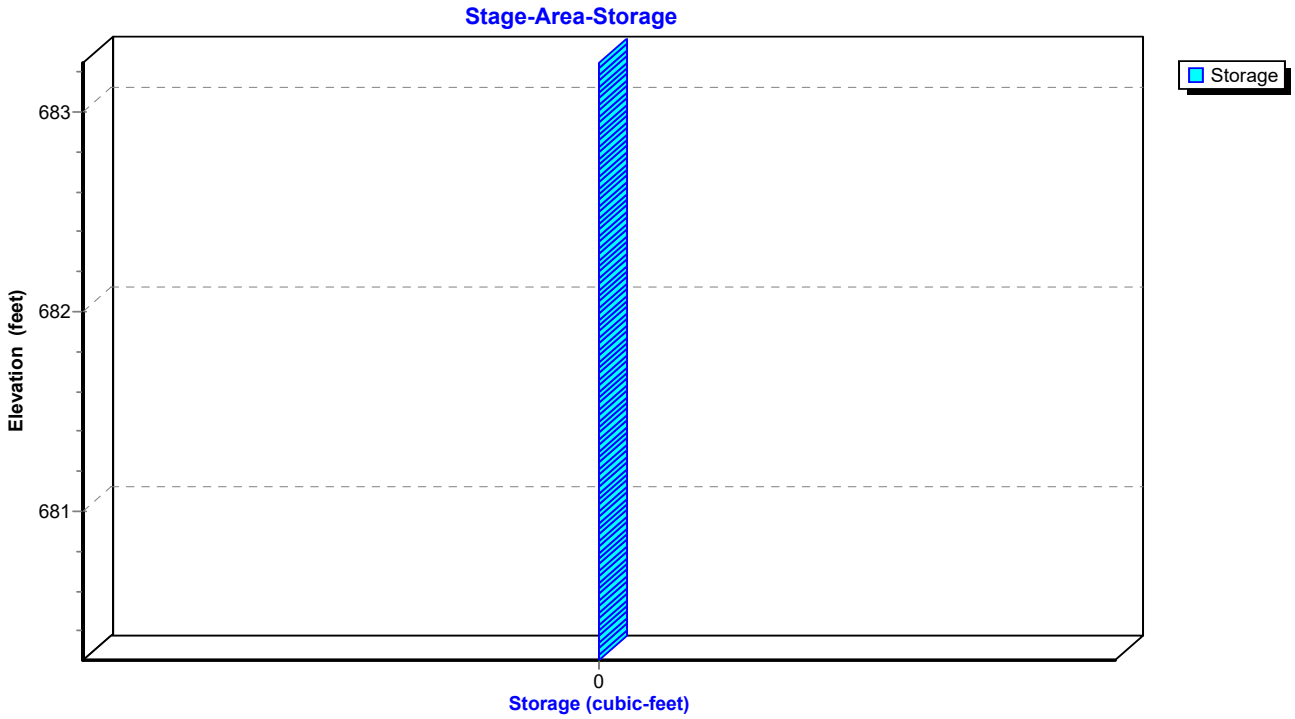
Pond CD2: Cross Drain



Pond CD2: Cross Drain



Pond CD2: Cross Drain



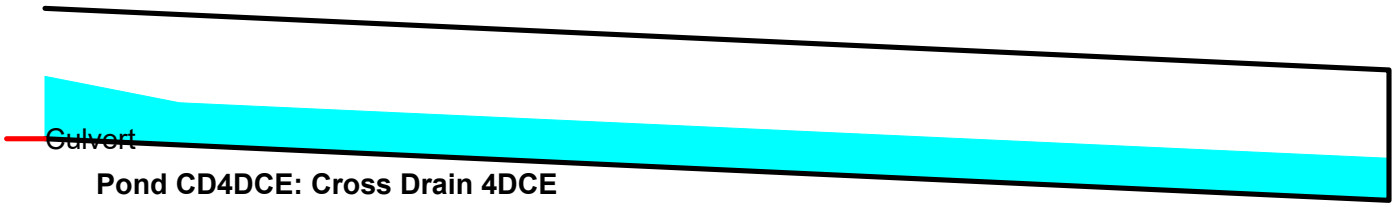
Summary for Pond CD4DCE: Cross Drain 4DCE

Inflow Area = 1,234,055 sf, 3.53% Impervious, Inflow Depth = 1.90" for 5-yr event
Inflow = 27.84 cfs @ 12.52 hrs, Volume= 195,363 cf
Outflow = 27.84 cfs @ 12.52 hrs, Volume= 195,363 cf, Atten= 0%, Lag= 0.0 min
Primary = 27.84 cfs @ 12.52 hrs, Volume= 195,363 cf
Routed to Pond POND1P : PROP POND

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 680.31' @ 12.52 hrs

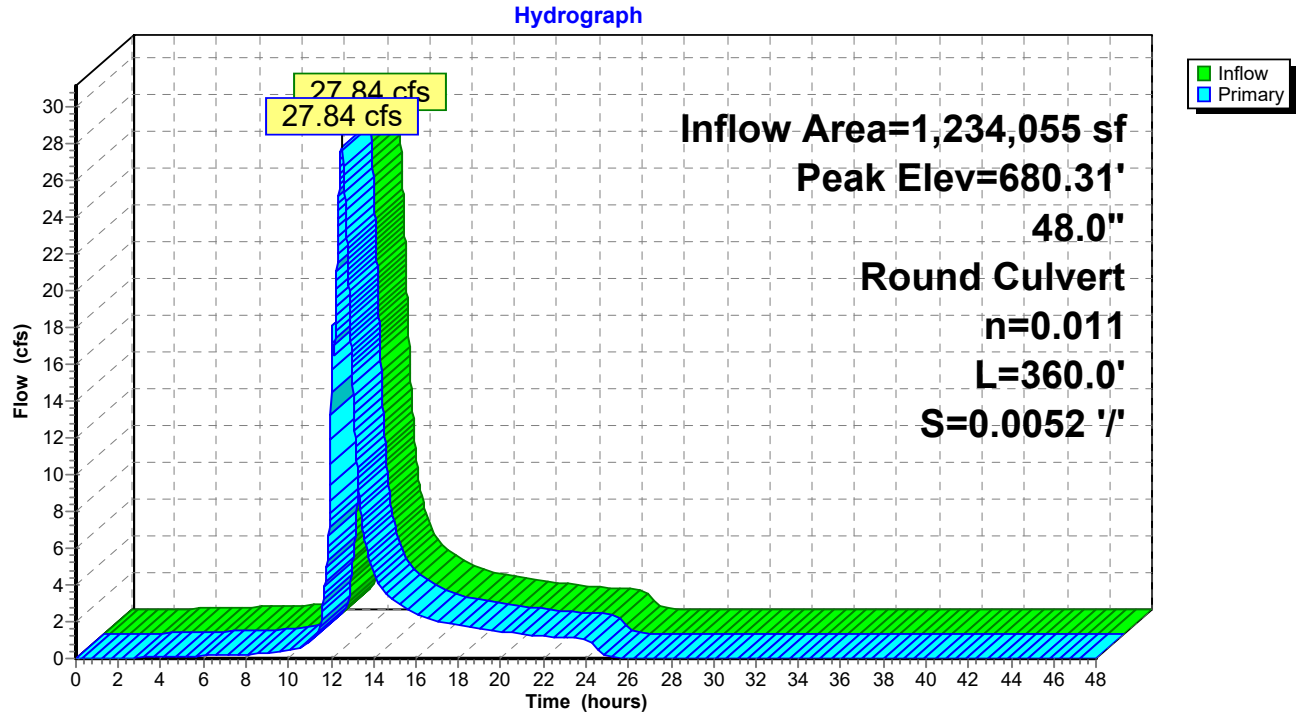
Device	Routing	Invert	Outlet Devices
#1	Primary	678.39'	**48.0" Round Culvert** L= 360.0' Ke= 0.500 Inlet / Outlet Invert= 678.39' / 676.50' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 12.57 sf

Primary OutFlow Max=27.84 cfs @ 12.52 hrs HW=680.31' (Free Discharge)
└**1=Culvert** (Barrel Controls 27.84 cfs @ 6.86 fps)

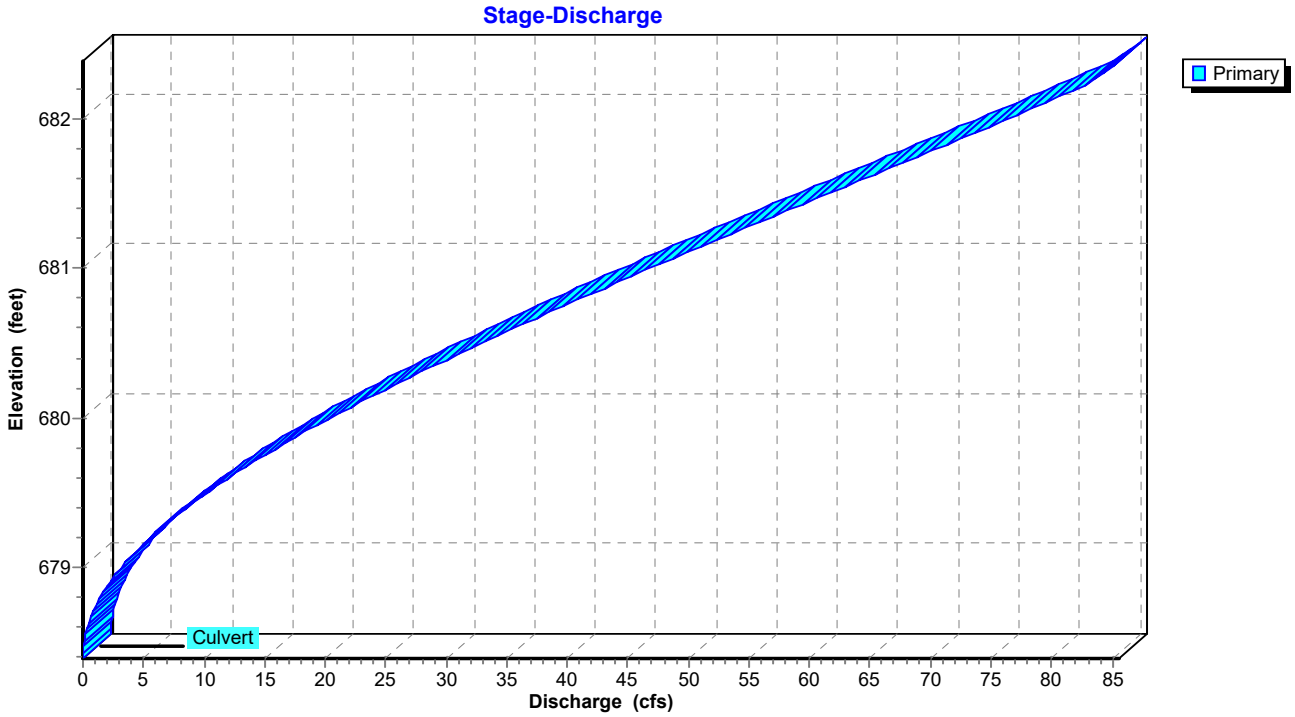


Pond CD4DCE: Cross Drain 4DCE

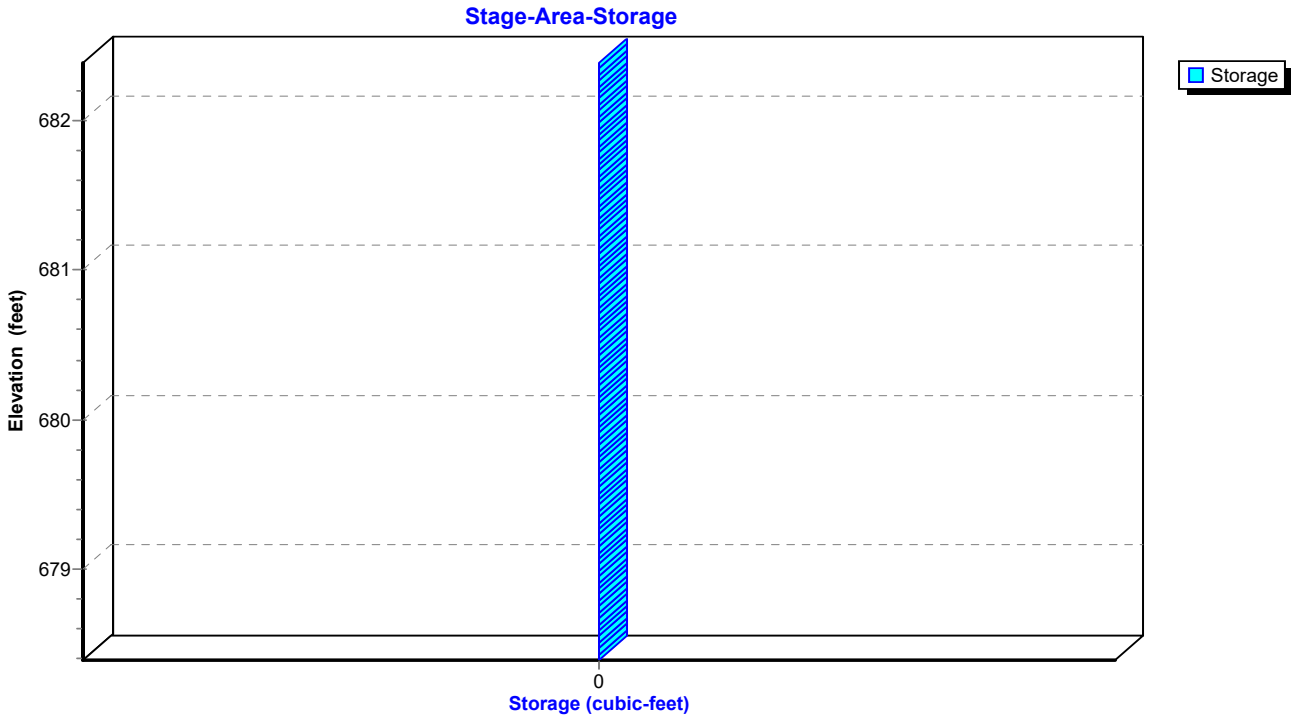
Pond CD4DCE: Cross Drain 4DCE



Pond CD4DCE: Cross Drain 4DCE



Pond CD4DCE: Cross Drain 4DCE



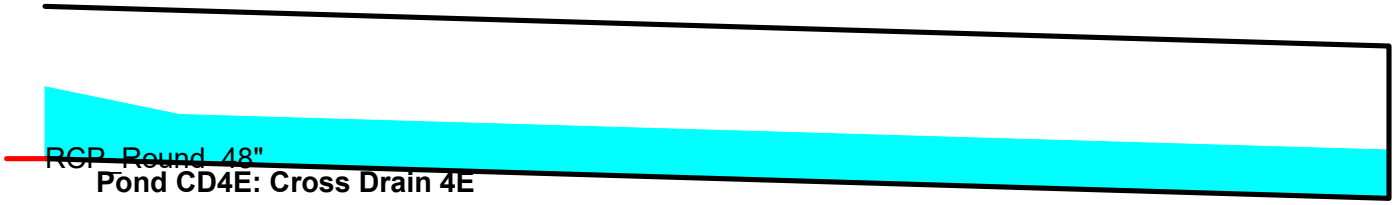
Summary for Pond CD4E: Cross Drain 4E

Inflow Area = 1,122,106 sf, 3.88% Impervious, Inflow Depth = 1.66" for 5-yr event
Inflow = 24.90 cfs @ 12.55 hrs, Volume= 155,395 cf
Outflow = 24.90 cfs @ 12.55 hrs, Volume= 155,395 cf, Atten= 0%, Lag= 0.0 min
Primary = 24.90 cfs @ 12.55 hrs, Volume= 155,395 cf
Routed to Pond CD4DCE : Cross Drain 4DCE

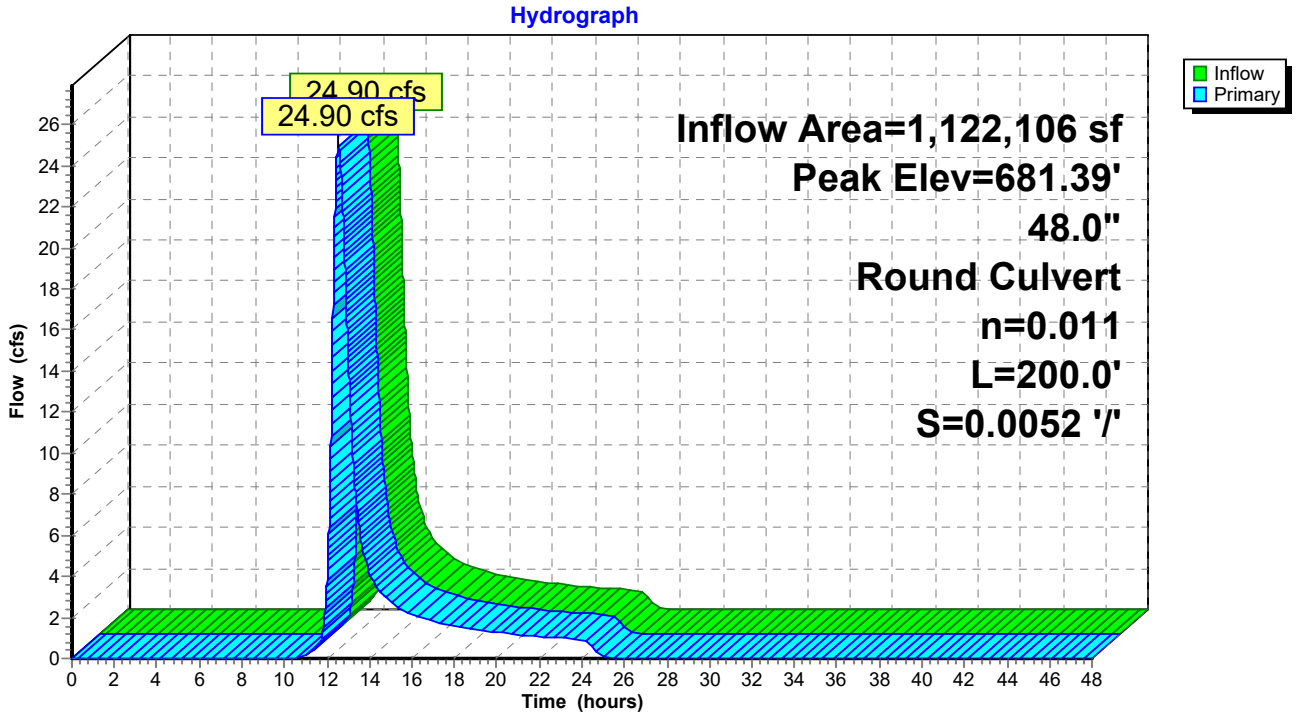
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 681.39' @ 12.55 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	679.50'	**48.0" Round RCP_Round 48"** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 679.50' / 678.46' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 12.57 sf

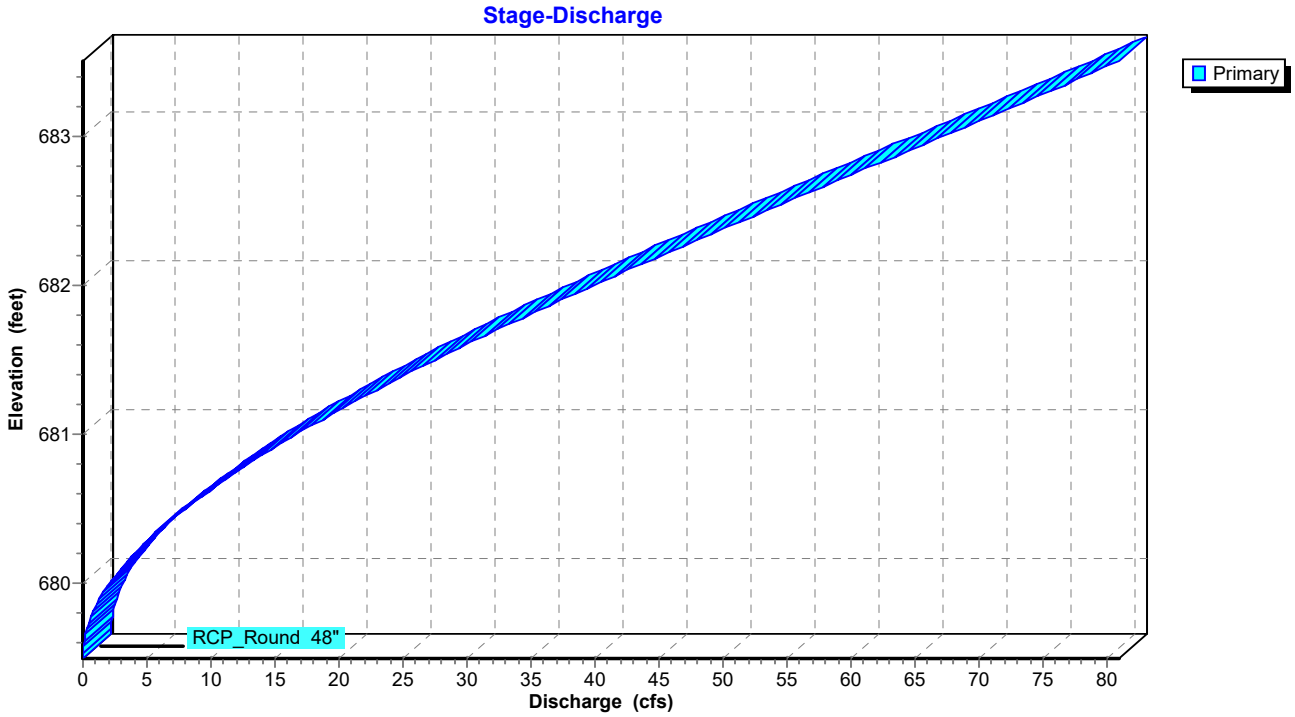
Primary OutFlow Max=24.90 cfs @ 12.55 hrs HW=681.39' (Free Discharge)
└**1=RCP_Round 48"** (Barrel Controls 24.90 cfs @ 6.26 fps)



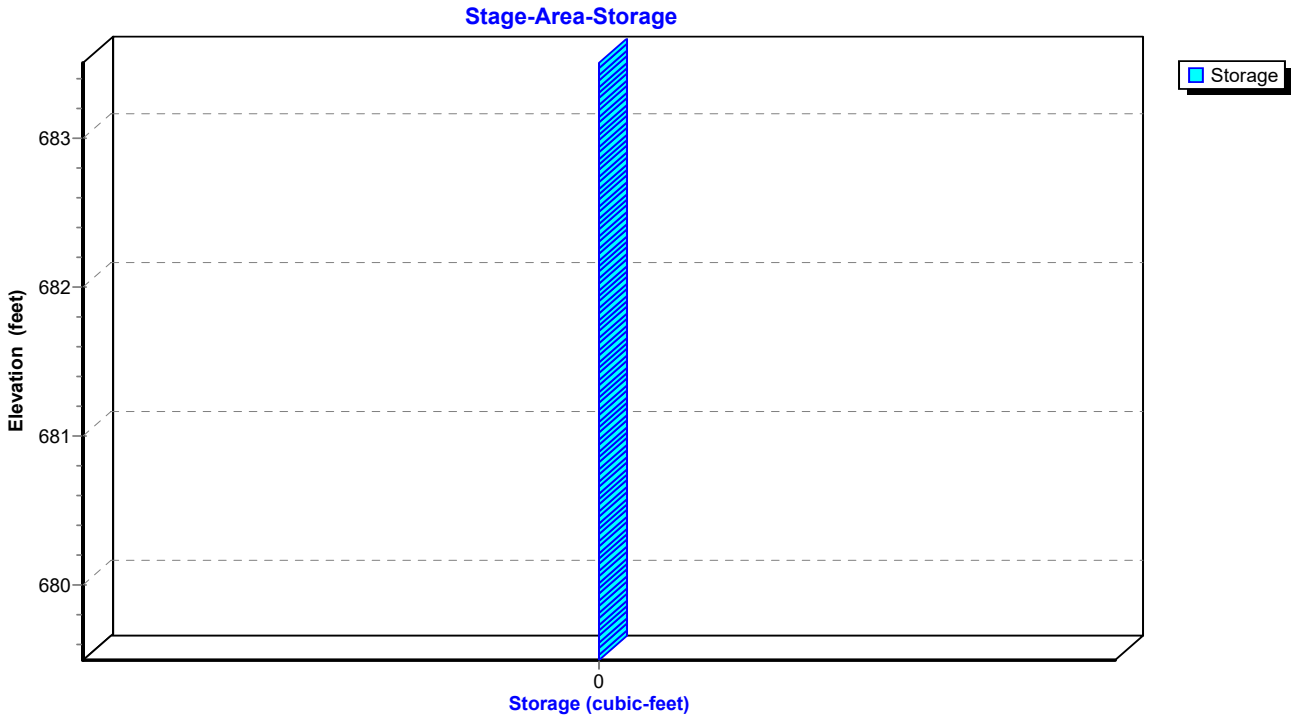
Pond CD4E: Cross Drain 4E



Pond CD4E: Cross Drain 4E



Pond CD4E: Cross Drain 4E



Summary for Pond POND1P: PROP POND

Inflow Area = 1,765,922 sf, 9.87% Impervious, Inflow Depth = 2.62" for 5-yr event
Inflow = 58.83 cfs @ 12.45 hrs, Volume= 385,246 cf
Outflow = 35.13 cfs @ 12.87 hrs, Volume= 384,680 cf, Atten= 40%, Lag= 25.4 min
Primary = 35.13 cfs @ 12.87 hrs, Volume= 384,680 cf
Routed to Reach OF4P : Primary Stream for Outfalls

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 680.04' @ 12.87 hrs Surf.Area= 39,291 sf Storage= 84,175 cf

Plug-Flow detention time= 39.4 min calculated for 384,680 cf (100% of inflow)
Center-of-Mass det. time= 38.4 min (867.7 - 829.3)

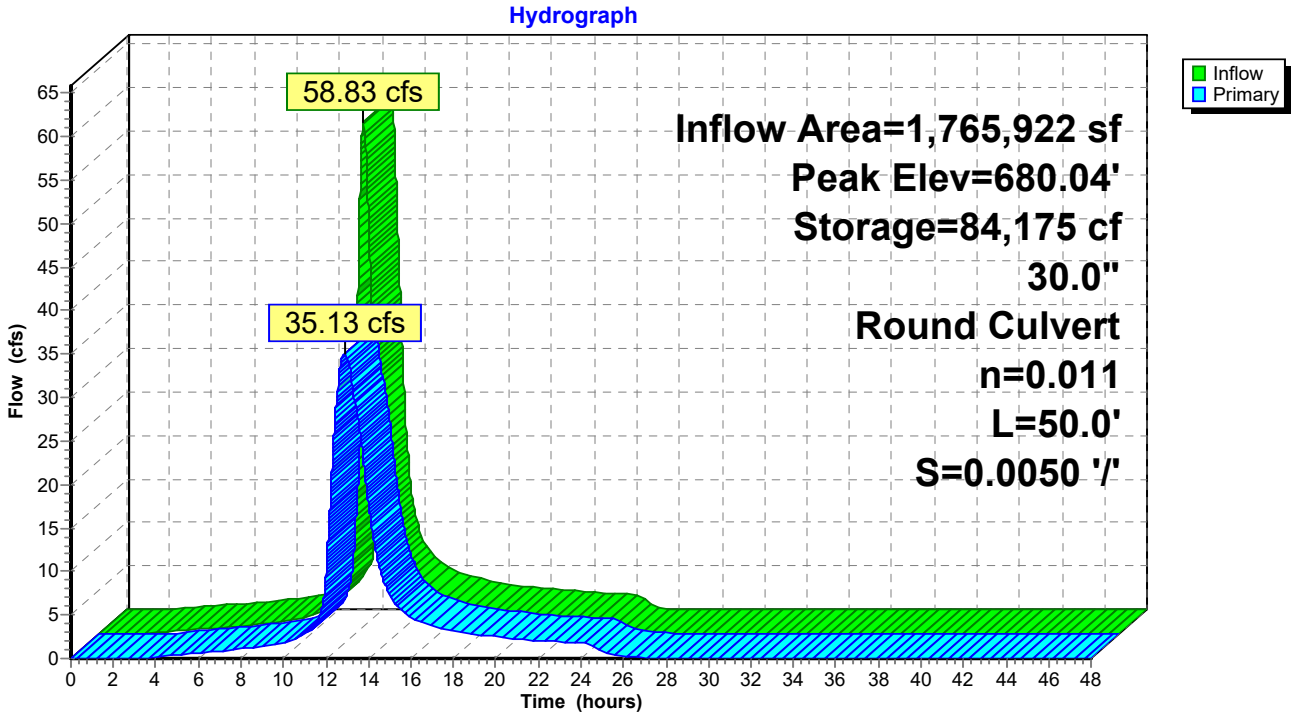
Volume	Invert	Avail.Storage	Storage Description
#1	676.00'	327,838 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
676.00	505	0	0
677.00	14,000	7,253	7,253
678.00	20,000	17,000	24,253
679.00	29,000	24,500	48,753
680.00	39,000	34,000	82,753
681.00	47,000	43,000	125,753
682.00	119,057	83,029	208,781
683.00	119,057	119,057	327,838

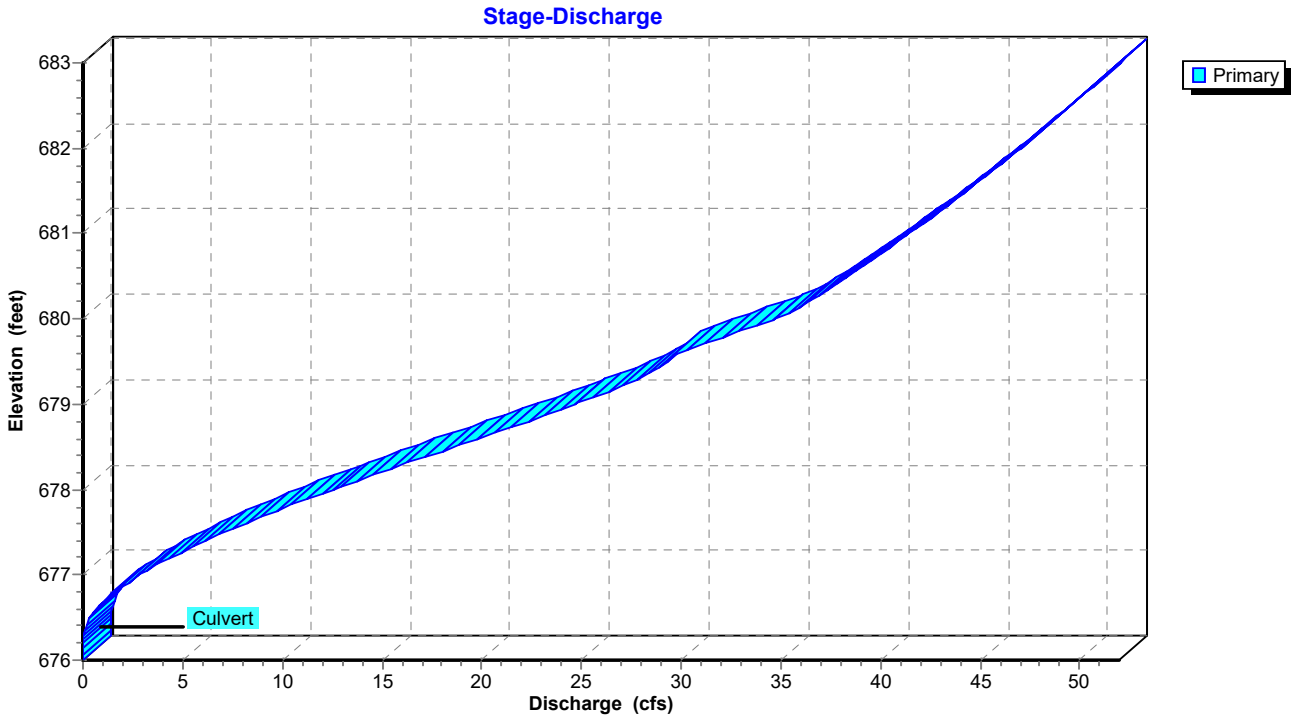
Device	Routing	Invert	Outlet Devices
#1	Primary	676.25'	**30.0" Round Culvert** L= 50.0' Ke= 0.600 Inlet / Outlet Invert= 676.25' / 676.00' S= 0.0050 '/' Cc= 0.900 n= 0.011, Flow Area= 4.91 sf

Primary OutFlow Max=35.13 cfs @ 12.87 hrs HW=680.04' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 35.13 cfs @ 7.16 fps)

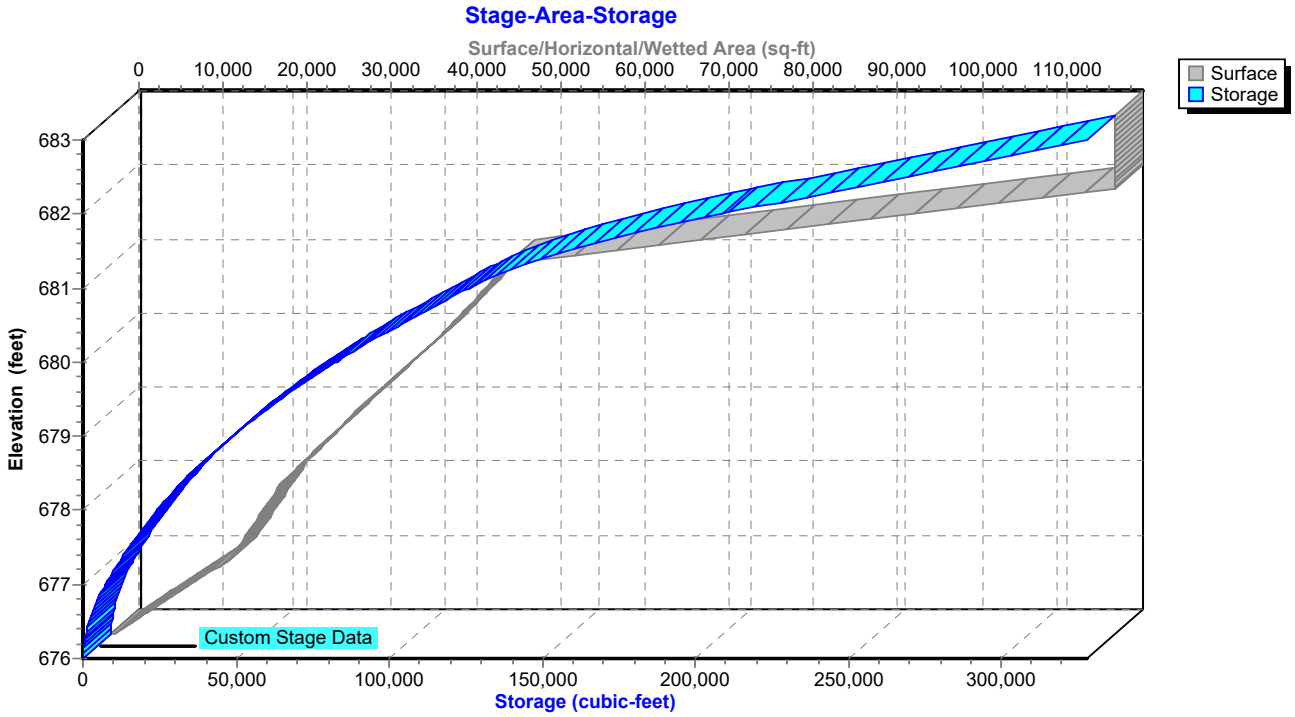
Pond POND1P: PROP POND



Pond POND1P: PROP POND



Pond POND1P: PROP POND



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment DA 1: BASIN 1 PRE Runoff Area=143.000 ac 1.75% Impervious Runoff Depth=2.79"
Flow Length=5,750' Tc=143.0 min CN=75 Runoff=108.16 cfs 1,450,339 cf

Subcatchment DA 2: BASIN 2 PRE Runoff Area=34.900 ac 0.00% Impervious Runoff Depth=1.70"
Flow Length=2,150' Slope=0.0150 '/' Tc=62.3 min CN=62 Runoff=26.69 cfs 215,881 cf

Subcatchment DA 3: BASIN 3 PRE Runoff Area=9.540 ac 0.00% Impervious Runoff Depth=2.53"
Flow Length=500' Slope=0.0200 '/' Tc=20.2 min CN=72 Runoff=19.95 cfs 87,478 cf

Subcatchment DA 4: BASIN 4 PRE Runoff Area=41.500 ac 0.00% Impervious Runoff Depth=2.35"
Flow Length=1,500' Tc=50.3 min CN=70 Runoff=51.96 cfs 354,450 cf

Subcatchment DA1P: BASIN 1 PROPOSED Runoff Area=143.000 ac 1.75% Impervious Runoff Depth=2.79"
Flow Length=5,750' Tc=143.0 min CN=75 Runoff=108.16 cfs 1,450,339 cf

Subcatchment DA2P: BASIN 2 PROPOSED Runoff Area=34.900 ac 0.00% Impervious Runoff Depth=1.70"
Flow Length=2,150' Slope=0.0150 '/' Tc=62.3 min CN=62 Runoff=26.69 cfs 215,881 cf

Subcatchment DA3P: BASIN 3 PRE Runoff Area=2.130 ac 0.00% Impervious Runoff Depth=3.17"
Tc=5.0 min CN=79 Runoff=9.48 cfs 24,483 cf

Subcatchment DA4A: BASIN 4A PROPOSED Runoff Area=4.970 ac 0.00% Impervious Runoff Depth=2.18"
Flow Length=300' Tc=28.4 min CN=68 Runoff=7.54 cfs 39,403 cf

Subcatchment DA4B: BASIN 4B Runoff Area=12.210 ac 24.57% Impervious Runoff Depth=4.95"
Flow Length=1,000' Tc=33.8 min CN=96 Runoff=36.82 cfs 219,403 cf

Subcatchment DA4C: BASIN 4C PROPOSED Runoff Area=1.090 ac 0.00% Impervious Runoff Depth=4.95"
Tc=5.0 min CN=96 Runoff=6.92 cfs 19,586 cf

Subcatchment DA4D: BASIN 4D PROPOSED Runoff Area=1.480 ac 0.00% Impervious Runoff Depth=4.95"
Tc=5.0 min CN=96 Runoff=9.39 cfs 26,594 cf

Subcatchment DA4E1: BASIN 4E1 Runoff Area=8.360 ac 11.96% Impervious Runoff Depth=1.86"
Flow Length=500' Tc=28.1 min CN=64 Runoff=10.56 cfs 56,432 cf

Subcatchment DA4E2: BASIN 4E2 Runoff Area=17.400 ac 0.00% Impervious Runoff Depth=2.27"
Flow Length=1,000' Tc=41.1 min CN=69 Runoff=23.18 cfs 143,246 cf

Reach CD4C: Cross Drain 4C Avg. Flow Depth=0.44' Max Vel=15.15 fps Inflow=6.56 cfs 19,586 cf
18.0" Round Pipe n=0.011 L=60.0' S=0.0792 '/' Capacity=34.93 cfs Outflow=6.56 cfs 19,586 cf

Reach D4C: Ditch 4C Avg. Flow Depth=0.77' Max Vel=2.79 fps Inflow=6.92 cfs 19,586 cf
n=0.033 L=313.0' S=0.0104 '/' Capacity=27.19 cfs Outflow=6.56 cfs 19,586 cf

Reach D4D: Ditch 4D Avg. Flow Depth=0.83' Max Vel=3.46 fps Inflow=9.39 cfs 26,594 cf
n=0.033 L=337.0' S=0.0148 '/' Capacity=32.50 cfs Outflow=9.01 cfs 26,594 cf

Reach D4E1: Ditch 4E1 Avg. Flow Depth=1.09' Max Vel=2.57 fps Inflow=10.56 cfs 56,432 cf
n=0.033 L=740.0' S=0.0061 '/' Capacity=103.92 cfs Outflow=10.25 cfs 56,432 cf

Reach OF4: Primary Stream for Avg. Flow Depth=2.42' Max Vel=4.04 fps Inflow=136.08 cfs 2,108,149 cf
n=0.035 L=1,000.0' S=0.0050 '/' Capacity=640.46 cfs Outflow=135.81 cfs 2,108,149 cf

Reach OF4P: Primary Stream for Avg. Flow Depth=2.53' Max Vel=4.16 fps Inflow=150.50 cfs 2,194,802 cf
n=0.035 L=1,000.0' S=0.0050 '/' Capacity=640.46 cfs Outflow=150.10 cfs 2,194,799 cf

Pond CD2: Cross Drain Peak Elev=682.76' Inflow=26.69 cfs 215,881 cf
36.0" Round Culvert n=0.011 L=50.0' S=0.0050 '/' Outflow=26.69 cfs 215,881 cf

Pond CD4DCE: Cross Drain 4DCE Peak Elev=680.63' Inflow=36.42 cfs 245,859 cf
48.0" Round Culvert n=0.011 L=360.0' S=0.0052 '/' Outflow=36.42 cfs 245,859 cf

Pond CD4E: Cross Drain 4E Peak Elev=681.72' Inflow=32.85 cfs 199,679 cf
48.0" Round Culvert n=0.011 L=200.0' S=0.0052 '/' Outflow=32.85 cfs 199,679 cf

Pond POND1P: PROP POND Peak Elev=680.65' Storage=109,872 cf Inflow=72.29 cfs 465,263 cf
30.0" Round Culvert n=0.011 L=50.0' S=0.0050 '/' Outflow=39.34 cfs 464,696 cf

Total Runoff Area = 19,797,149 sf Runoff Volume = 4,303,517 cf Average Runoff Depth = 2.61"
98.02% Pervious = 19,405,109 sf 1.98% Impervious = 392,040 sf

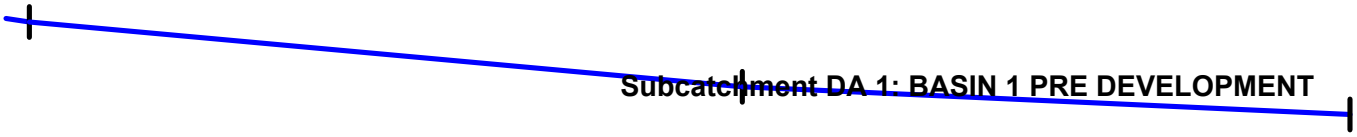
Summary for Subcatchment DA 1: BASIN 1 PRE DEVELOPMENT

Runoff = 108.16 cfs @ 13.83 hrs, Volume= 1,450,339 cf, Depth= 2.79"
Routed to Reach OF4 : Primary Stream for Outfalls

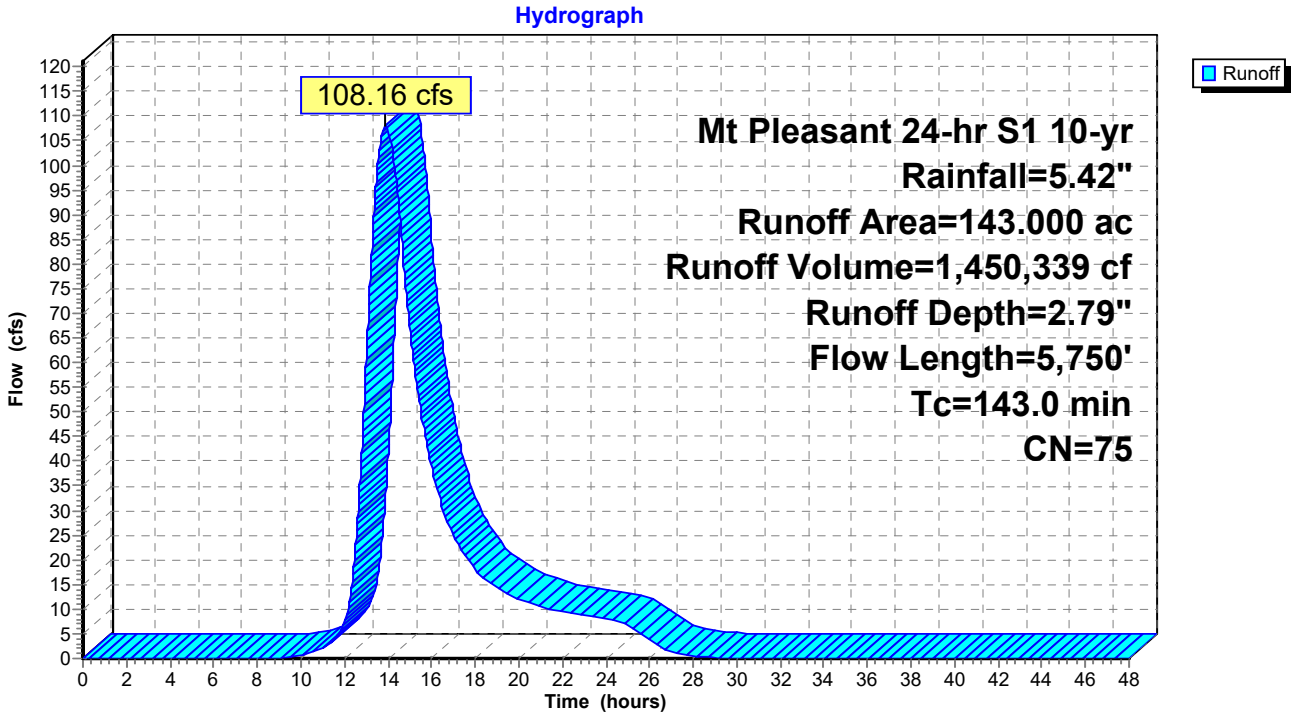
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
69.500	74	>75% Grass cover, Good, HSG C
71.000	76	Woods/grass comb., Fair, HSG C
2.500	98	Paved parking, HSG C
143.000	75	Weighted Average
140.500		98.25% Pervious Area
2.500		1.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.4	100	0.0200	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
92.8	3,050	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	2,600	0.0060	2.93	11.71	**Channel Flow,** Area= 4.0 sf Perim= 6.0' r= 0.67' n= 0.030
143.0	5,750	Total			



Subcatchment DA 1: BASIN 1 PRE DEVELOPMENT



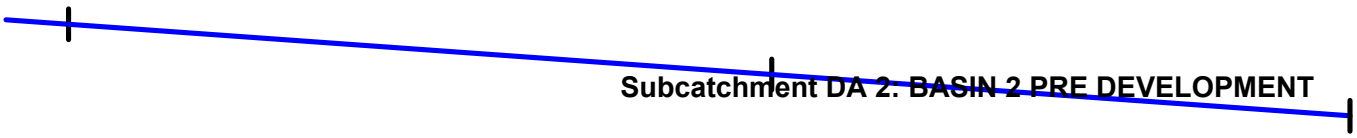
Summary for Subcatchment DA 2: BASIN 2 PRE DEVELOPMENT

Runoff = 26.69 cfs @ 12.94 hrs, Volume= 215,881 cf, Depth= 1.70"
Routed to Reach OF4 : Primary Stream for Outfalls

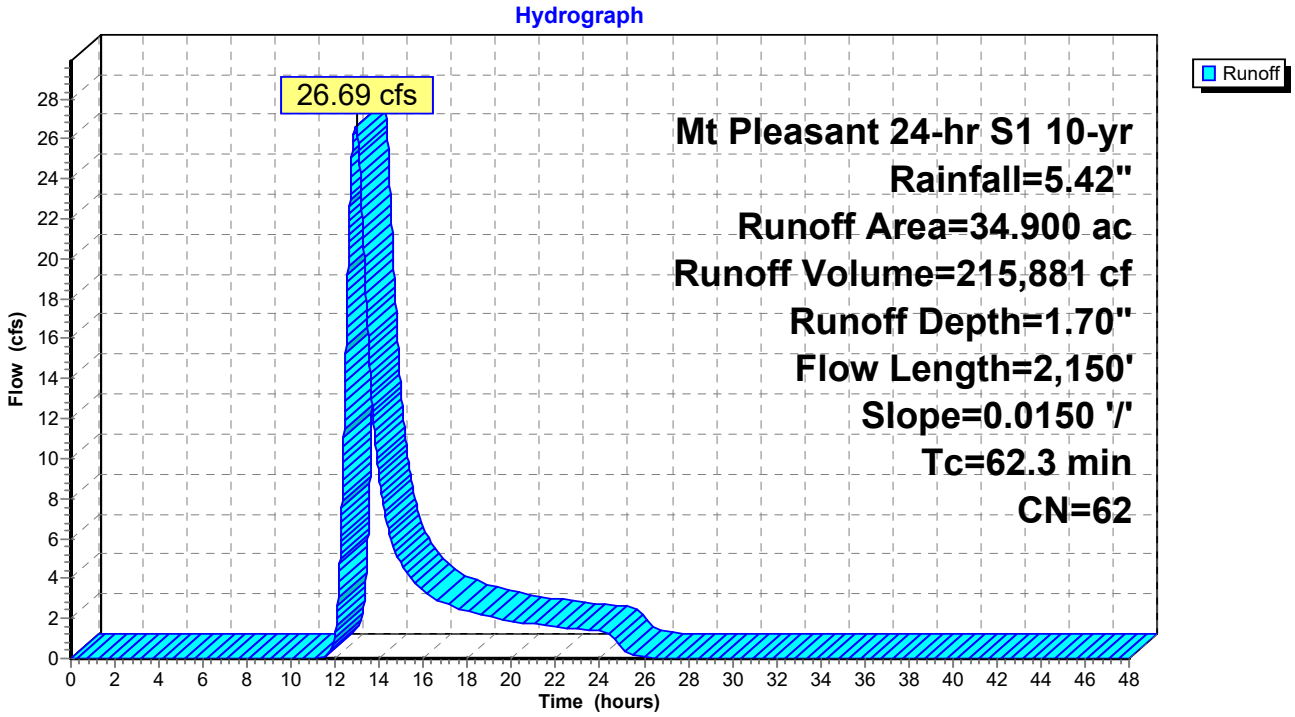
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
17.450	58	Meadow, non-grazed, HSG B
14.450	60	Woods, Fair, HSG B
3.000	96	Gravel surface, HSG C
34.900	62	Weighted Average
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0150	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
21.9	1,125	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	925	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.3	2,150	Total			



Subcatchment DA 2: BASIN 2 PRE DEVELOPMENT



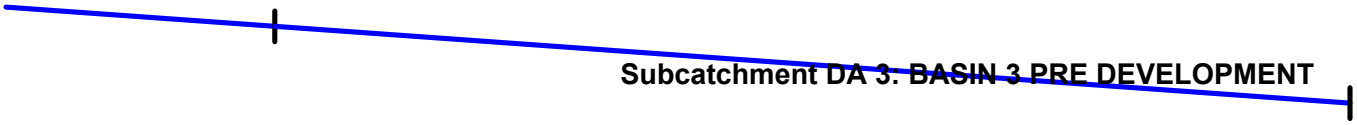
Summary for Subcatchment DA 3: BASIN 3 PRE DEVELOPMENT

Runoff = 19.95 cfs @ 12.24 hrs, Volume= 87,478 cf, Depth= 2.53"
Routed to Reach OF4 : Primary Stream for Outfalls

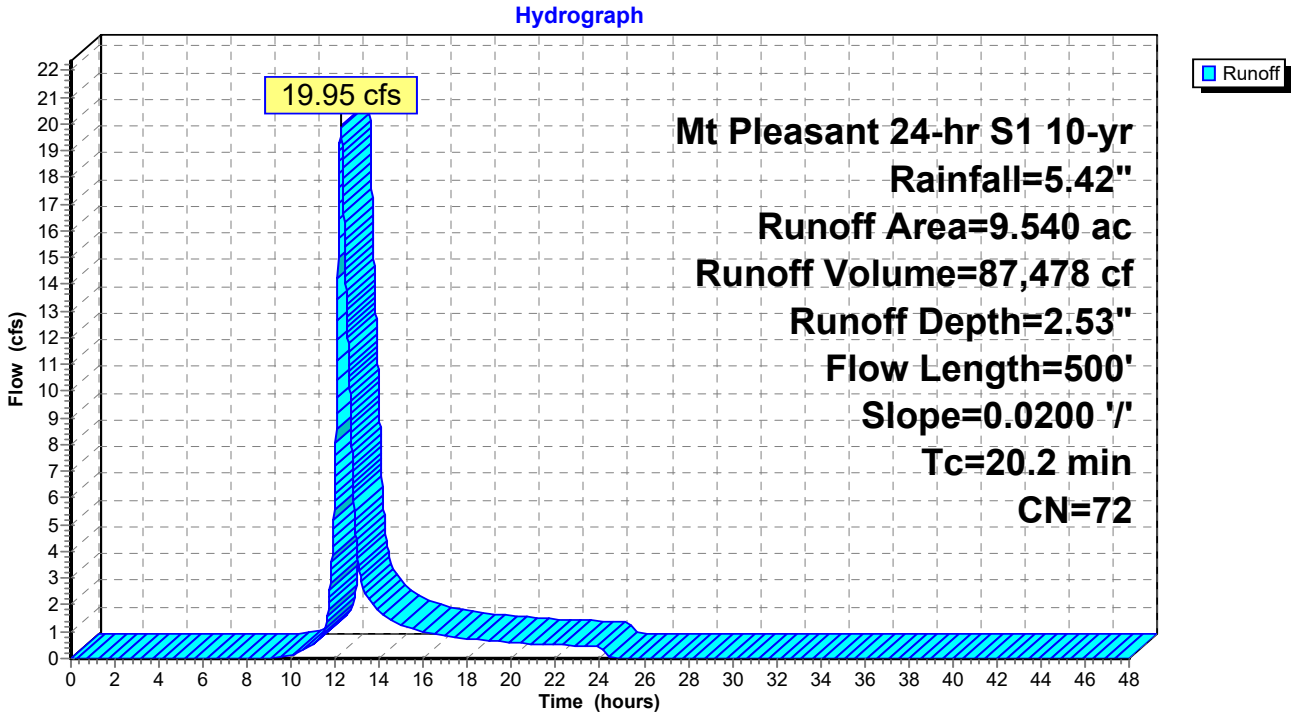
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
3.340	78	Meadow, non-grazed, HSG D
3.340	79	Woods, Fair, HSG D
2.290	58	Meadow, non-grazed, HSG B
0.570	60	Woods, Fair, HSG B
9.540	72	Weighted Average
9.540		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0200	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
6.7	400	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.2	500	Total			



Subcatchment DA 3: BASIN 3 PRE DEVELOPMENT



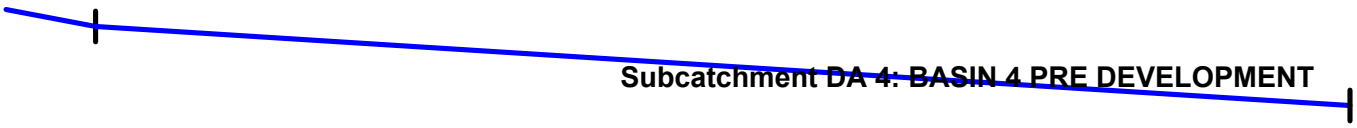
Summary for Subcatchment DA 4: BASIN 4 PRE DEVELOPMENT

Runoff = 51.96 cfs @ 12.69 hrs, Volume= 354,450 cf, Depth= 2.35"
Routed to Reach OF4 : Primary Stream for Outfalls

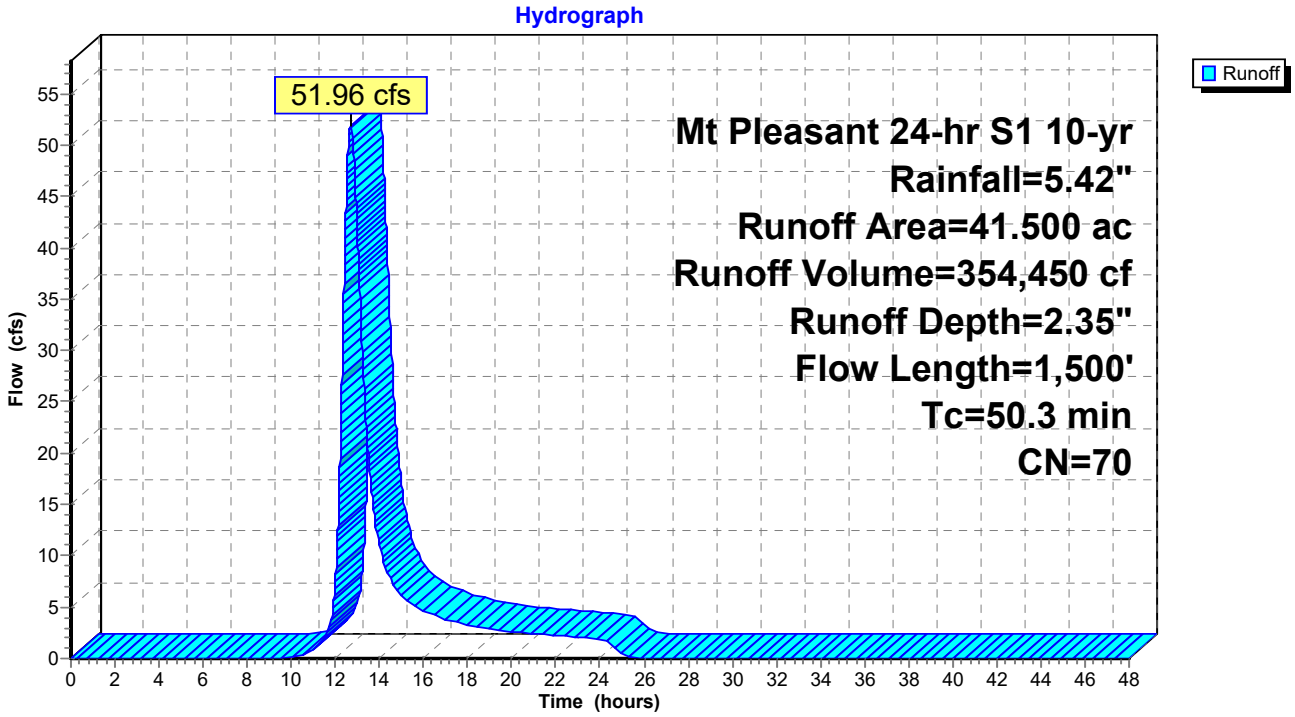
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
7.300	78	Meadow, non-grazed, HSG D
1.830	79	Woods, Fair, HSG D
7.640	58	Meadow, non-grazed, HSG B
1.910	60	Woods, Fair, HSG B
4.150	73	Woods, Fair, HSG C
9.960	71	Meadow, non-grazed, HSG C
2.490	73	Woods, Fair, HSG C
4.970	71	Meadow, non-grazed, HSG C
1.250	73	Woods, Fair, HSG C
41.500	70	Weighted Average
41.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
25.8	1,400	0.0167	0.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
50.3	1,500	Total			



Subcatchment DA 4: BASIN 4 PRE DEVELOPMENT



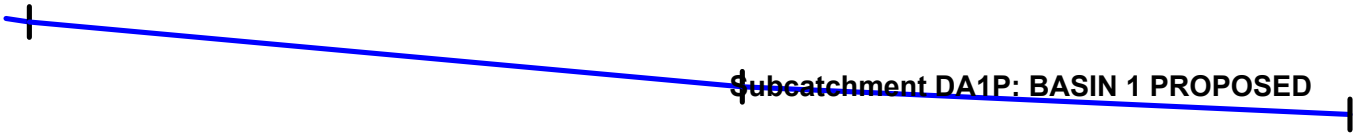
Summary for Subcatchment DA1P: BASIN 1 PROPOSED

Runoff = 108.16 cfs @ 13.83 hrs, Volume= 1,450,339 cf, Depth= 2.79"
Routed to Reach OF4P : Primary Stream for Outfalls

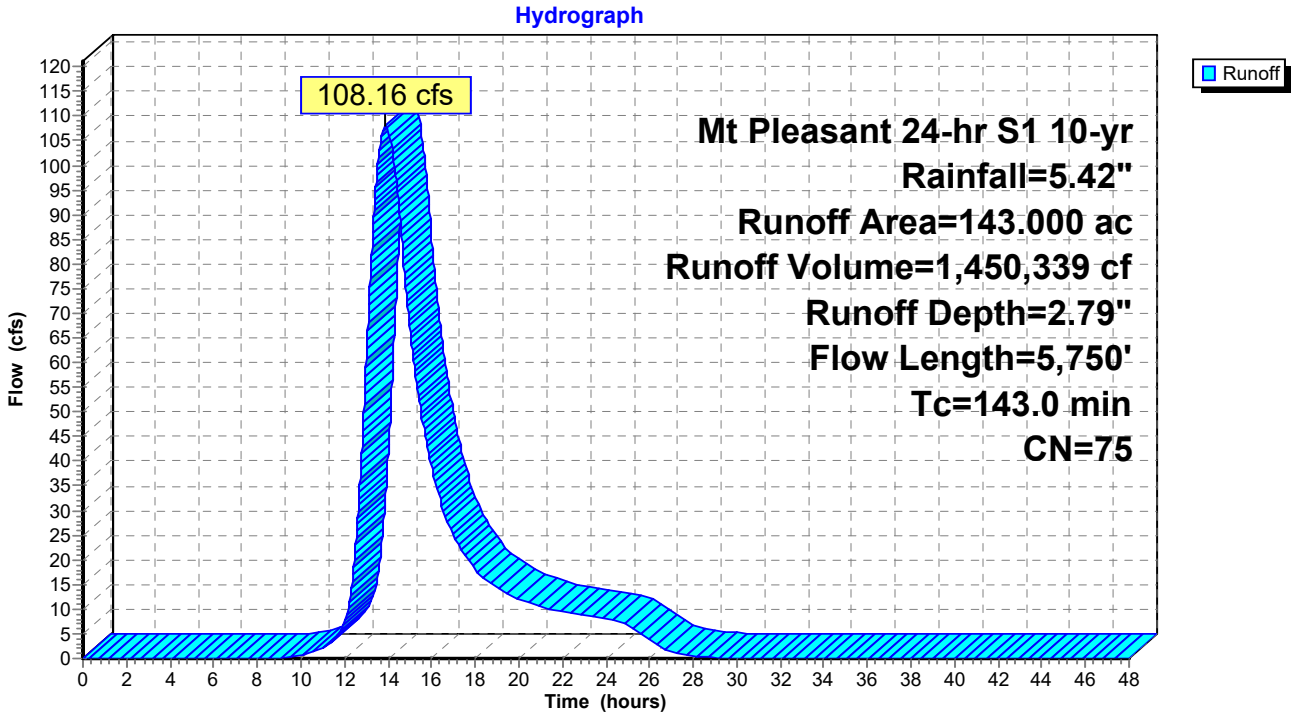
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
69.500	74	>75% Grass cover, Good, HSG C
71.000	76	Woods/grass comb., Fair, HSG C
2.500	98	Paved parking, HSG C
143.000	75	Weighted Average
140.500		98.25% Pervious Area
2.500		1.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.4	100	0.0200	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
92.8	3,050	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	2,600	0.0060	2.93	11.71	**Channel Flow,** Area= 4.0 sf Perim= 6.0' r= 0.67' n= 0.030
143.0	5,750	Total			



Subcatchment DA1P: BASIN 1 PROPOSED



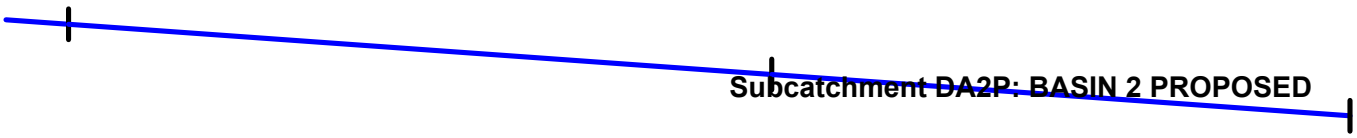
Summary for Subcatchment DA2P: BASIN 2 PROPOSED

Runoff = 26.69 cfs @ 12.94 hrs, Volume= 215,881 cf, Depth= 1.70"
Routed to Pond CD2 : Cross Drain

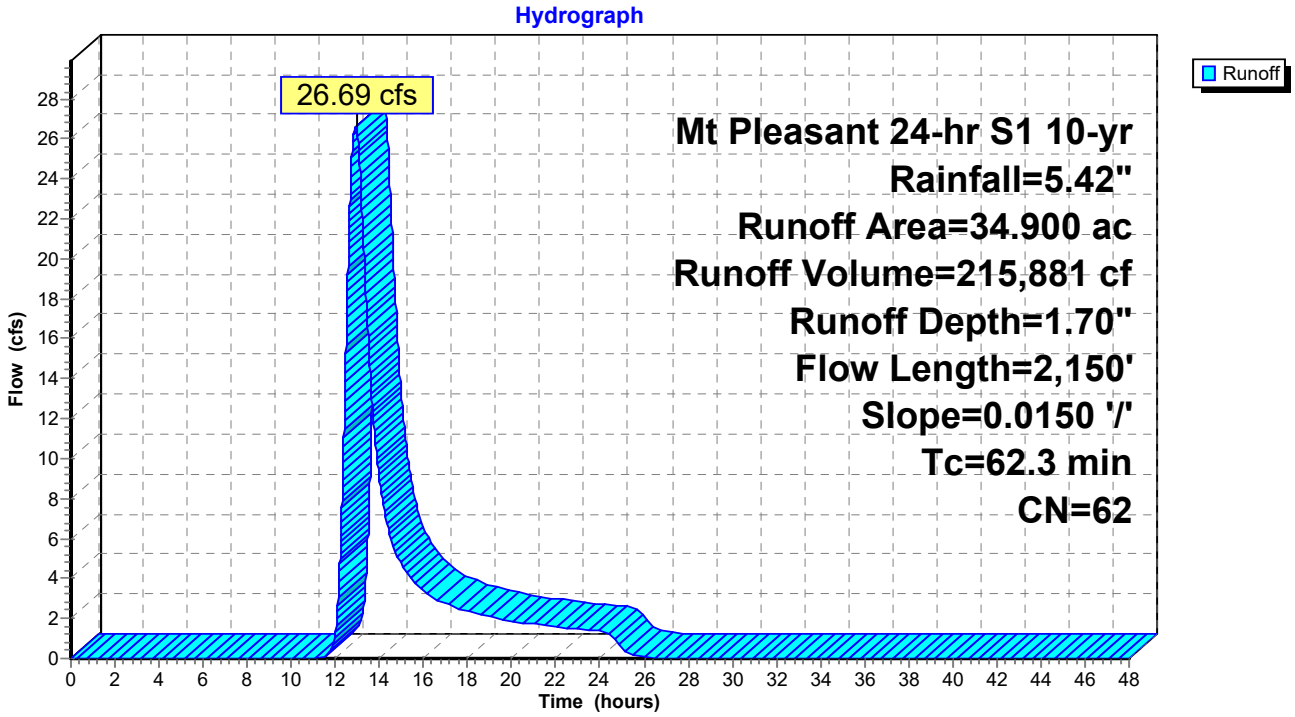
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
17.450	58	Meadow, non-grazed, HSG B
14.450	60	Woods, Fair, HSG B
3.000	96	Gravel surface, HSG C
34.900	62	Weighted Average
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0150	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
21.9	1,125	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	925	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.3	2,150	Total			



Subcatchment DA2P: BASIN 2 PROPOSED



Summary for Subcatchment DA3P: BASIN 3 PRE DEVELOPMENT

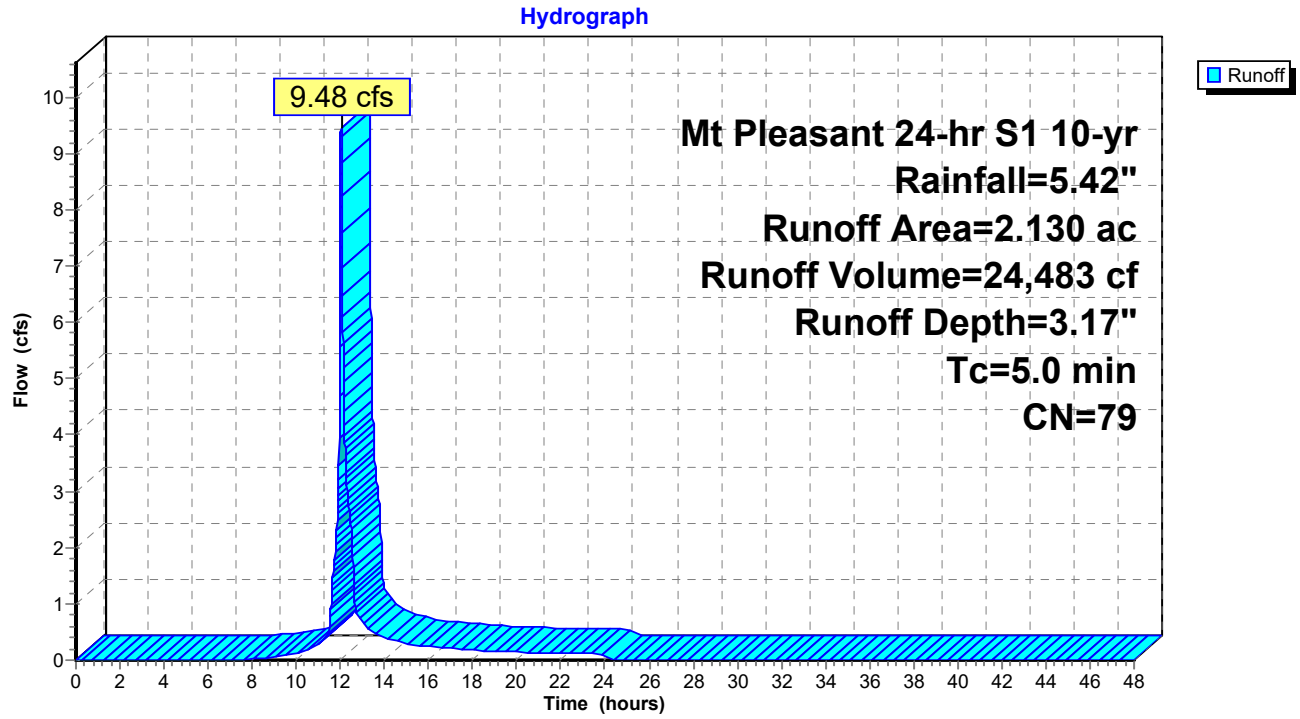
Runoff = 9.48 cfs @ 12.03 hrs, Volume= 24,483 cf, Depth= 3.17"
Routed to Reach OF4P : Primary Stream for Outfalls

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
2.130	79	Woods, Fair, HSG D
2.130		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA3P: BASIN 3 PRE DEVELOPMENT



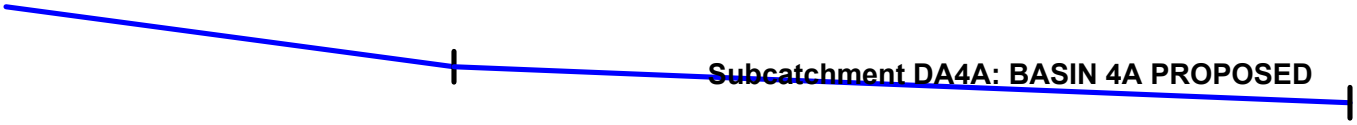
Summary for Subcatchment DA4A: BASIN 4A PROPOSED

Runoff = 7.54 cfs @ 12.37 hrs, Volume= 39,403 cf, Depth= 2.18"
Routed to Reach OF4P : Primary Stream for Outfalls

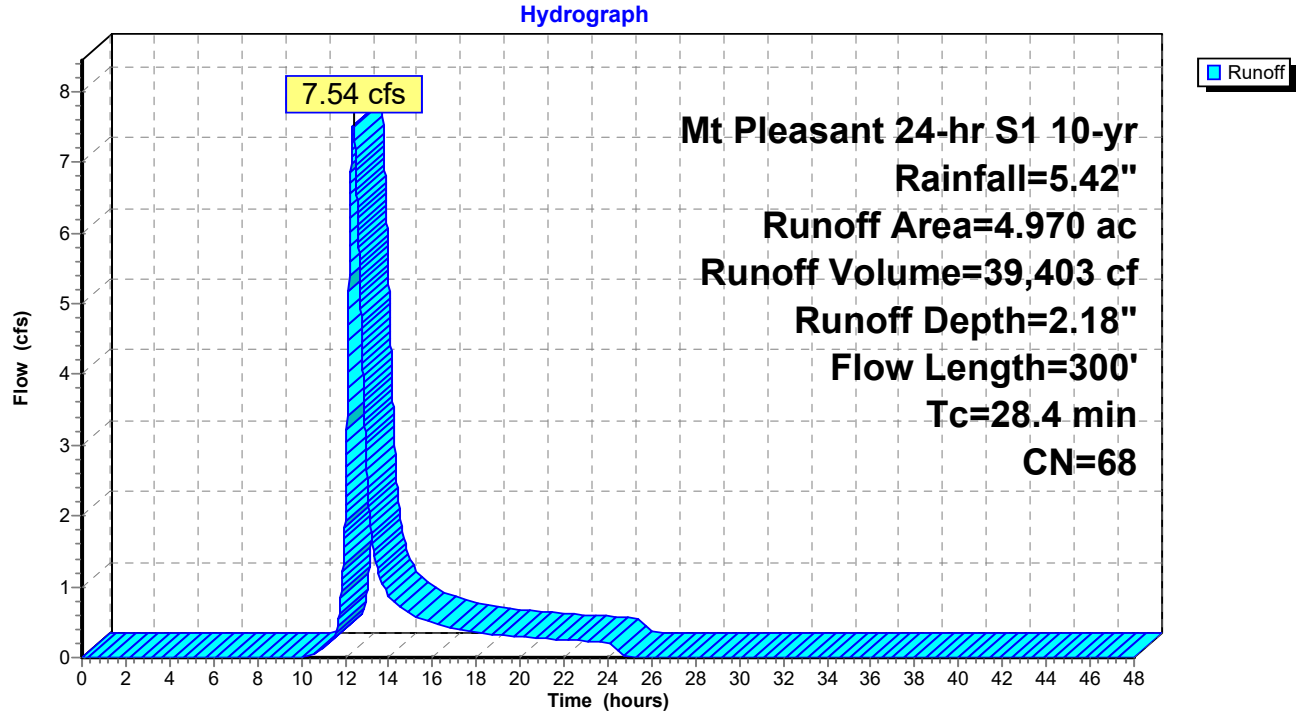
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
1.910	60	Woods, Fair, HSG B
3.060	73	Woods, Fair, HSG C
4.970	68	Weighted Average
4.970		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
3.9	200	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
28.4	300	Total			



Subcatchment DA4A: BASIN 4A PROPOSED



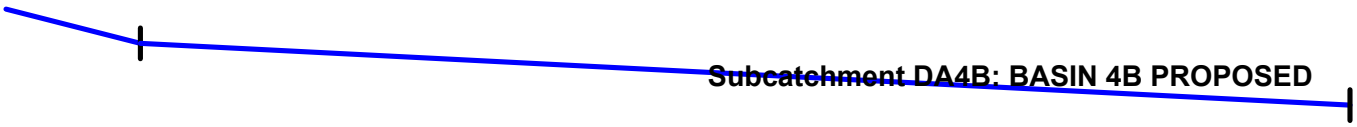
Summary for Subcatchment DA4B: BASIN 4B PROPOSED

Runoff = 36.82 cfs @ 12.40 hrs, Volume= 219,403 cf, Depth= 4.95"
Routed to Pond POND1P : PROP POND

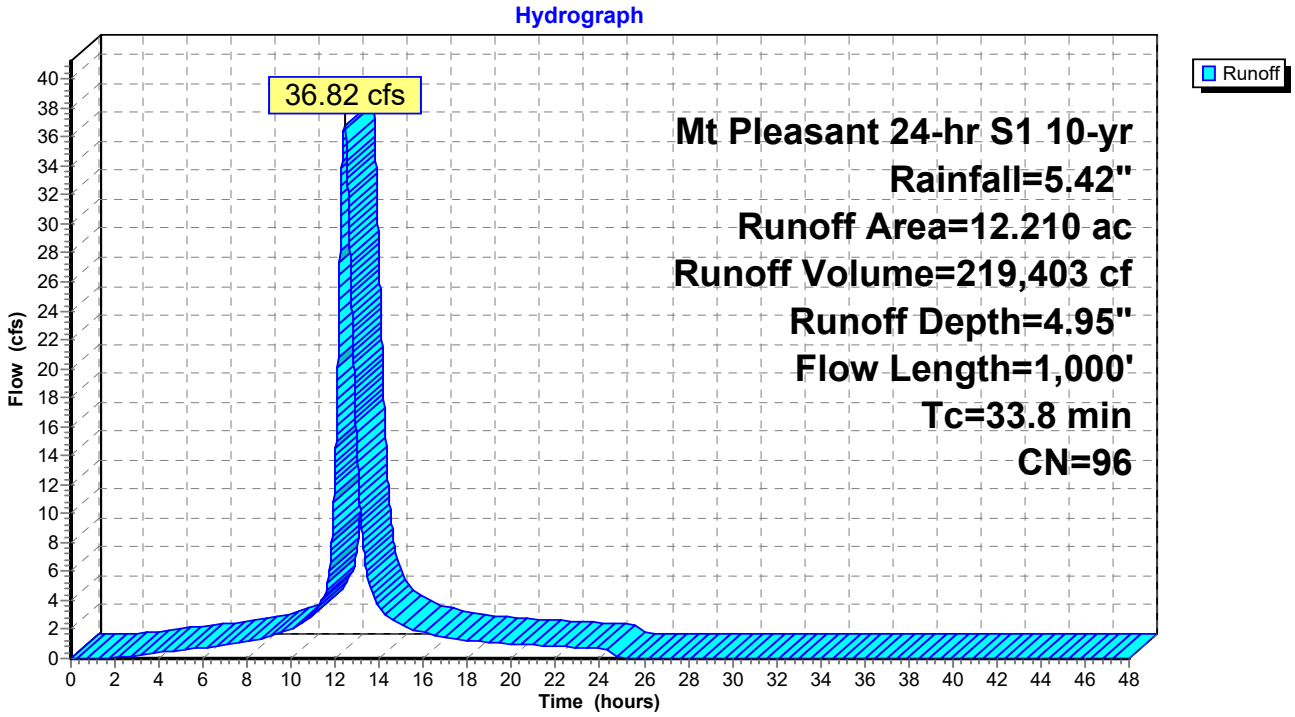
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
9.210	96	Gravel surface, HSG C
1.000	98	Paved parking, HSG D
2.000	98	Roofs, HSG D
12.210	96	Weighted Average
9.210		75.43% Pervious Area
3.000		24.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** n= 0.800 P2= 3.57"
9.3	900	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
33.8	1,000	Total			



Subcatchment DA4B: BASIN 4B PROPOSED



Summary for Subcatchment DA4C: BASIN 4C PROPOSED

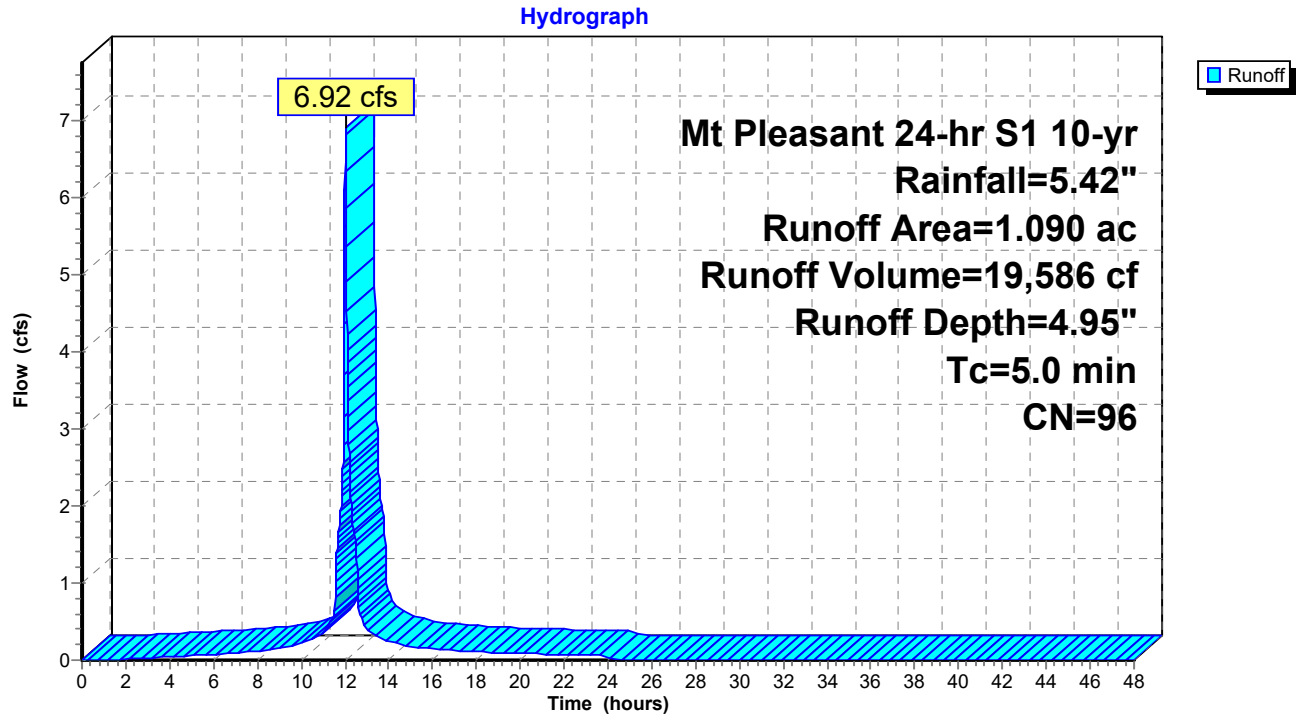
Runoff = 6.92 cfs @ 12.03 hrs, Volume= 19,586 cf, Depth= 4.95"
Routed to Reach D4C : Ditch 4C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
1.090	96	Gravel surface, HSG C
1.090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA4C: BASIN 4C PROPOSED



Summary for Subcatchment DA4D: BASIN 4D PROPOSED

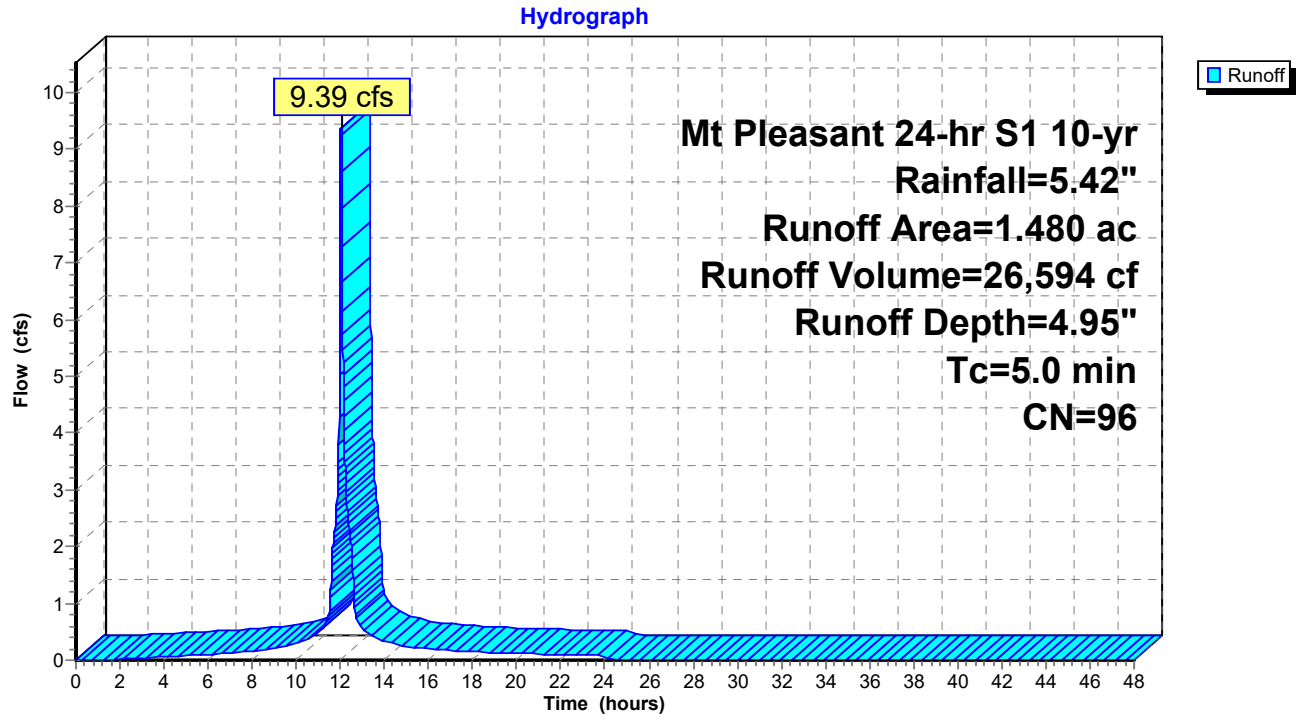
Runoff = 9.39 cfs @ 12.03 hrs, Volume= 26,594 cf, Depth= 4.95"
Routed to Reach D4D : Ditch 4D

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
1.480	96	Gravel surface, HSG C
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA4D: BASIN 4D PROPOSED



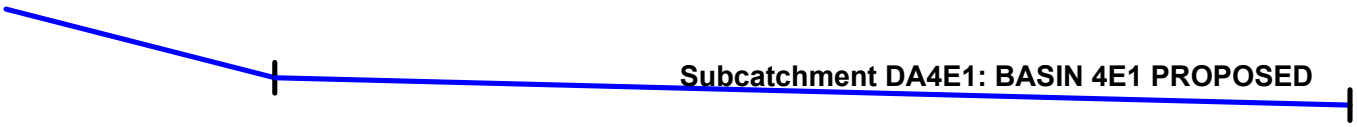
Summary for Subcatchment DA4E1: BASIN 4E1 PROPOSED

Runoff = 10.56 cfs @ 12.39 hrs, Volume= 56,432 cf, Depth= 1.86"
Routed to Reach D4E1 : Ditch 4E1

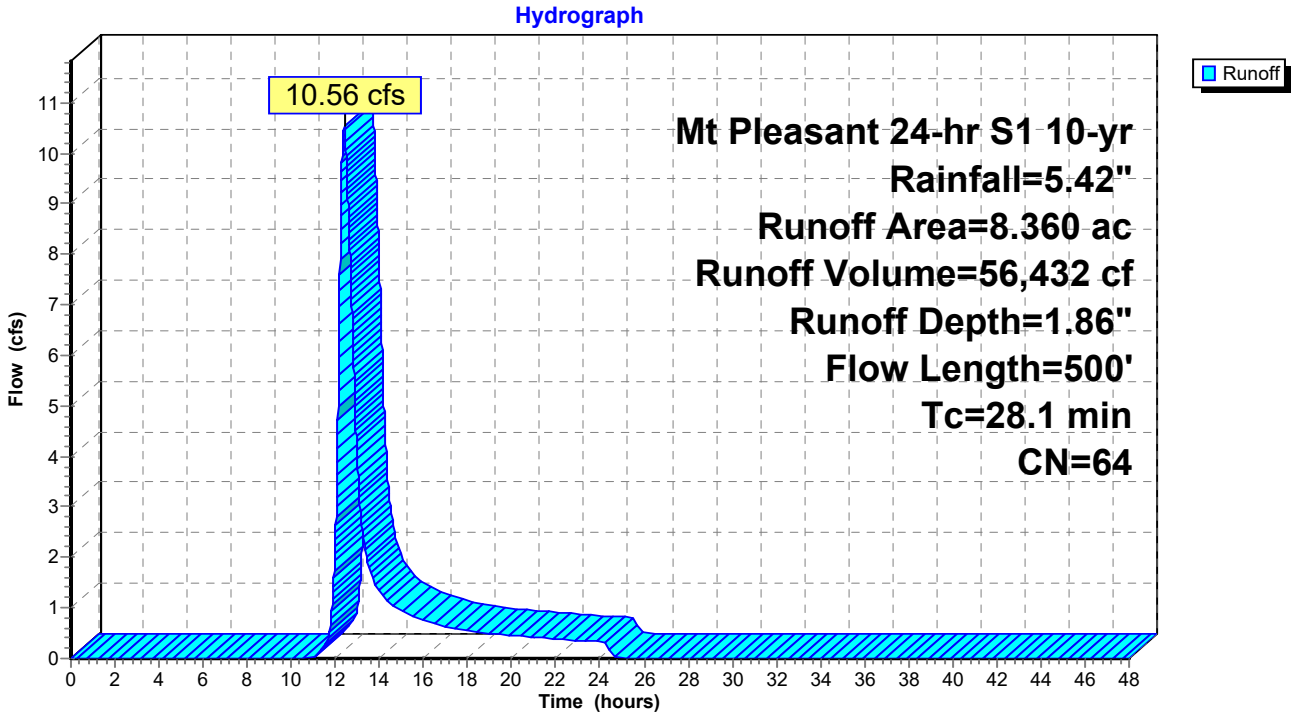
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
3.680	58	Meadow, non-grazed, HSG B
3.680	60	Woods, Fair, HSG B
1.000	98	Paved roads w/curbs & sewers, HSG B
8.360	64	Weighted Average
7.360		88.04% Pervious Area
1.000		11.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.1000	0.09		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
9.5	400	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
28.1	500	Total			



Subcatchment DA4E1: BASIN 4E1 PROPOSED



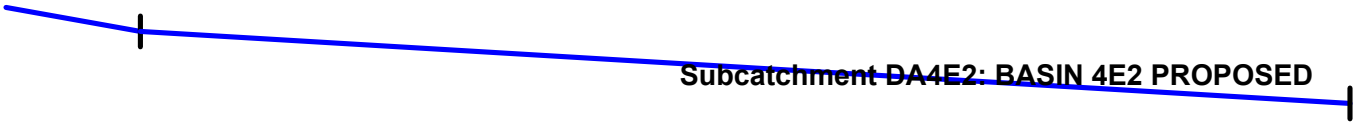
Summary for Subcatchment DA4E2: BASIN 4E2 PROPOSED

Runoff = 23.18 cfs @ 12.56 hrs, Volume= 143,246 cf, Depth= 2.27"
Routed to Pond CD4E : Cross Drain 4E

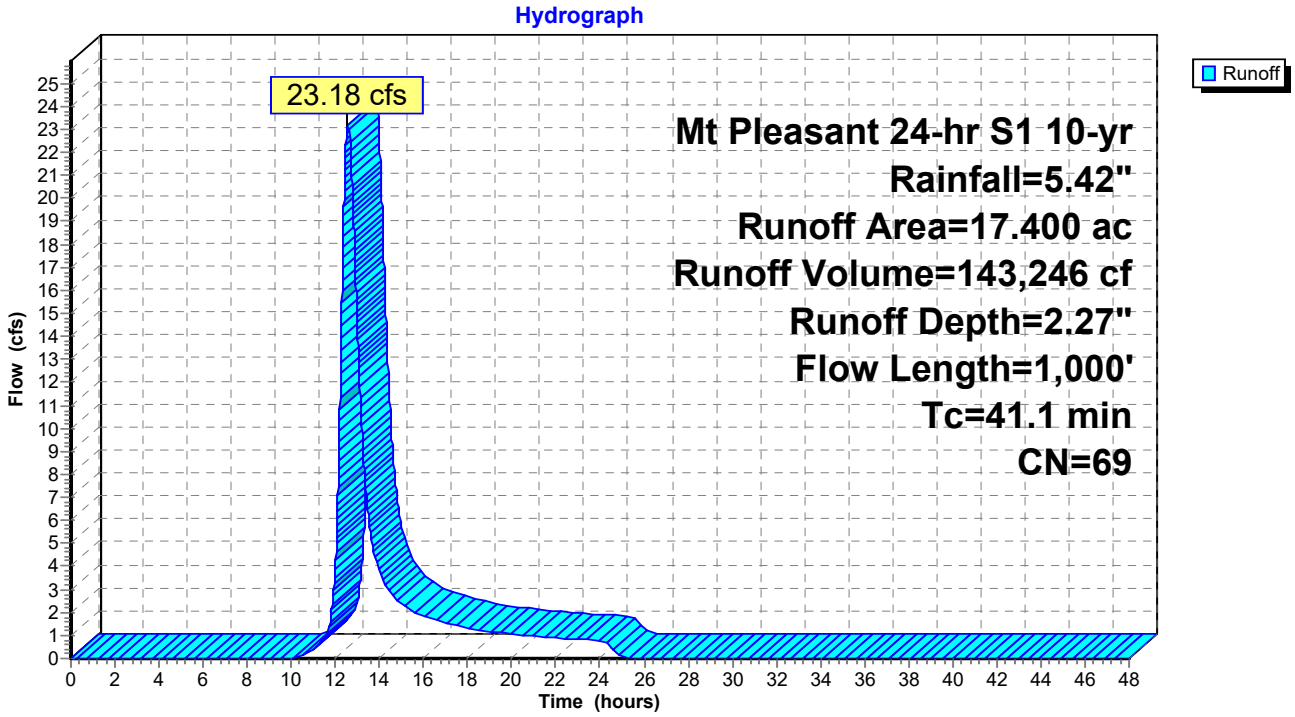
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 10-yr Rainfall=5.42"

Area (ac)	CN	Description
8.700	79	Woods, Fair, HSG D
4.350	58	Meadow, non-grazed, HSG B
4.350	60	Woods, Fair, HSG B
17.400	69	Weighted Average
17.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
16.6	900	0.0167	0.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
41.1	1,000	Total			



Subcatchment DA4E2: BASIN 4E2 PROPOSED



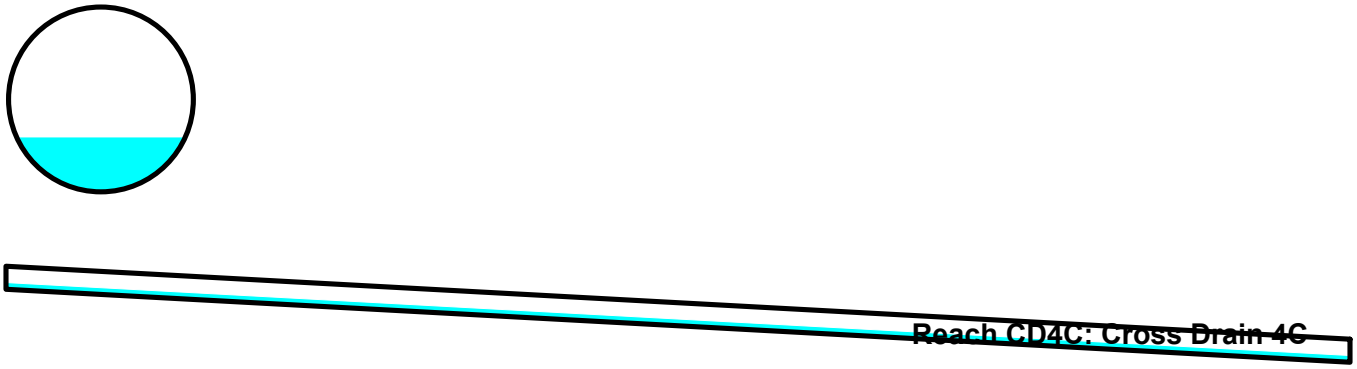
Summary for Reach CD4C: Cross Drain 4C

Inflow Area = 47,480 sf, 0.00% Impervious, Inflow Depth = 4.95" for 10-yr event
Inflow = 6.56 cfs @ 12.04 hrs, Volume= 19,586 cf
Outflow = 6.56 cfs @ 12.05 hrs, Volume= 19,586 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond CD4DCE : Cross Drain 4DCE

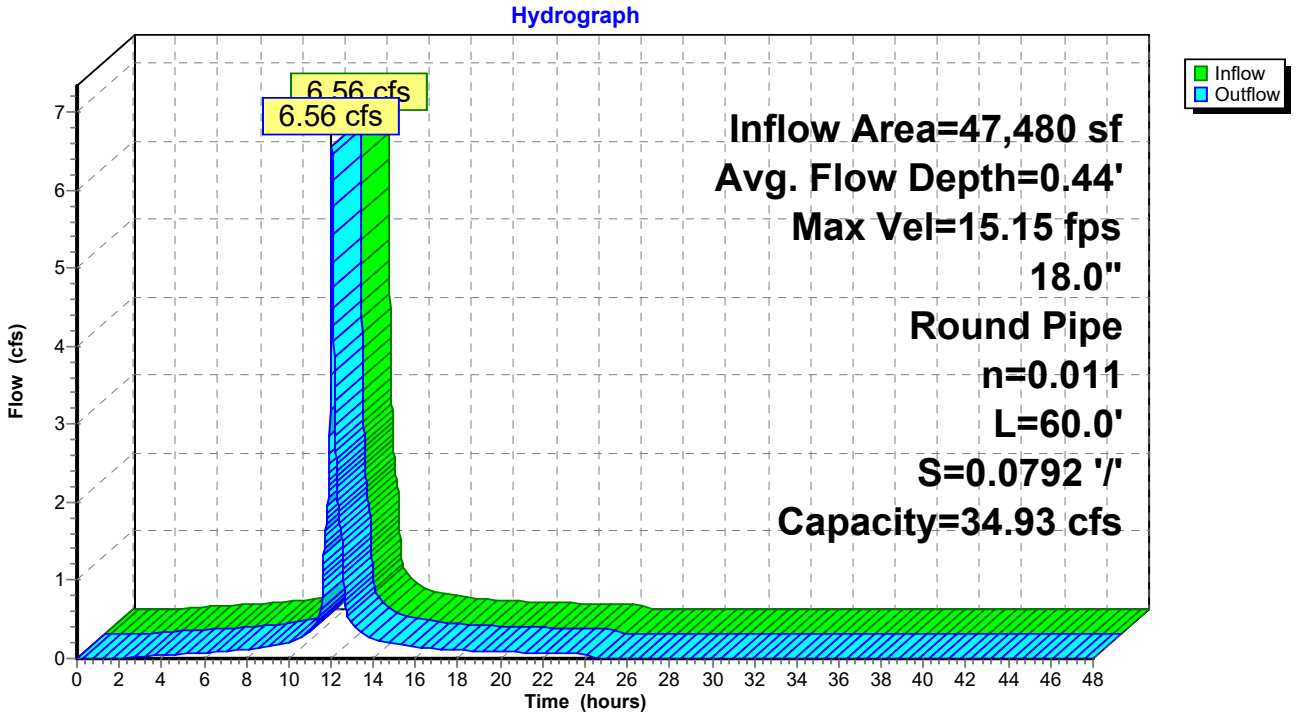
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 15.15 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 4.59 fps, Avg. Travel Time= 0.2 min

Peak Storage= 26 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.44' , Surface Width= 1.37'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 34.93 cfs

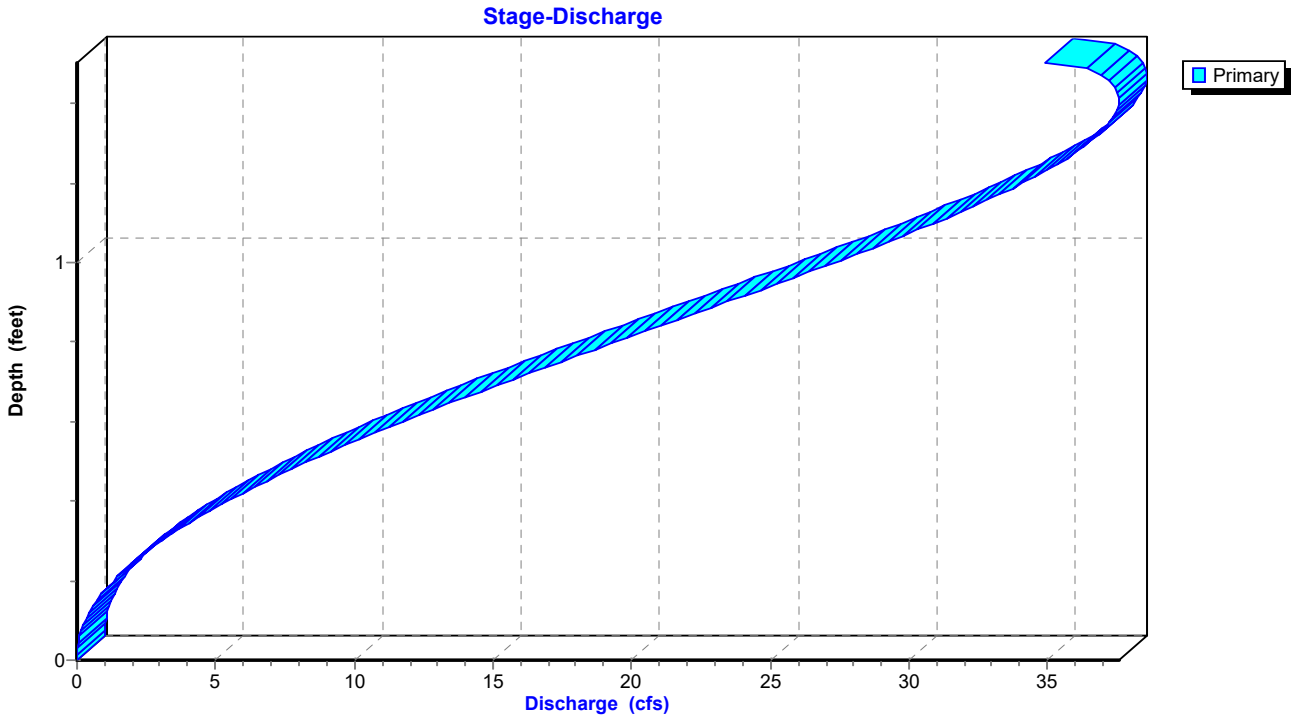
18.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 60.0' Slope= 0.0792 '/'
Inlet Invert= 683.75', Outlet Invert= 679.00'



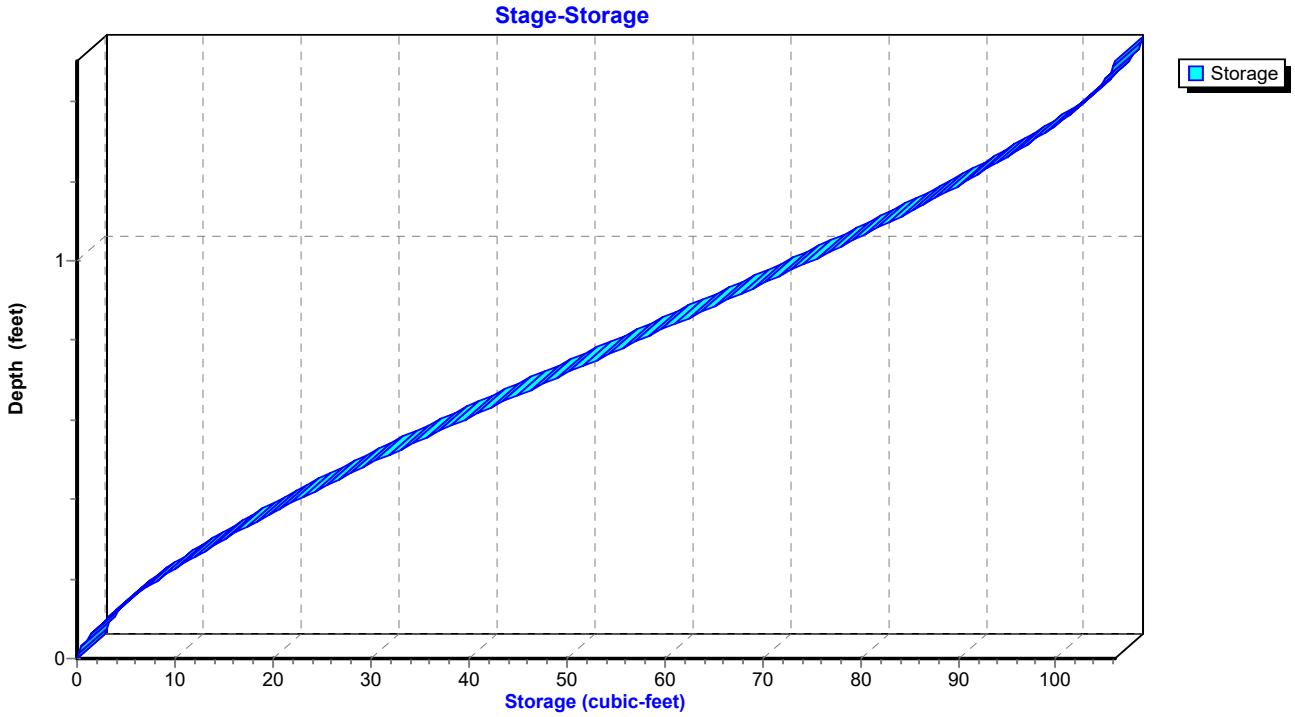
Reach CD4C: Cross Drain 4C



Reach CD4C: Cross Drain 4C



Reach CD4C: Cross Drain 4C



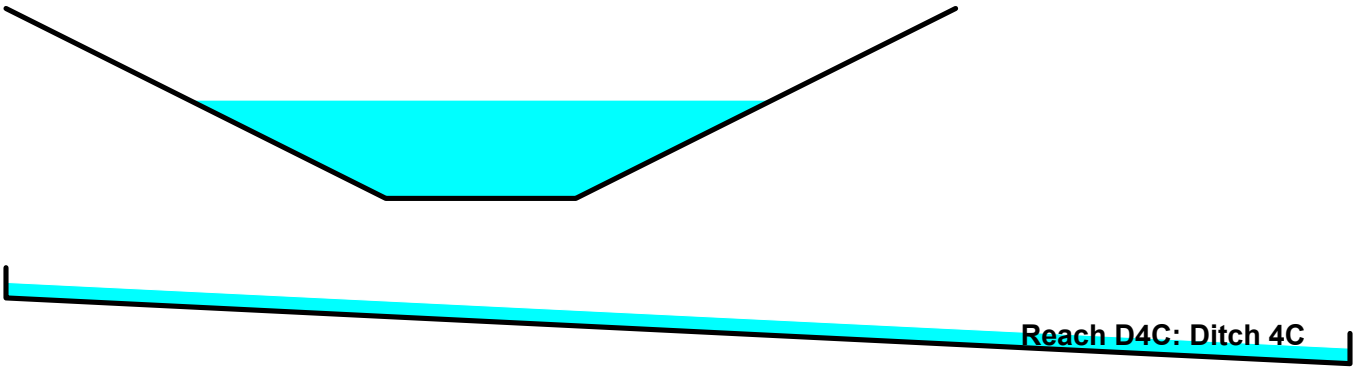
Summary for Reach D4C: Ditch 4C

Inflow Area = 47,480 sf, 0.00% Impervious, Inflow Depth = 4.95" for 10-yr event
Inflow = 6.92 cfs @ 12.03 hrs, Volume= 19,586 cf
Outflow = 6.56 cfs @ 12.04 hrs, Volume= 19,586 cf, Atten= 5%, Lag= 1.2 min
Routed to Reach CD4C : Cross Drain 4C

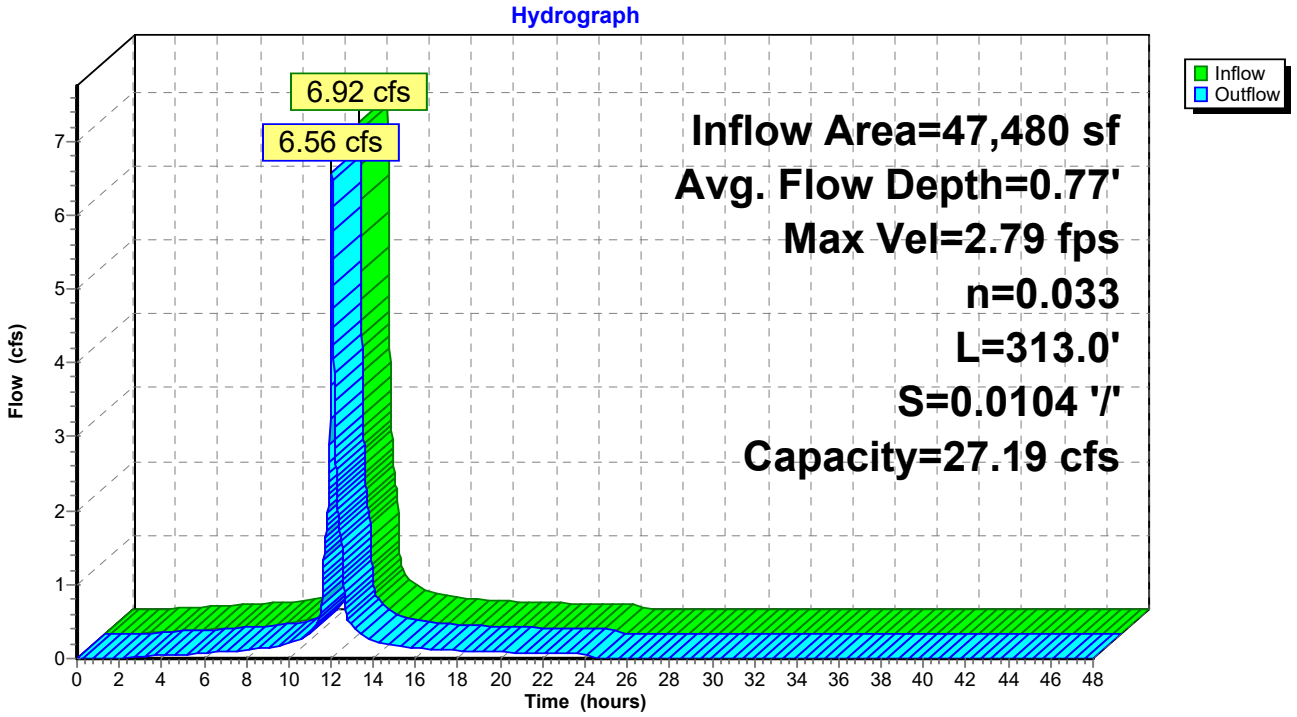
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.79 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 0.81 fps, Avg. Travel Time= 6.5 min

Peak Storage= 735 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.77' , Surface Width= 4.59'
Bank-Full Depth= 1.50' Flow Area= 6.8 sf, Capacity= 27.19 cfs

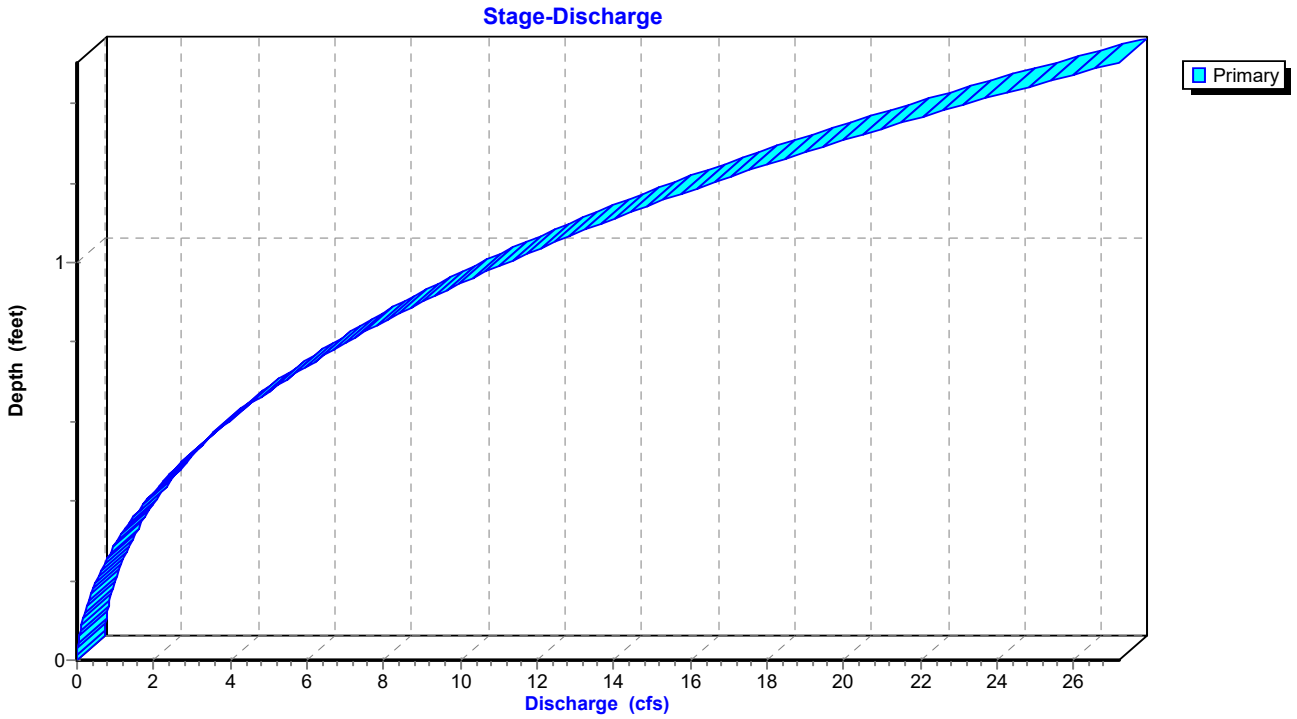
1.50' x 1.50' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 7.50'
Length= 313.0' Slope= 0.0104 '/'
Inlet Invert= 687.00', Outlet Invert= 683.75'



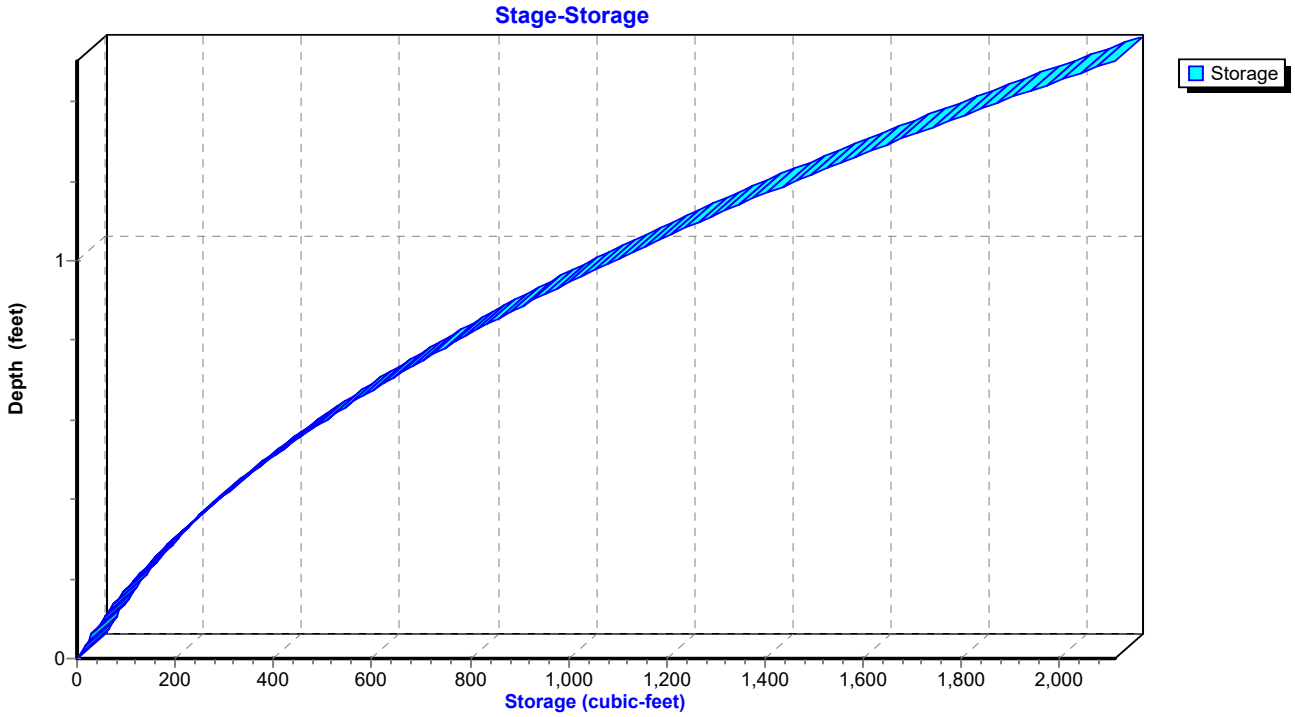
Reach D4C: Ditch 4C



Reach D4C: Ditch 4C



Reach D4C: Ditch 4C



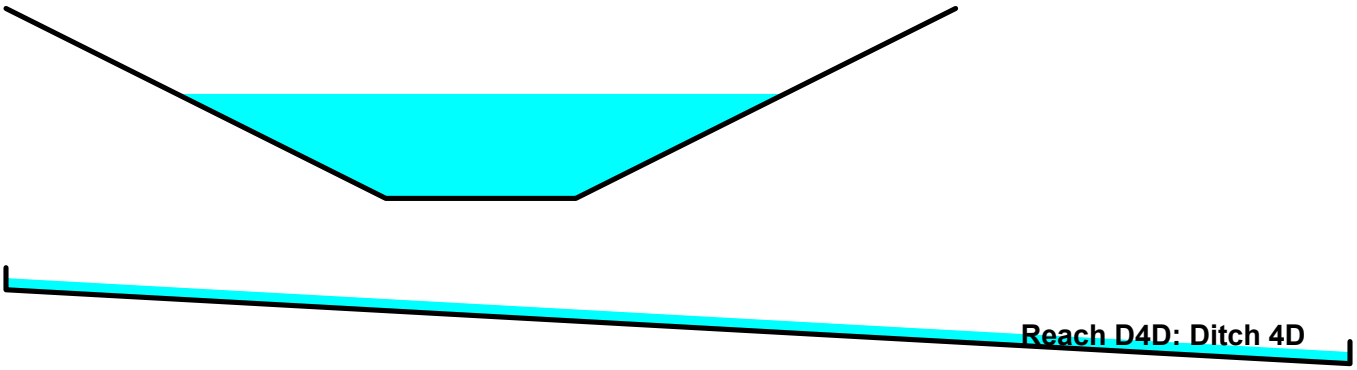
Summary for Reach D4D: Ditch 4D

Inflow Area = 64,469 sf, 0.00% Impervious, Inflow Depth = 4.95" for 10-yr event
Inflow = 9.39 cfs @ 12.03 hrs, Volume= 26,594 cf
Outflow = 9.01 cfs @ 12.04 hrs, Volume= 26,594 cf, Atten= 4%, Lag= 1.0 min
Routed to Pond CD4DCE : Cross Drain 4DCE

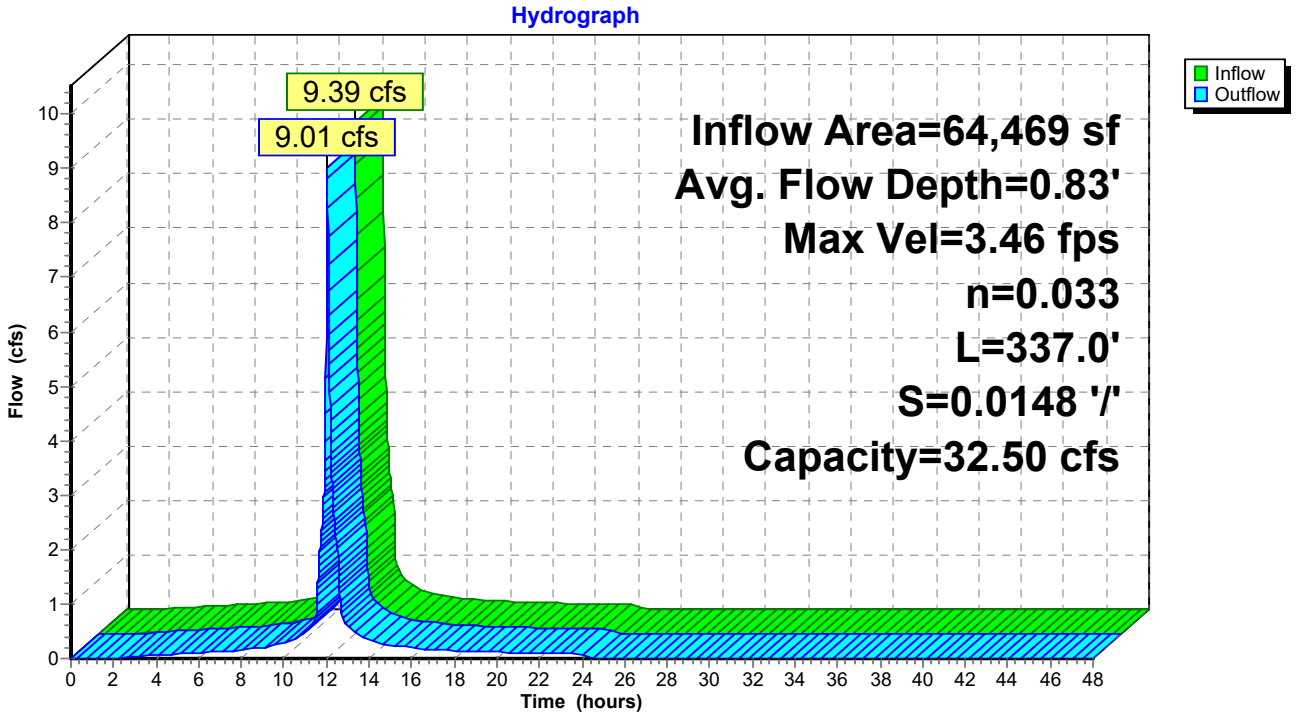
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.46 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 1.01 fps, Avg. Travel Time= 5.5 min

Peak Storage= 877 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.83' , Surface Width= 4.80'
Bank-Full Depth= 1.50' Flow Area= 6.8 sf, Capacity= 32.50 cfs

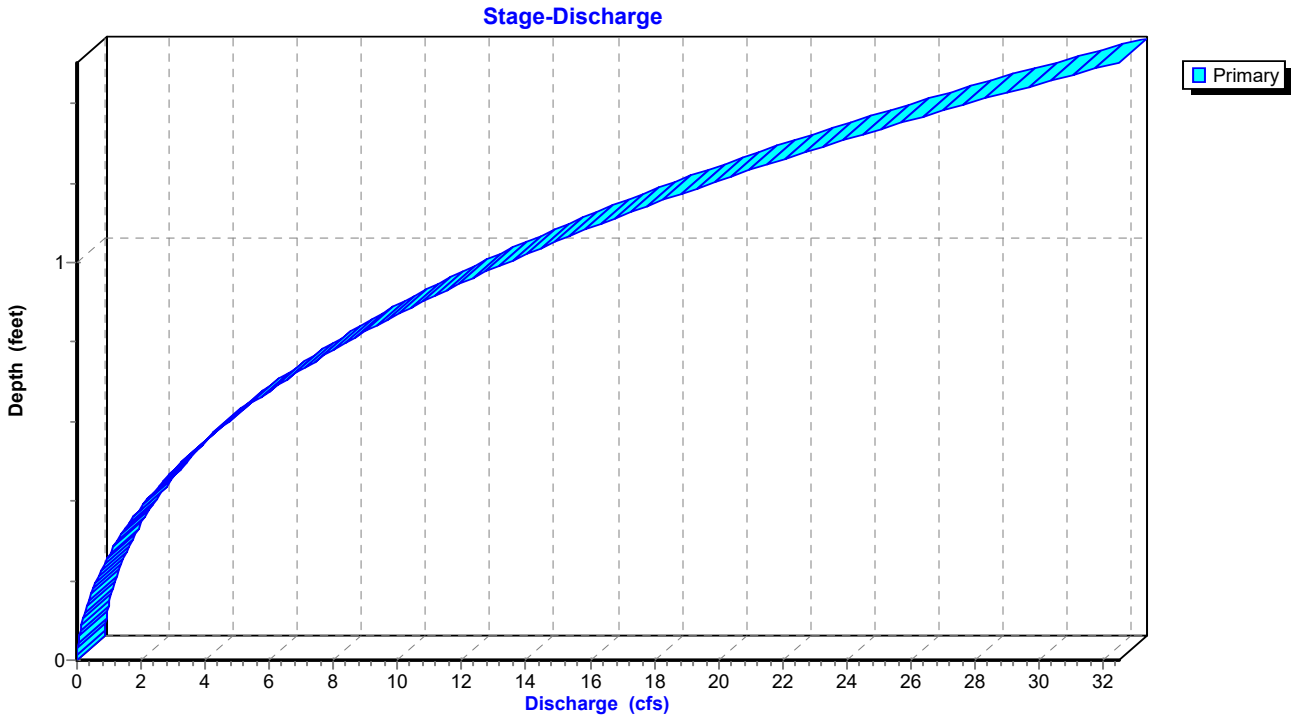
1.50' x 1.50' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 7.50'
Length= 337.0' Slope= 0.0148 '/'
Inlet Invert= 688.00', Outlet Invert= 683.00'



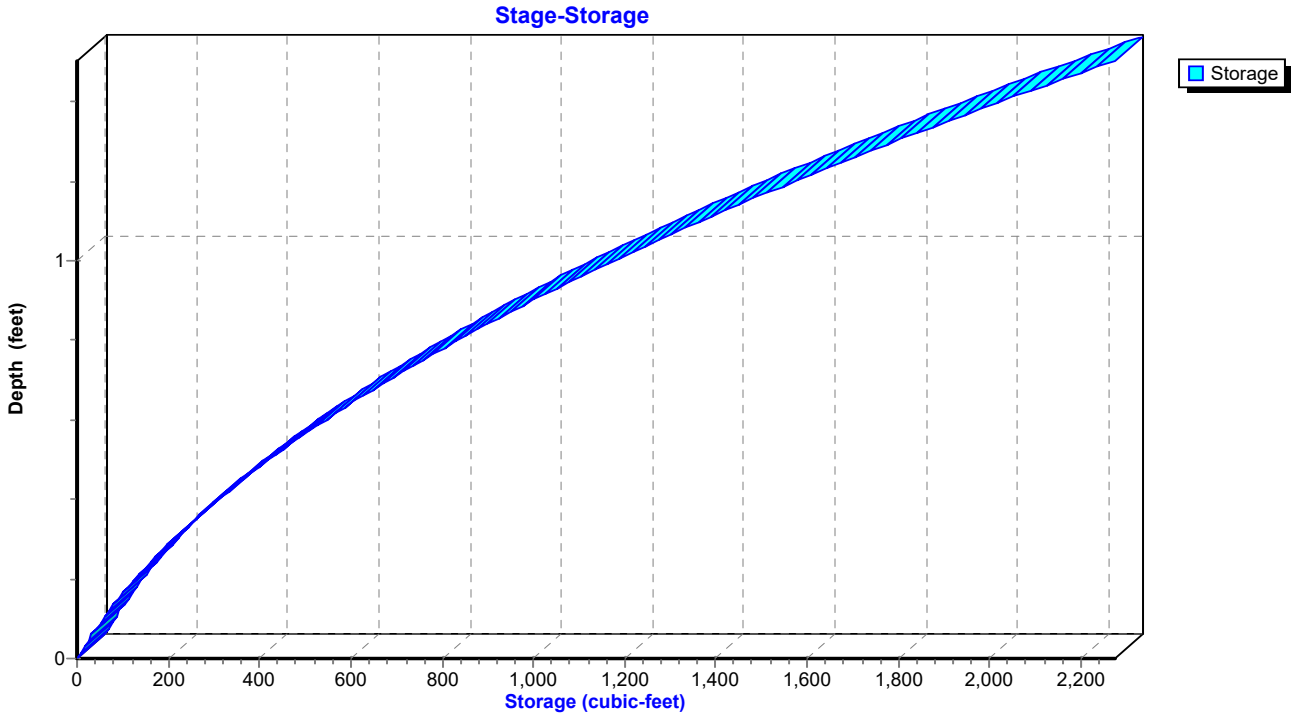
Reach D4D: Ditch 4D



Reach D4D: Ditch 4D



Reach D4D: Ditch 4D



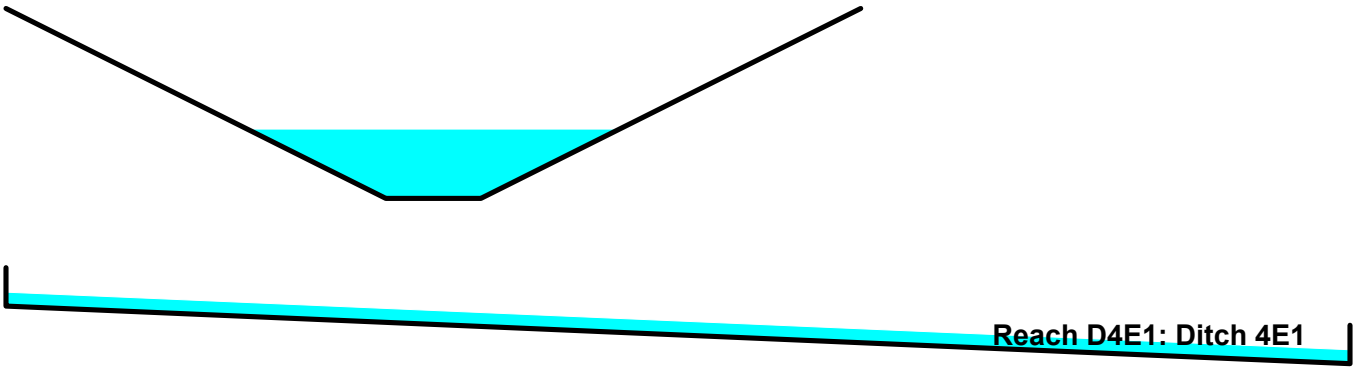
Summary for Reach D4E1: Ditch 4E1

Inflow Area = 364,162 sf, 11.96% Impervious, Inflow Depth = 1.86" for 10-yr event
Inflow = 10.56 cfs @ 12.39 hrs, Volume= 56,432 cf
Outflow = 10.25 cfs @ 12.45 hrs, Volume= 56,432 cf, Atten= 3%, Lag= 3.7 min
Routed to Pond CD4E : Cross Drain 4E

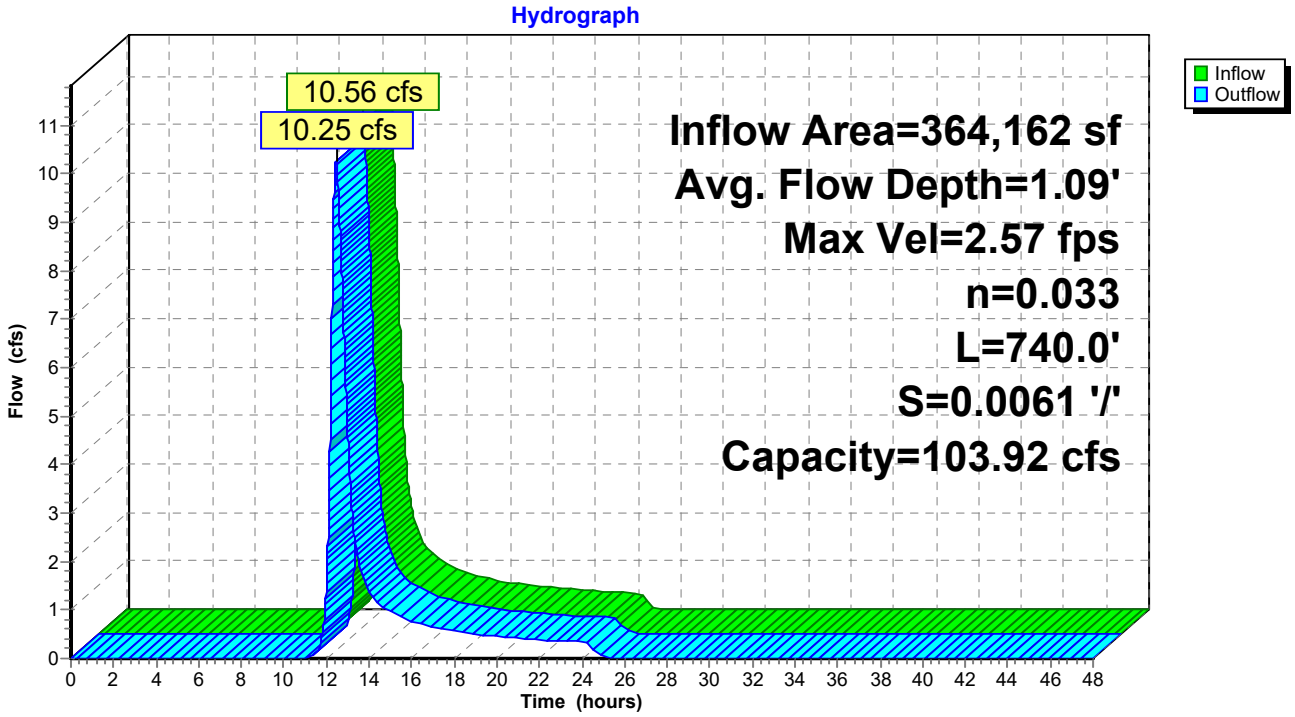
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.57 fps, Min. Travel Time= 4.8 min
Avg. Velocity = 1.00 fps, Avg. Travel Time= 12.3 min

Peak Storage= 2,949 cf @ 12.45 hrs
Average Depth at Peak Storage= 1.09' , Surface Width= 5.84'
Bank-Full Depth= 3.00' Flow Area= 22.5 sf, Capacity= 103.92 cfs

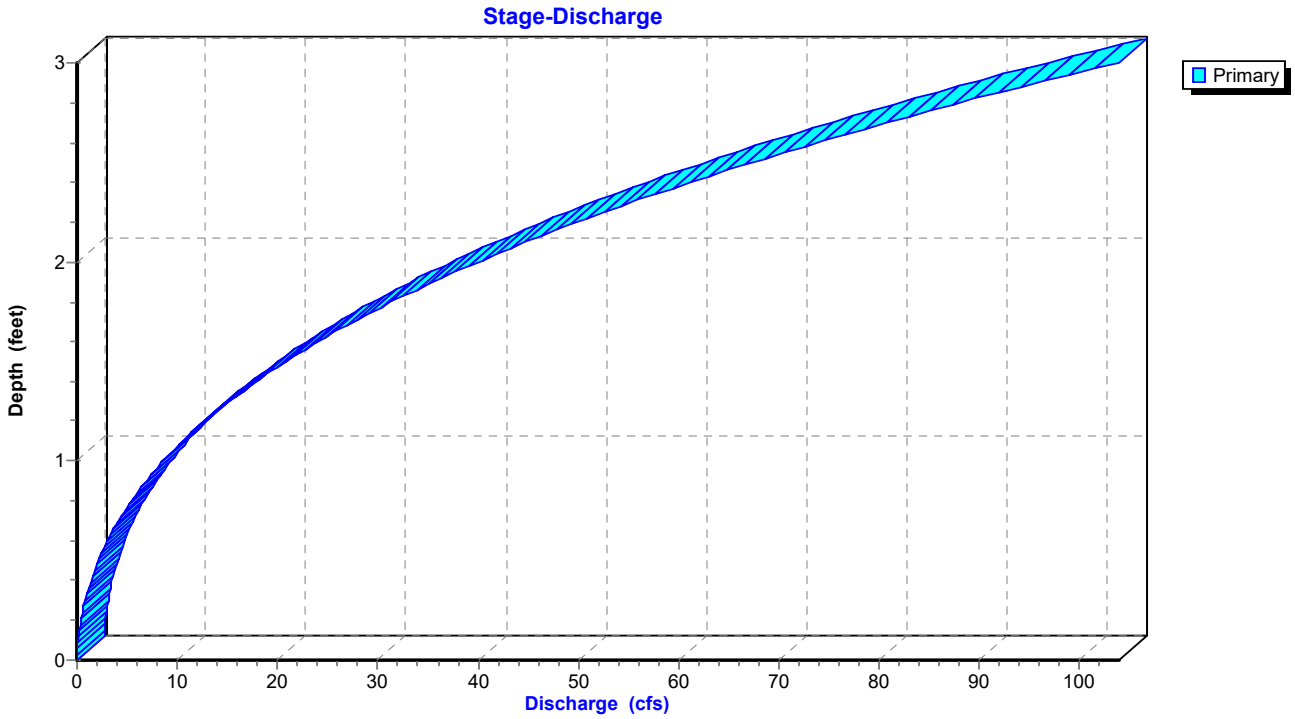
1.50' x 3.00' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 13.50'
Length= 740.0' Slope= 0.0061 '/'
Inlet Invert= 684.00', Outlet Invert= 679.50'



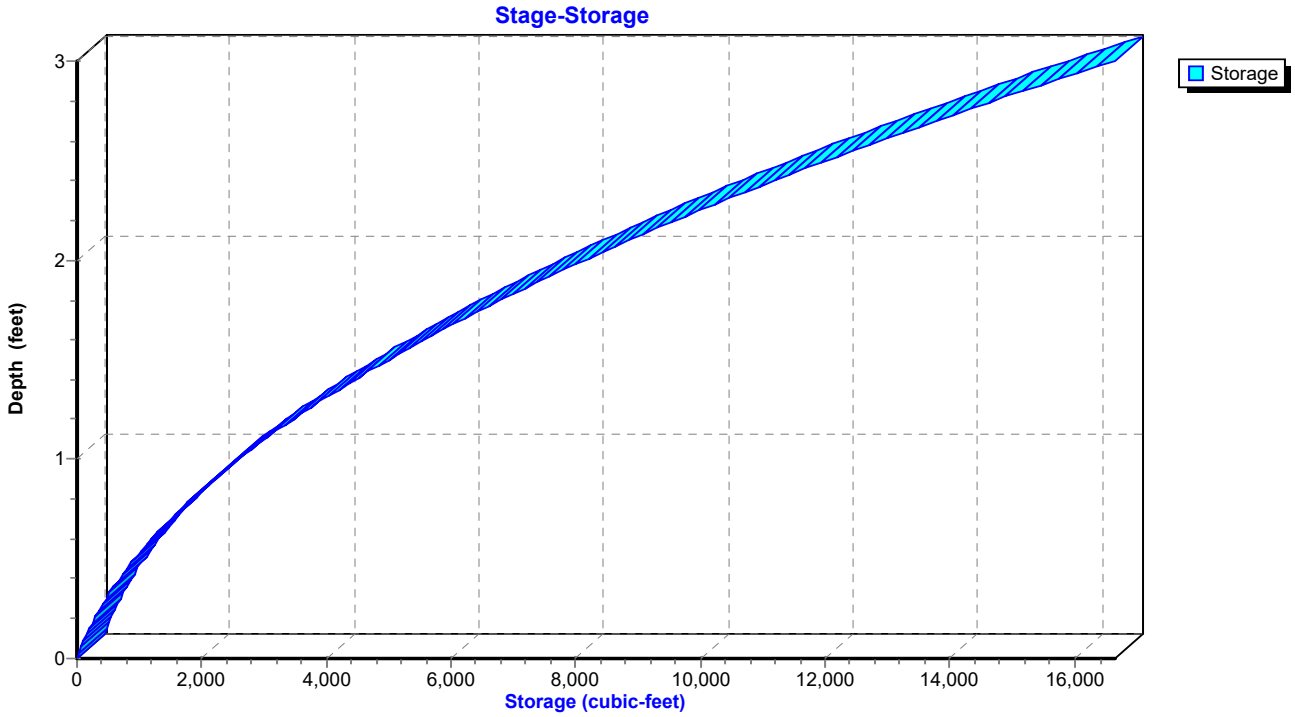
Reach D4E1: Ditch 4E1



Reach D4E1: Ditch 4E1



Reach D4E1: Ditch 4E1



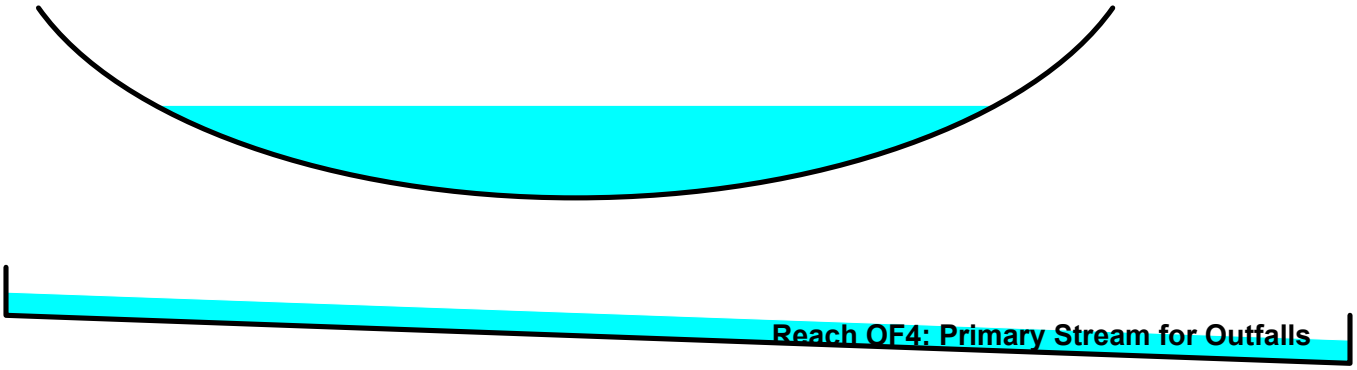
Summary for Reach OF4: Primary Stream for Outfalls

Inflow Area = 9,972,626 sf, 1.09% Impervious, Inflow Depth = 2.54" for 10-yr event
Inflow = 136.08 cfs @ 13.51 hrs, Volume= 2,108,149 cf
Outflow = 135.81 cfs @ 13.54 hrs, Volume= 2,108,149 cf, Atten= 0%, Lag= 1.8 min

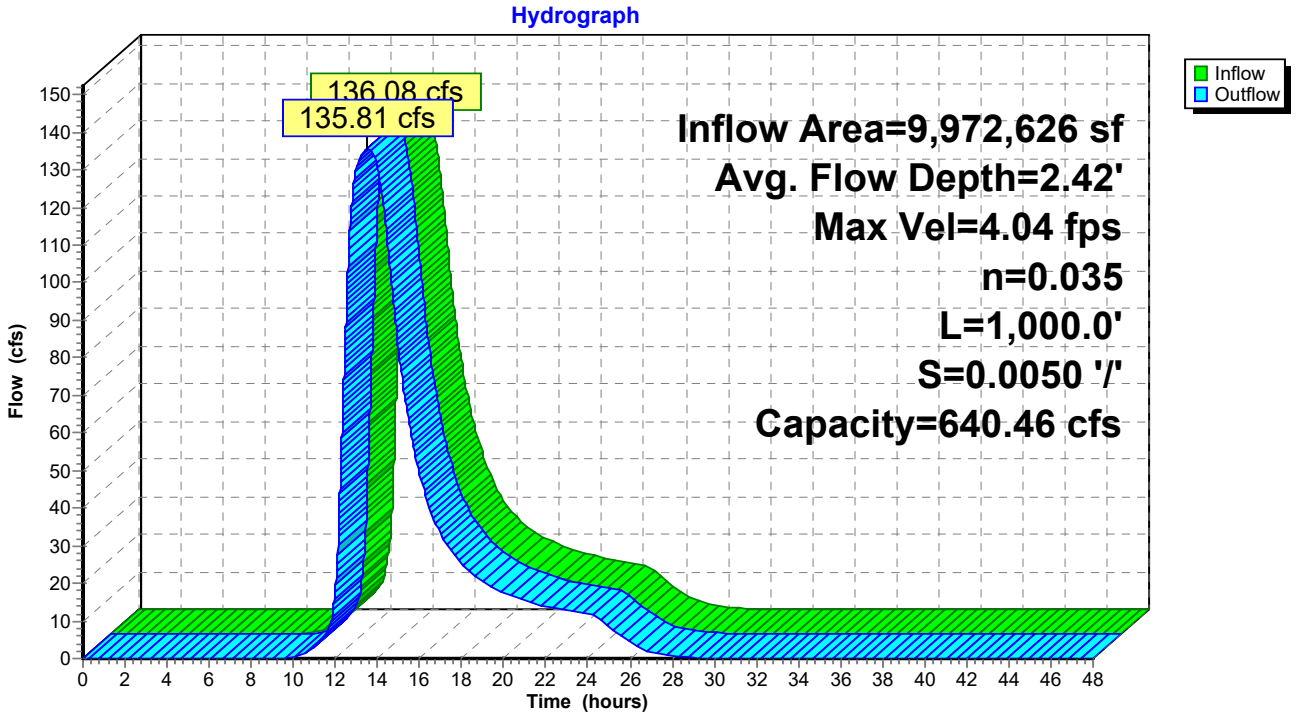
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.04 fps, Min. Travel Time= 4.1 min
Avg. Velocity = 1.54 fps, Avg. Travel Time= 10.8 min

Peak Storage= 33,651 cf @ 13.54 hrs
Average Depth at Peak Storage= 2.42' , Surface Width= 20.87'
Bank-Full Depth= 5.00' Flow Area= 100.0 sf, Capacity= 640.46 cfs

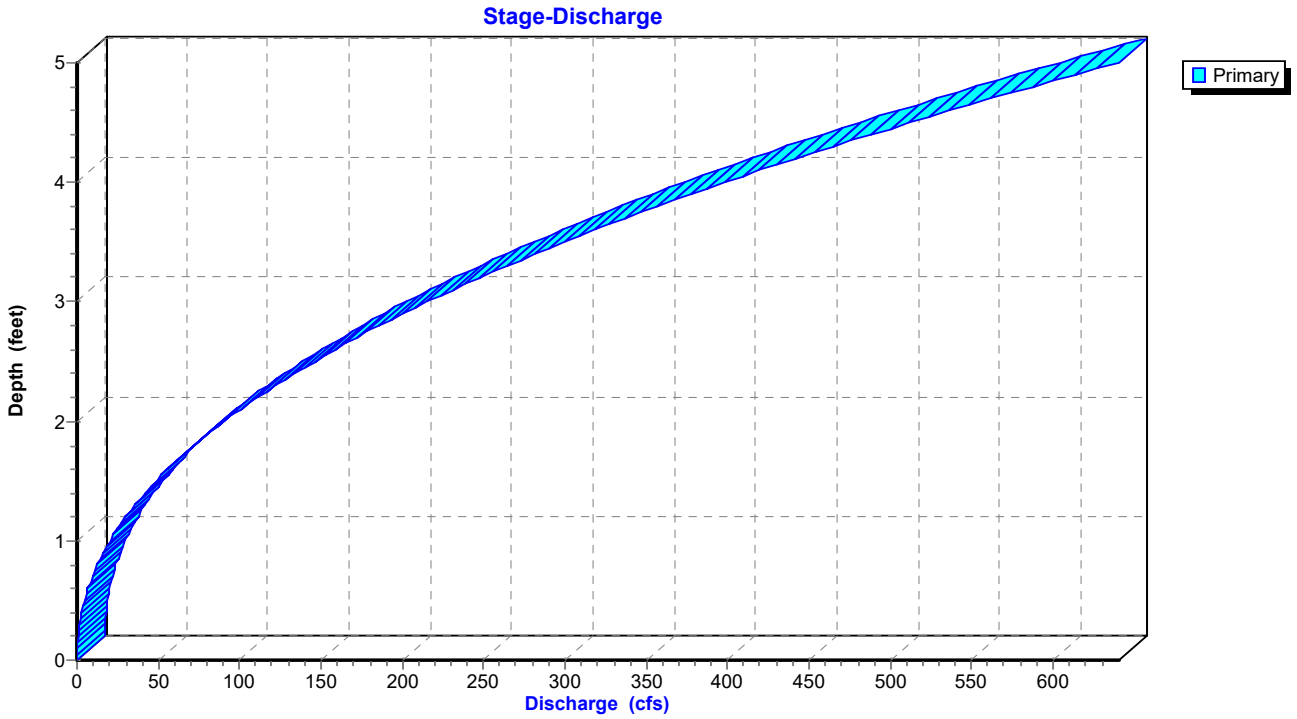
30.00' x 5.00' deep Parabolic Channel, n= 0.035
Length= 1,000.0' Slope= 0.0050 '/'
Inlet Invert= 675.00', Outlet Invert= 670.00'



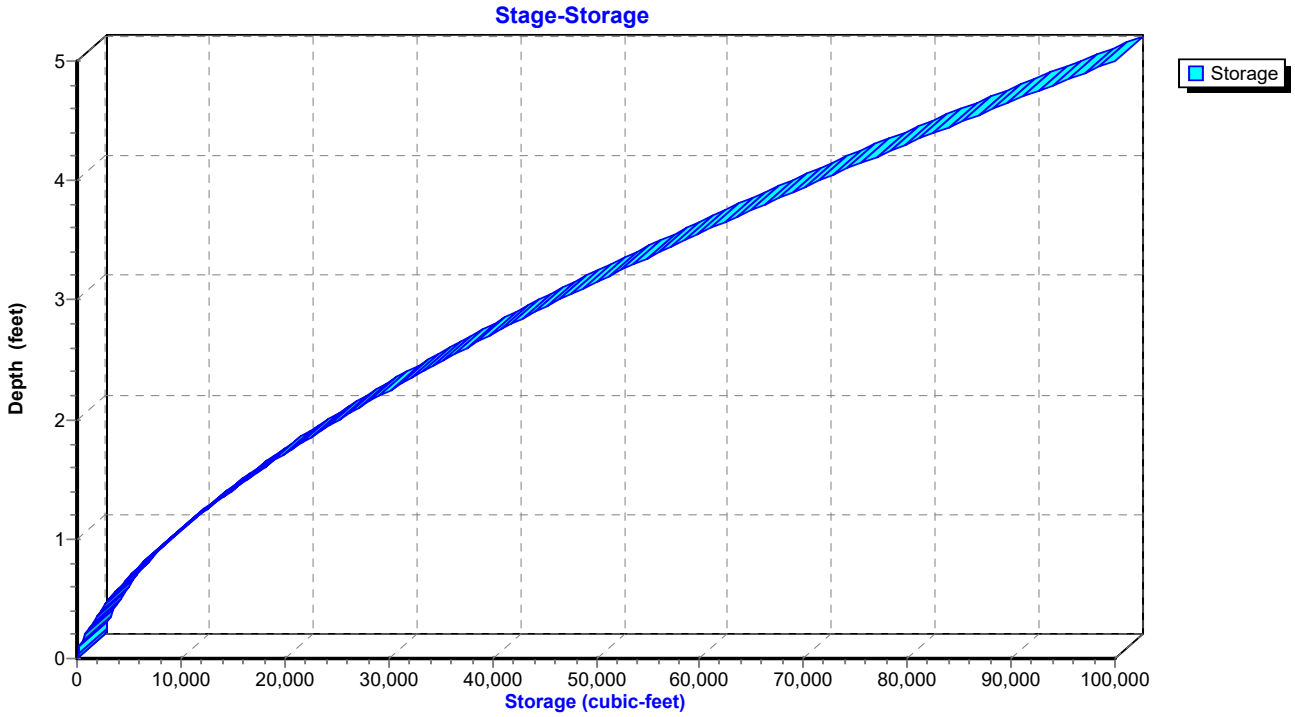
Reach OF4: Primary Stream for Outfalls



Reach OF4: Primary Stream for Outfalls



Reach OF4: Primary Stream for Outfalls



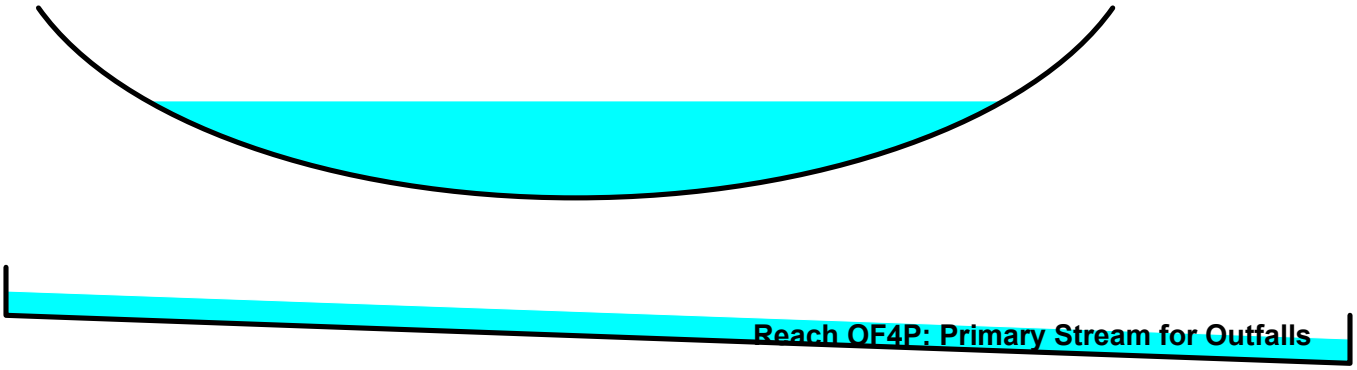
Summary for Reach OF4P: Primary Stream for Outfalls

Inflow Area = 9,824,522 sf, 2.88% Impervious, Inflow Depth = 2.68" for 10-yr event
Inflow = 150.50 cfs @ 13.51 hrs, Volume= 2,194,802 cf
Outflow = 150.10 cfs @ 13.57 hrs, Volume= 2,194,799 cf, Atten= 0%, Lag= 3.6 min

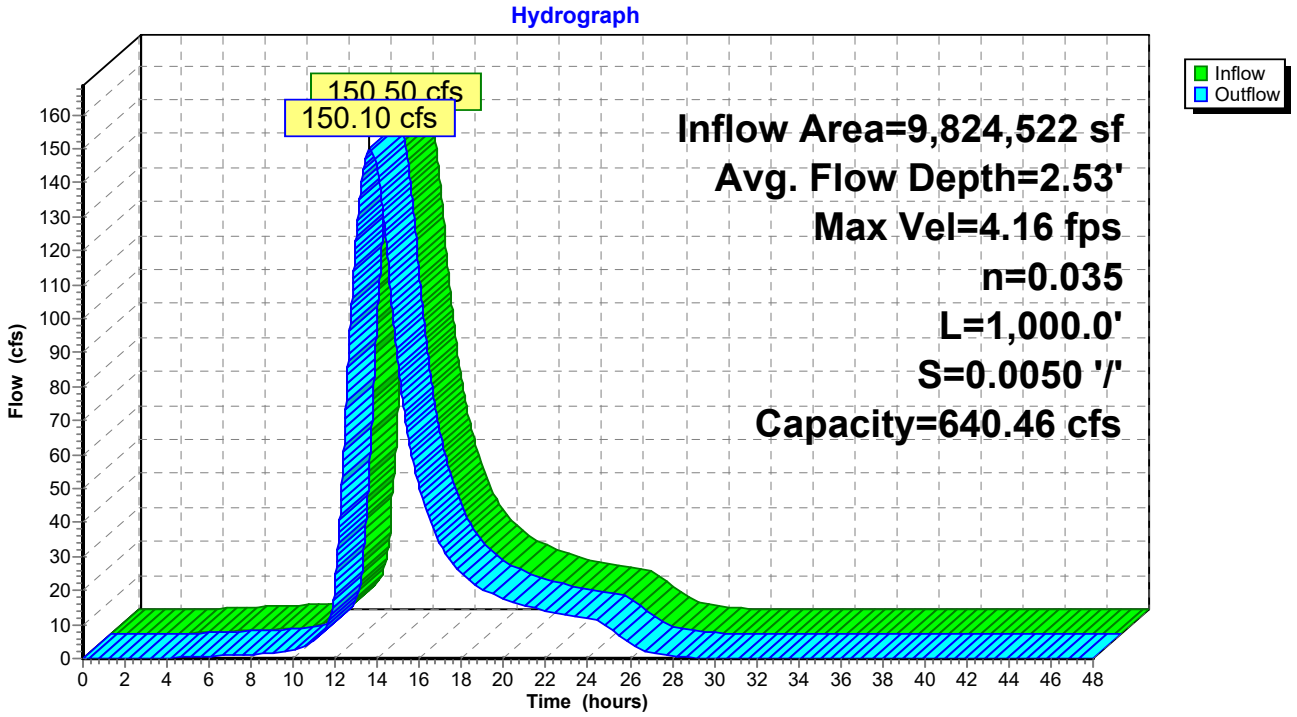
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.16 fps, Min. Travel Time= 4.0 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 13.9 min

Peak Storage= 36,091 cf @ 13.57 hrs
Average Depth at Peak Storage= 2.53' , Surface Width= 21.36'
Bank-Full Depth= 5.00' Flow Area= 100.0 sf, Capacity= 640.46 cfs

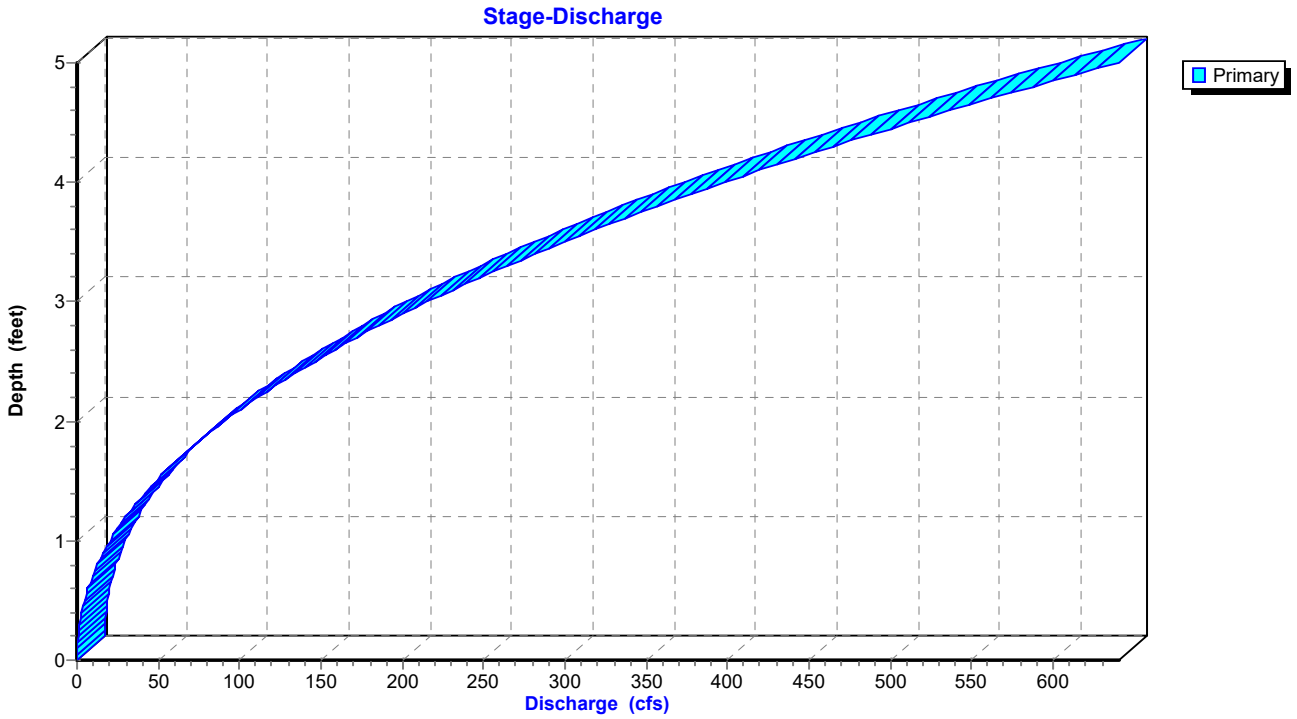
30.00' x 5.00' deep Parabolic Channel, n= 0.035
Length= 1,000.0' Slope= 0.0050 '/'
Inlet Invert= 675.00', Outlet Invert= 670.00'



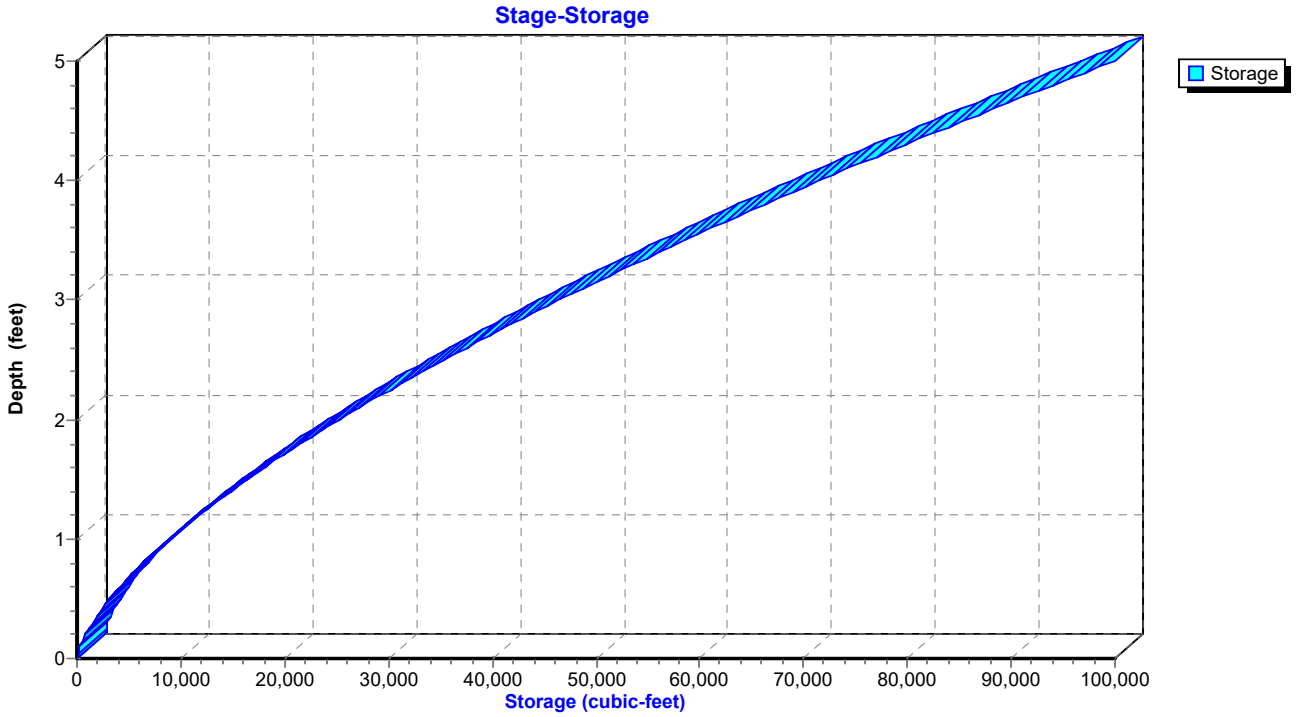
Reach OF4P: Primary Stream for Outfalls



Reach OF4P: Primary Stream for Outfalls



Reach OF4P: Primary Stream for Outfalls



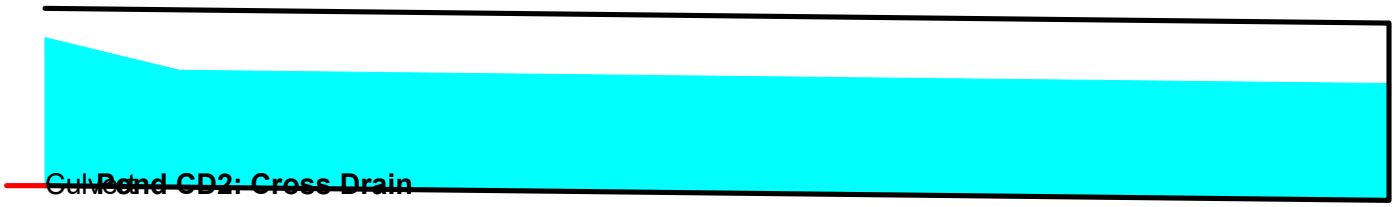
Summary for Pond CD2: Cross Drain

Inflow Area = 1,520,244 sf, 0.00% Impervious, Inflow Depth = 1.70" for 10-yr event
Inflow = 26.69 cfs @ 12.94 hrs, Volume= 215,881 cf
Outflow = 26.69 cfs @ 12.94 hrs, Volume= 215,881 cf, Atten= 0%, Lag= 0.0 min
Primary = 26.69 cfs @ 12.94 hrs, Volume= 215,881 cf
Routed to Reach OF4P : Primary Stream for Outfalls

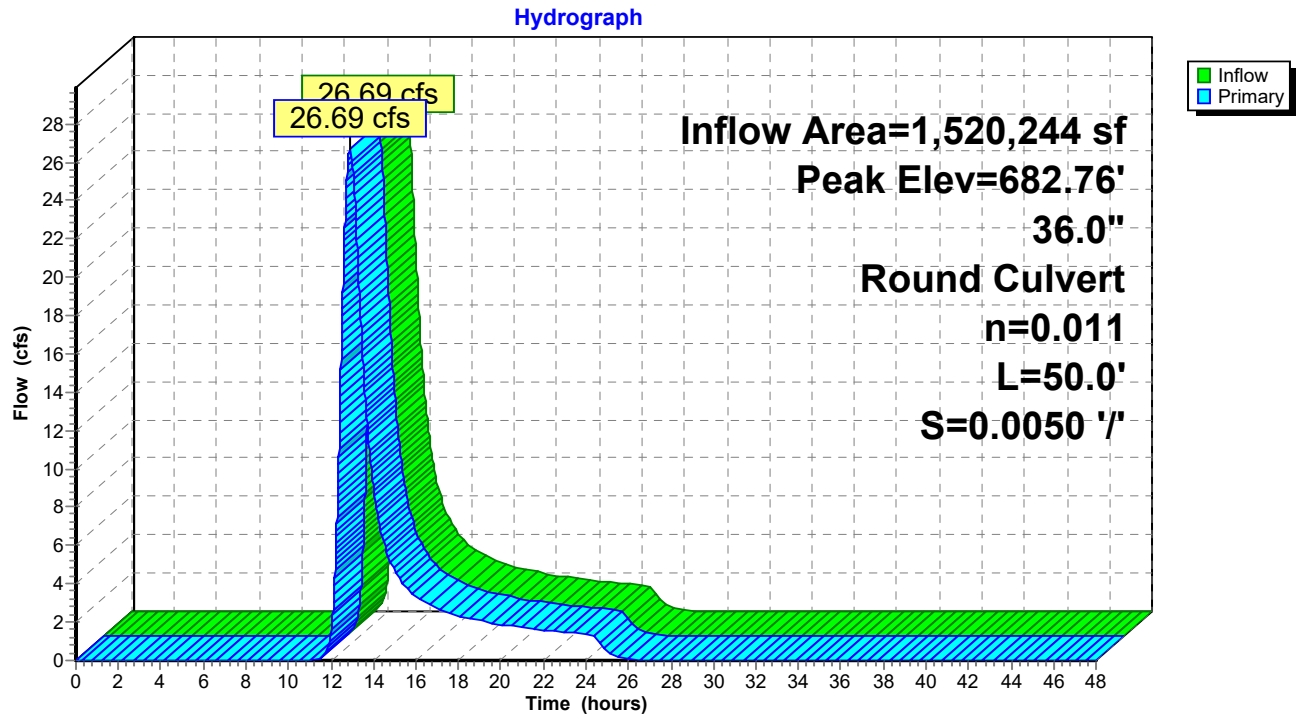
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 682.76' @ 12.94 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	680.25'	**36.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 680.25' / 680.00' S= 0.0050 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

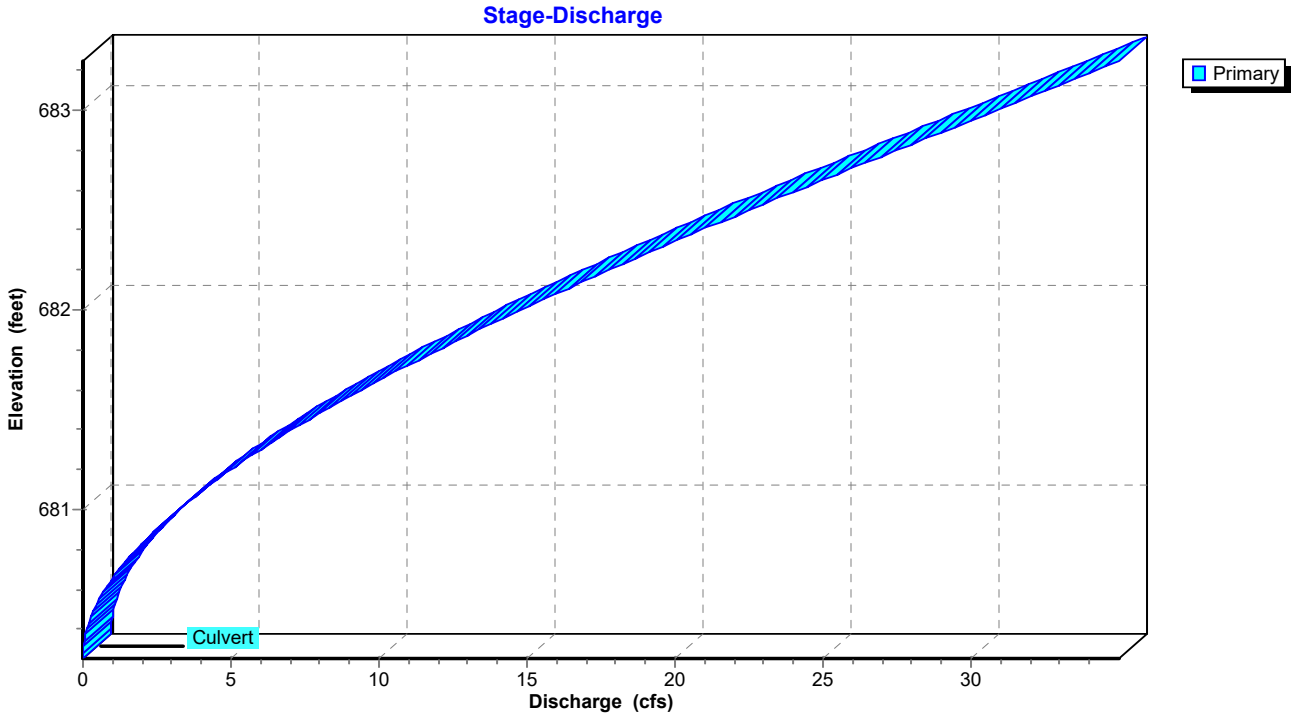
Primary OutFlow Max=26.69 cfs @ 12.94 hrs HW=682.76' (Free Discharge)
└**1=Culvert** (Barrel Controls 26.69 cfs @ 5.73 fps)



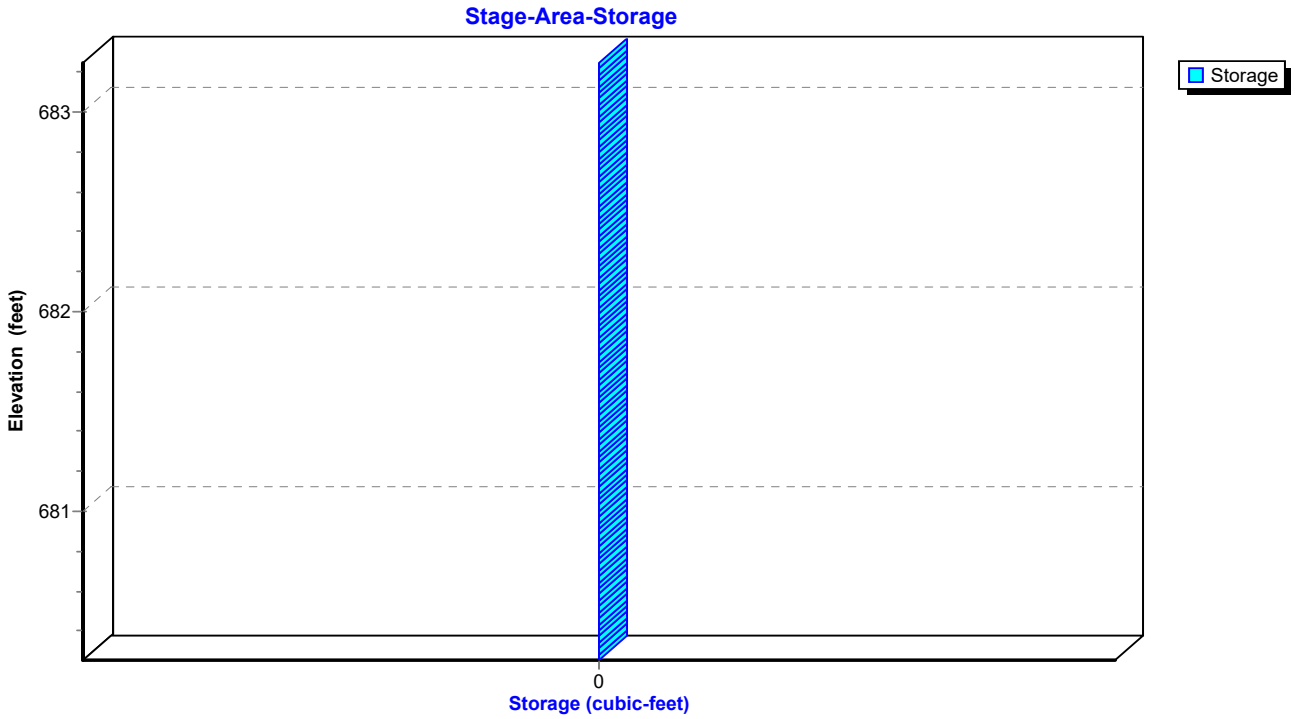
Pond CD2: Cross Drain



Pond CD2: Cross Drain



Pond CD2: Cross Drain



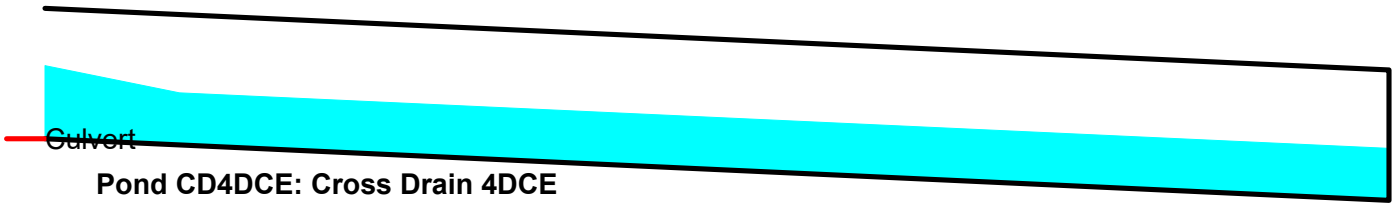
Summary for Pond CD4DCE: Cross Drain 4DCE

Inflow Area = 1,234,055 sf, 3.53% Impervious, Inflow Depth = 2.39" for 10-yr event
Inflow = 36.42 cfs @ 12.51 hrs, Volume= 245,859 cf
Outflow = 36.42 cfs @ 12.51 hrs, Volume= 245,859 cf, Atten= 0%, Lag= 0.0 min
Primary = 36.42 cfs @ 12.51 hrs, Volume= 245,859 cf
Routed to Pond POND1P : PROP POND

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 680.63' @ 12.51 hrs

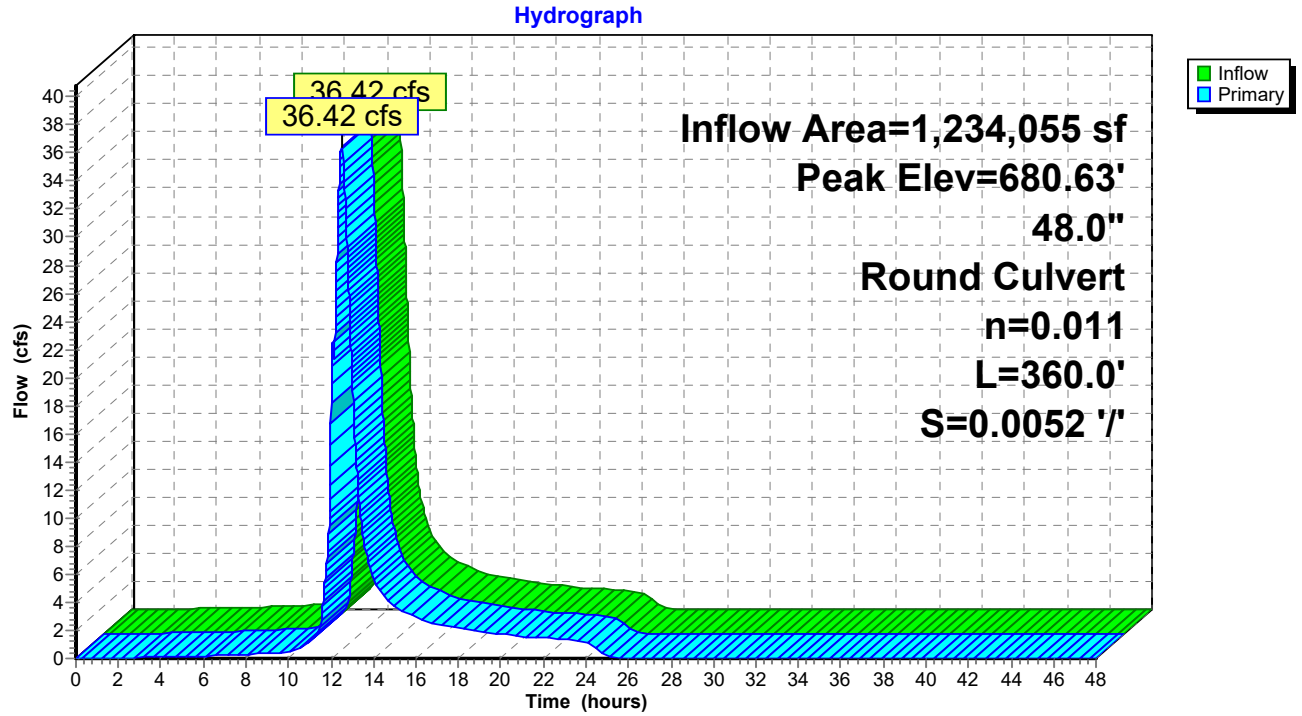
Device	Routing	Invert	Outlet Devices
#1	Primary	678.39'	**48.0" Round Culvert** L= 360.0' Ke= 0.500 Inlet / Outlet Invert= 678.39' / 676.50' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 12.57 sf

Primary OutFlow Max=36.41 cfs @ 12.51 hrs HW=680.63' (Free Discharge)
└**1=Culvert** (Barrel Controls 36.41 cfs @ 7.26 fps)

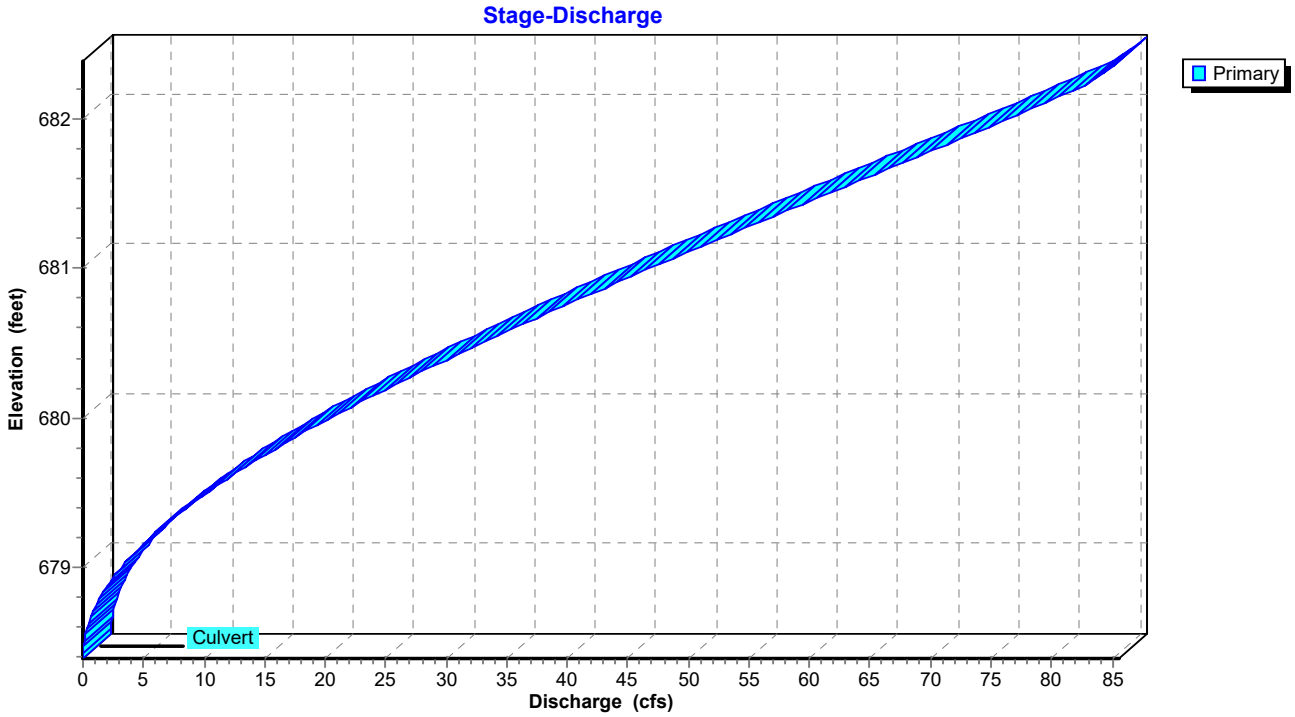


Pond CD4DCE: Cross Drain 4DCE

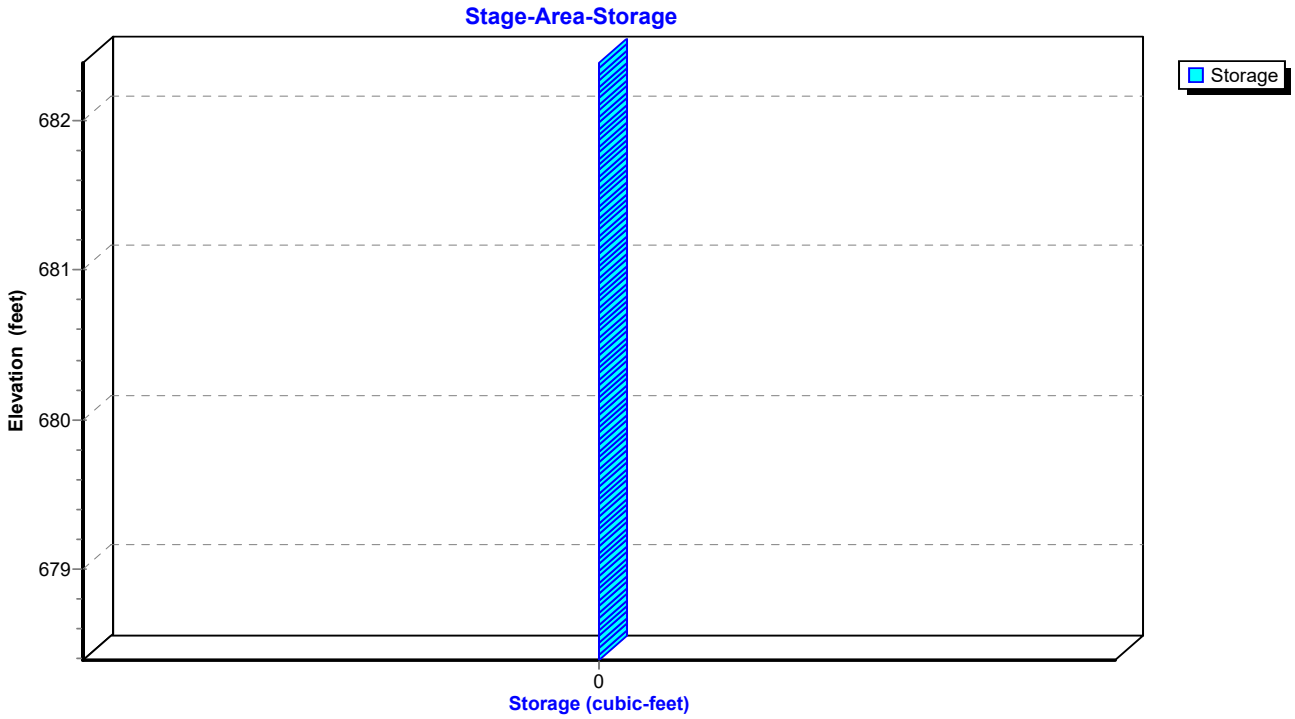
Pond CD4DCE: Cross Drain 4DCE



Pond CD4DCE: Cross Drain 4DCE



Pond CD4DCE: Cross Drain 4DCE



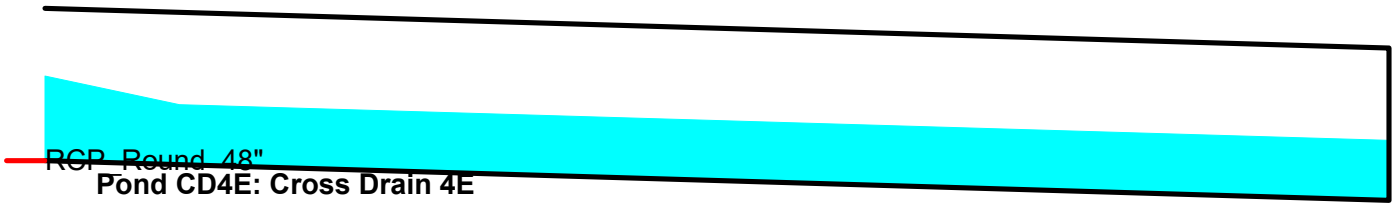
Summary for Pond CD4E: Cross Drain 4E

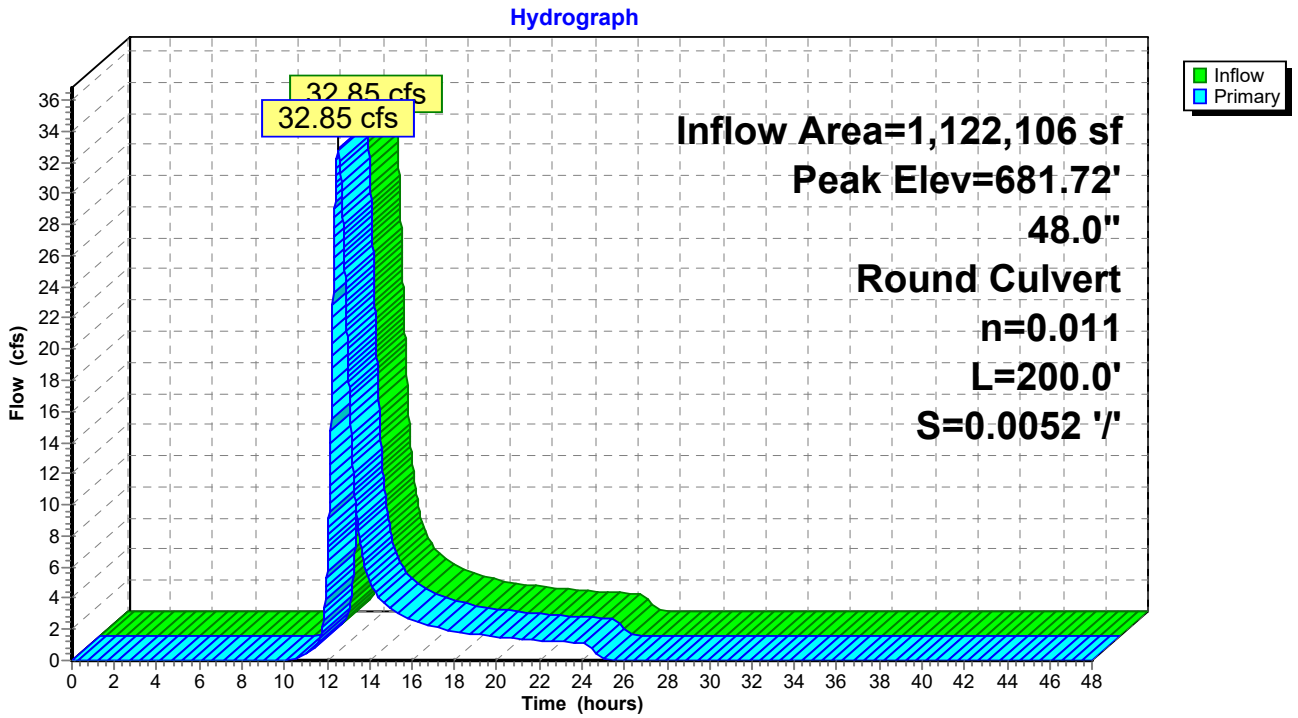
Inflow Area = 1,122,106 sf, 3.88% Impervious, Inflow Depth = 2.14" for 10-yr event
Inflow = 32.85 cfs @ 12.53 hrs, Volume= 199,679 cf
Outflow = 32.85 cfs @ 12.53 hrs, Volume= 199,679 cf, Atten= 0%, Lag= 0.0 min
Primary = 32.85 cfs @ 12.53 hrs, Volume= 199,679 cf
Routed to Pond CD4DCE : Cross Drain 4DCE

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 681.72' @ 12.53 hrs

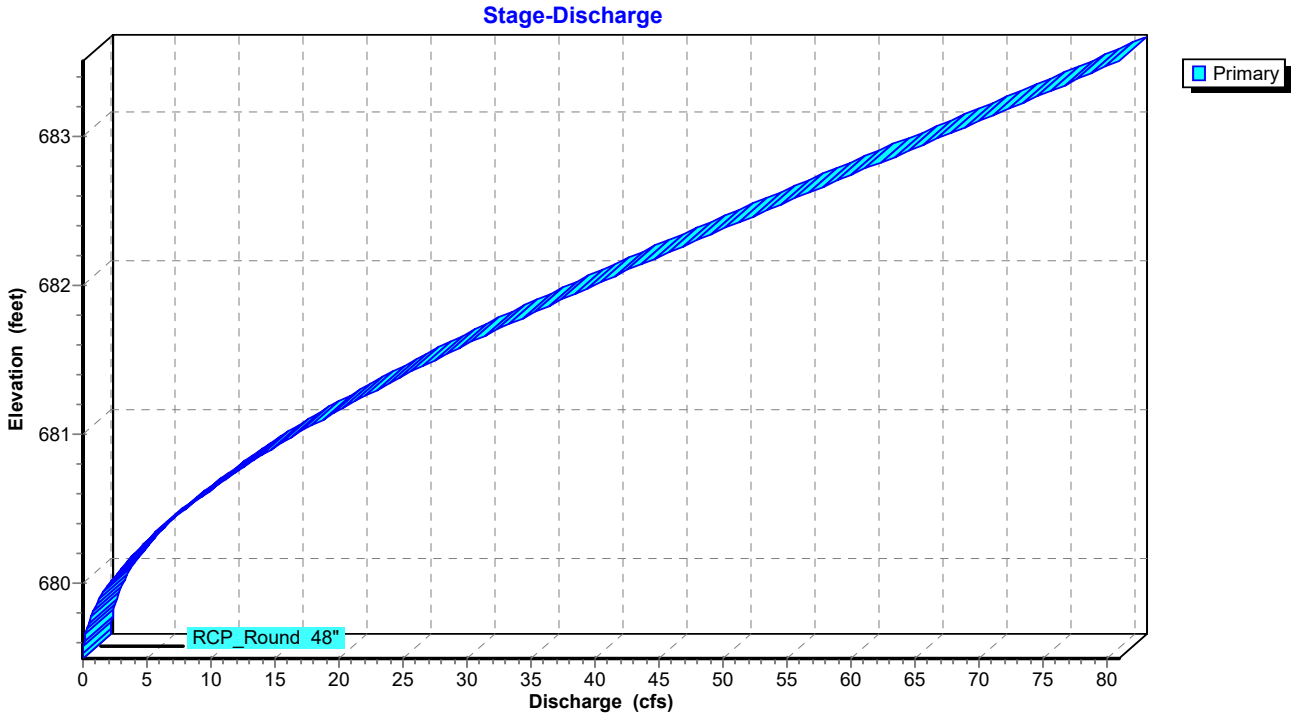
Device	Routing	Invert	Outlet Devices
#1	Primary	679.50'	**48.0" Round RCP_Round 48"** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 679.50' / 678.46' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 12.57 sf

Primary OutFlow Max=32.85 cfs @ 12.53 hrs HW=681.72' (Free Discharge)
└**1=RCP_Round 48"** (Barrel Controls 32.85 cfs @ 6.63 fps)

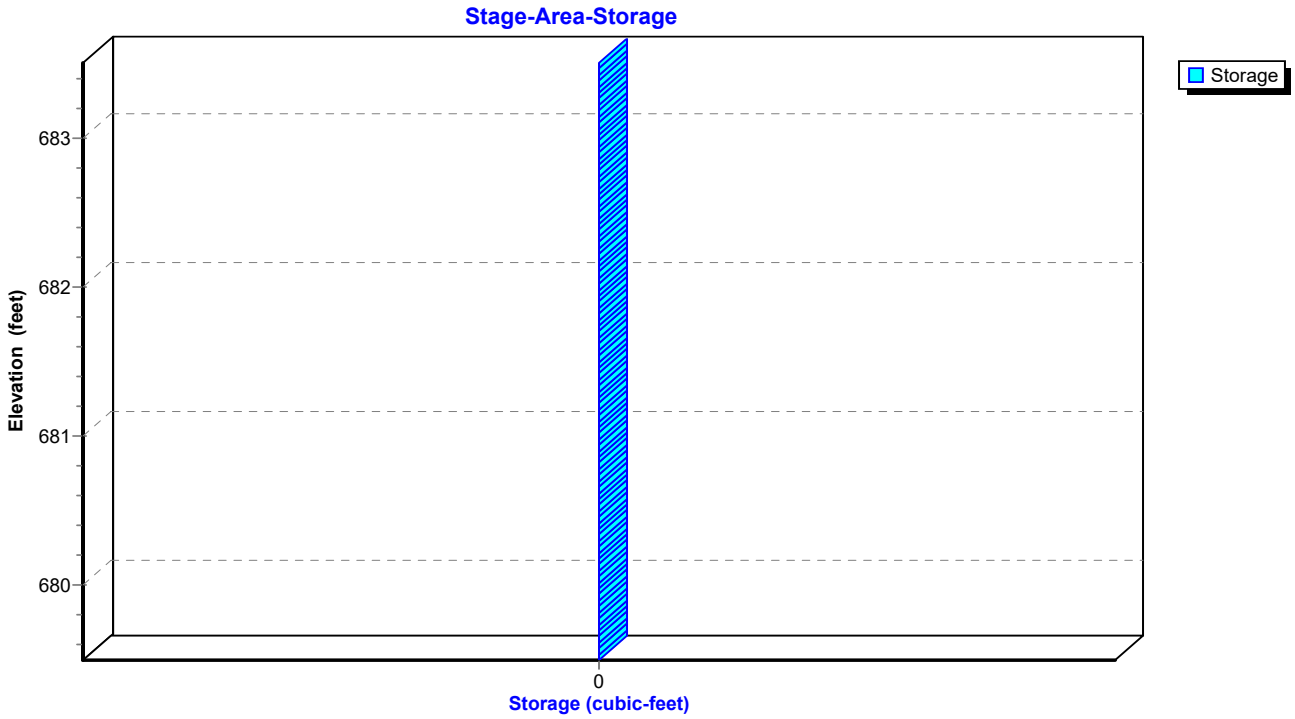




Pond CD4E: Cross Drain 4E



Pond CD4E: Cross Drain 4E



Summary for Pond POND1P: PROP POND

Inflow Area = 1,765,922 sf, 9.87% Impervious, Inflow Depth = 3.16" for 10-yr event
Inflow = 72.29 cfs @ 12.45 hrs, Volume= 465,263 cf
Outflow = 39.34 cfs @ 12.92 hrs, Volume= 464,696 cf, Atten= 46%, Lag= 28.2 min
Primary = 39.34 cfs @ 12.92 hrs, Volume= 464,696 cf
Routed to Reach OF4P : Primary Stream for Outfalls

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 680.65' @ 12.92 hrs Surf.Area= 44,214 sf Storage= 109,872 cf

Plug-Flow detention time= 40.4 min calculated for 464,599 cf (100% of inflow)
Center-of-Mass det. time= 39.8 min (865.7 - 825.9)

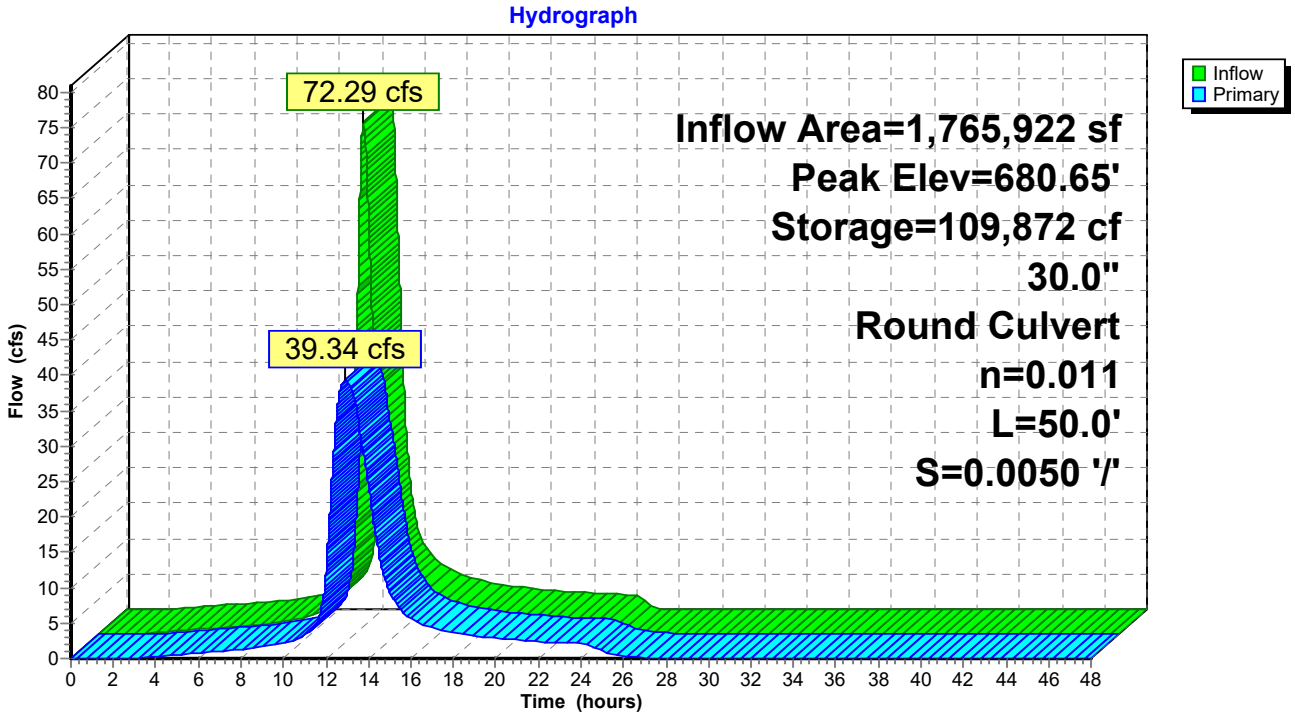
Volume	Invert	Avail.Storage	Storage Description
#1	676.00'	327,838 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
676.00	505	0	0
677.00	14,000	7,253	7,253
678.00	20,000	17,000	24,253
679.00	29,000	24,500	48,753
680.00	39,000	34,000	82,753
681.00	47,000	43,000	125,753
682.00	119,057	83,029	208,781
683.00	119,057	119,057	327,838

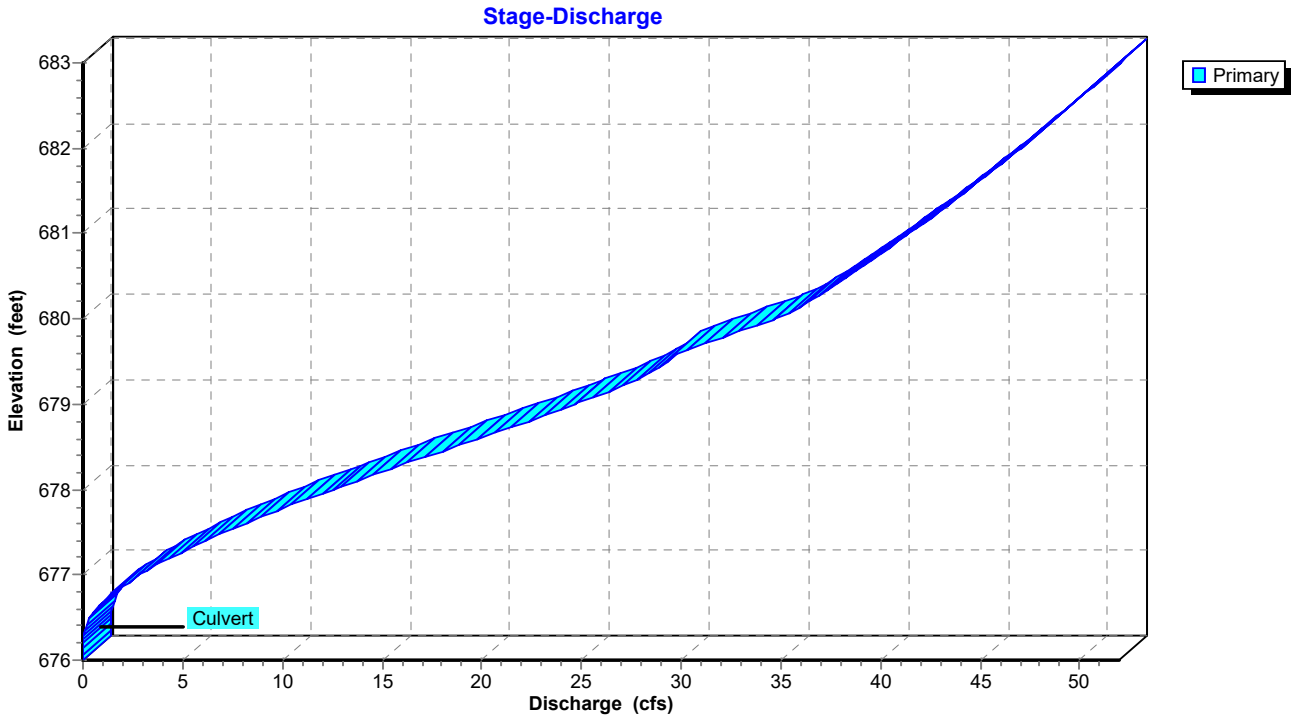
Device	Routing	Invert	Outlet Devices
#1	Primary	676.25'	**30.0" Round Culvert** L= 50.0' Ke= 0.600 Inlet / Outlet Invert= 676.25' / 676.00' S= 0.0050 '/' Cc= 0.900 n= 0.011, Flow Area= 4.91 sf

Primary OutFlow Max=39.34 cfs @ 12.92 hrs HW=680.65' (Free Discharge)
1=Culvert (Inlet Controls 39.34 cfs @ 8.01 fps)

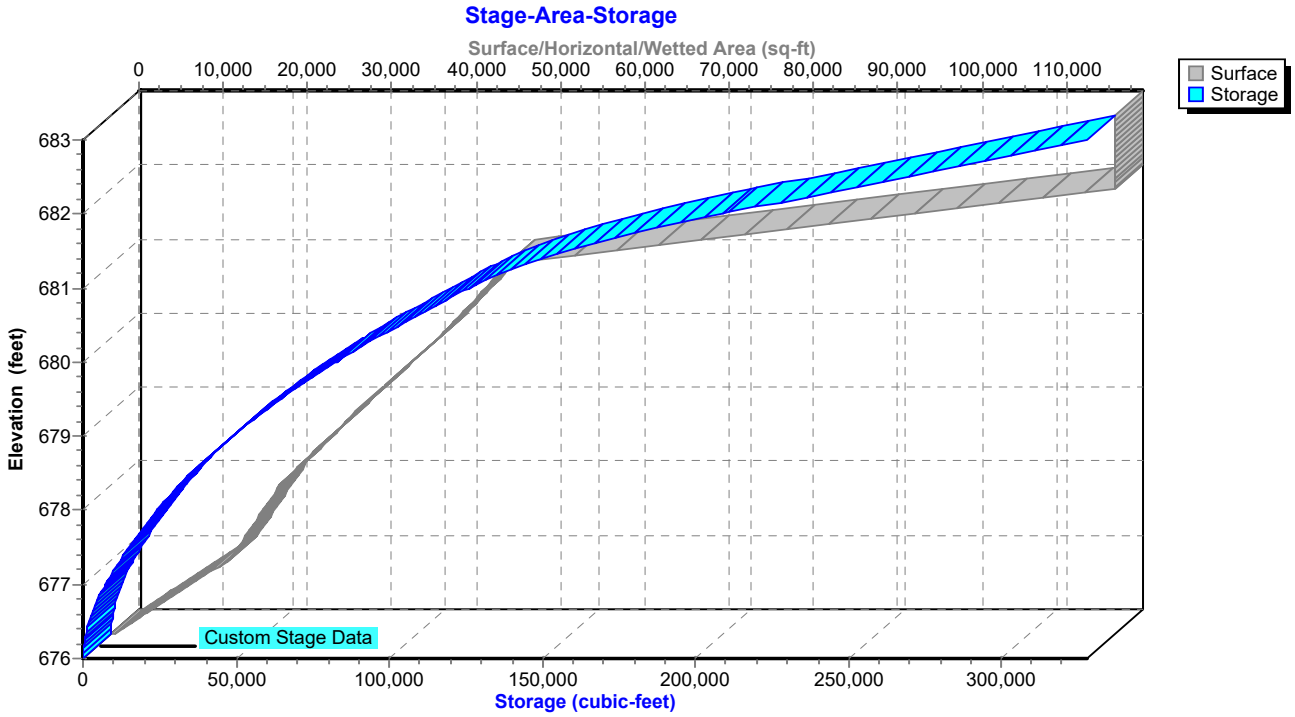
Pond POND1P: PROP POND



Pond POND1P: PROP POND



Pond POND1P: PROP POND



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment DA 1: BASIN 1 PRE Runoff Area=143.000 ac 1.75% Impervious Runoff Depth=3.57"
Flow Length=5,750' Tc=143.0 min CN=75 Runoff=141.35 cfs 1,855,048 cf

Subcatchment DA 2: BASIN 2 PRE Runoff Area=34.900 ac 0.00% Impervious Runoff Depth=2.33"
Flow Length=2,150' Slope=0.0150 '/' Tc=62.3 min CN=62 Runoff=38.11 cfs 294,710 cf

Subcatchment DA 3: BASIN 3 PRE Runoff Area=9.540 ac 0.00% Impervious Runoff Depth=3.27"
Flow Length=500' Slope=0.0200 '/' Tc=20.2 min CN=72 Runoff=26.12 cfs 113,362 cf

Subcatchment DA 4: BASIN 4 PRE Runoff Area=41.500 ac 0.00% Impervious Runoff Depth=3.08"
Flow Length=1,500' Tc=50.3 min CN=70 Runoff=69.60 cfs 463,594 cf

Subcatchment DA1P: BASIN 1 PROPOSED Runoff Area=143.000 ac 1.75% Impervious Runoff Depth=3.57"
Flow Length=5,750' Tc=143.0 min CN=75 Runoff=141.35 cfs 1,855,048 cf

Subcatchment DA2P: BASIN 2 PROPOSED Runoff Area=34.900 ac 0.00% Impervious Runoff Depth=2.33"
Flow Length=2,150' Slope=0.0150 '/' Tc=62.3 min CN=62 Runoff=38.11 cfs 294,710 cf

Subcatchment DA3P: BASIN 3 PRE Runoff Area=2.130 ac 0.00% Impervious Runoff Depth=3.98"
Tc=5.0 min CN=79 Runoff=11.72 cfs 30,809 cf

Subcatchment DA4A: BASIN 4A PROPOSED Runoff Area=4.970 ac 0.00% Impervious Runoff Depth=2.88"
Flow Length=300' Tc=28.4 min CN=68 Runoff=10.18 cfs 52,040 cf

Subcatchment DA4B: BASIN 4B Runoff Area=12.210 ac 24.57% Impervious Runoff Depth=5.87"
Flow Length=1,000' Tc=33.8 min CN=96 Runoff=43.69 cfs 259,995 cf

Subcatchment DA4C: BASIN 4C PROPOSED Runoff Area=1.090 ac 0.00% Impervious Runoff Depth=5.87"
Tc=5.0 min CN=96 Runoff=8.01 cfs 23,210 cf

Subcatchment DA4D: BASIN 4D PROPOSED Runoff Area=1.480 ac 0.00% Impervious Runoff Depth=5.87"
Tc=5.0 min CN=96 Runoff=10.87 cfs 31,515 cf

Subcatchment DA4E1: BASIN 4E1 Runoff Area=8.360 ac 11.96% Impervious Runoff Depth=2.51"
Flow Length=500' Tc=28.1 min CN=64 Runoff=14.70 cfs 76,136 cf

Subcatchment DA4E2: BASIN 4E2 Runoff Area=17.400 ac 0.00% Impervious Runoff Depth=2.98"
Flow Length=1,000' Tc=41.1 min CN=69 Runoff=31.20 cfs 188,257 cf

Reach CD4C: Cross Drain 4C Avg. Flow Depth=0.48' Max Vel=15.81 fps Inflow=7.63 cfs 23,210 cf
18.0" Round Pipe n=0.011 L=60.0' S=0.0792 '/' Capacity=34.93 cfs Outflow=7.63 cfs 23,210 cf

Reach D4C: Ditch 4C Avg. Flow Depth=0.83' Max Vel=2.90 fps Inflow=8.01 cfs 23,210 cf
n=0.033 L=313.0' S=0.0104 '/' Capacity=27.19 cfs Outflow=7.63 cfs 23,210 cf

Reach D4D: Ditch 4D Avg. Flow Depth=0.89' Max Vel=3.60 fps Inflow=10.87 cfs 31,515 cf
n=0.033 L=337.0' S=0.0148 '/' Capacity=32.50 cfs Outflow=10.47 cfs 31,515 cf

Reach D4E1: Ditch 4E1 Avg. Flow Depth=1.27' Max Vel=2.80 fps Inflow=14.70 cfs 76,136 cf
n=0.033 L=740.0' S=0.0061 '/' Capacity=103.92 cfs Outflow=14.36 cfs 76,136 cf

Reach OF4: Primary Stream for Avg. Flow Depth=2.75' Max Vel=4.39 fps Inflow=179.49 cfs 2,726,715 cf
n=0.035 L=1,000.0' S=0.0050 '/' Capacity=640.46 cfs Outflow=179.28 cfs 2,726,715 cf

Reach OF4P: Primary Stream for Avg. Flow Depth=2.87' Max Vel=4.51 fps Inflow=196.26 cfs 2,811,155 cf
n=0.035 L=1,000.0' S=0.0050 '/' Capacity=640.46 cfs Outflow=196.02 cfs 2,811,153 cf

Pond CD2: Cross Drain Peak Elev=683.44' Inflow=38.11 cfs 294,710 cf
36.0" Round Culvert n=0.011 L=50.0' S=0.0050 '/' Outflow=38.11 cfs 294,710 cf

Pond CD4DCE: Cross Drain 4DCE Peak Elev=681.08' Inflow=49.09 cfs 319,118 cf
48.0" Round Culvert n=0.011 L=360.0' S=0.0052 '/' Outflow=49.09 cfs 319,118 cf

Pond CD4E: Cross Drain 4E Peak Elev=682.18' Inflow=44.67 cfs 264,394 cf
48.0" Round Culvert n=0.011 L=200.0' S=0.0052 '/' Outflow=44.67 cfs 264,394 cf

Pond POND1P: PROP POND Peak Elev=681.43' Storage=152,782 cf Inflow=91.82 cfs 579,114 cf
30.0" Round Culvert n=0.011 L=50.0' S=0.0050 '/' Outflow=43.94 cfs 578,547 cf

Total Runoff Area = 19,797,149 sf Runoff Volume = 5,538,436 cf Average Runoff Depth = 3.36"
98.02% Pervious = 19,405,109 sf 1.98% Impervious = 392,040 sf

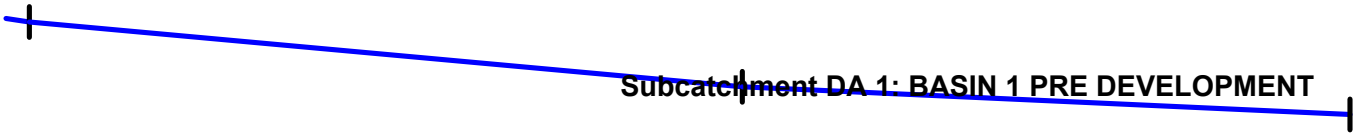
Summary for Subcatchment DA 1: BASIN 1 PRE DEVELOPMENT

Runoff = 141.35 cfs @ 13.83 hrs, Volume= 1,855,048 cf, Depth= 3.57"
Routed to Reach OF4 : Primary Stream for Outfalls

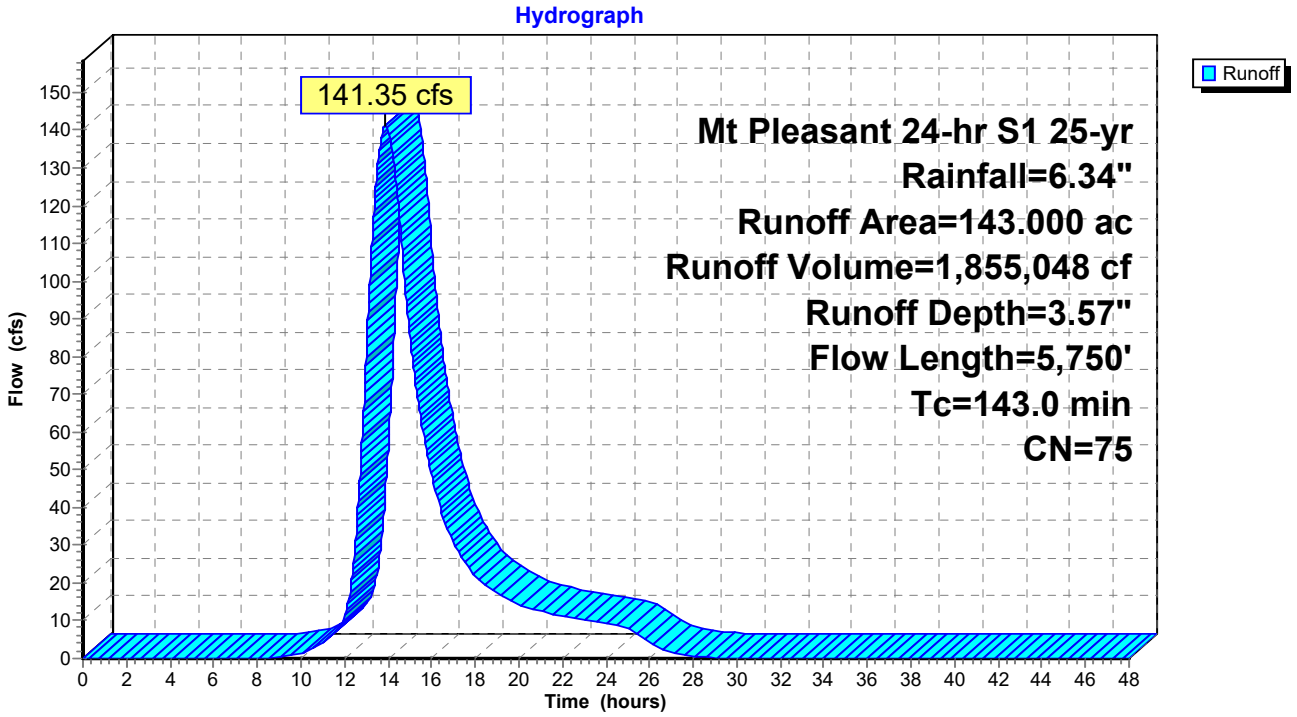
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
69.500	74	>75% Grass cover, Good, HSG C
71.000	76	Woods/grass comb., Fair, HSG C
2.500	98	Paved parking, HSG C
143.000	75	Weighted Average
140.500		98.25% Pervious Area
2.500		1.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.4	100	0.0200	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
92.8	3,050	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	2,600	0.0060	2.93	11.71	**Channel Flow,** Area= 4.0 sf Perim= 6.0' r= 0.67' n= 0.030
143.0	5,750	Total			



Subcatchment DA 1: BASIN 1 PRE DEVELOPMENT



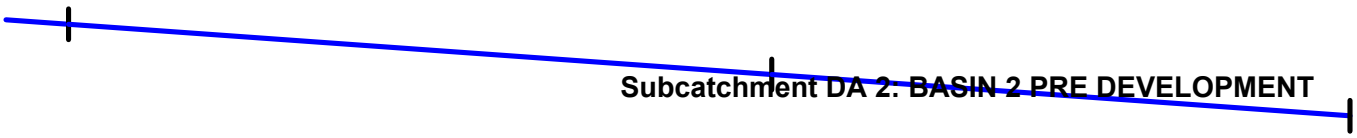
Summary for Subcatchment DA 2: BASIN 2 PRE DEVELOPMENT

Runoff = 38.11 cfs @ 12.88 hrs, Volume= 294,710 cf, Depth= 2.33"
Routed to Reach OF4 : Primary Stream for Outfalls

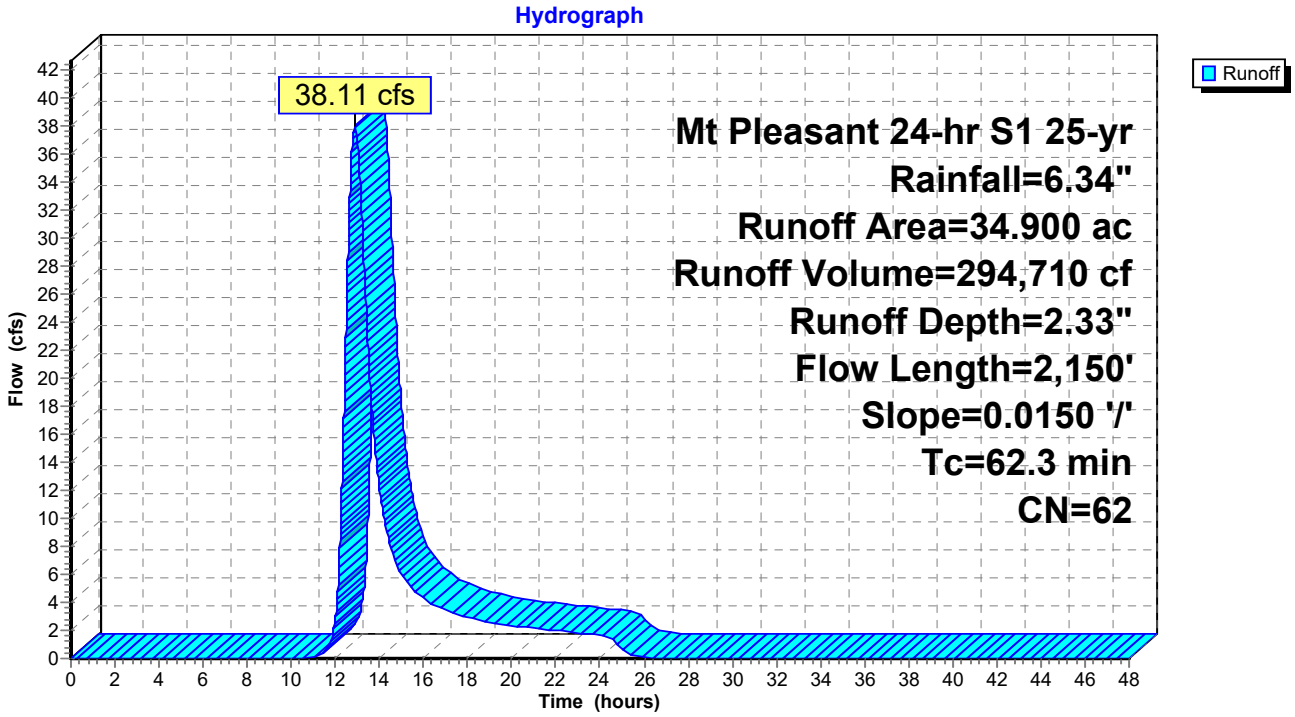
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
17.450	58	Meadow, non-grazed, HSG B
14.450	60	Woods, Fair, HSG B
3.000	96	Gravel surface, HSG C
34.900	62	Weighted Average
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0150	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
21.9	1,125	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	925	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.3	2,150	Total			



Subcatchment DA 2: BASIN 2 PRE DEVELOPMENT



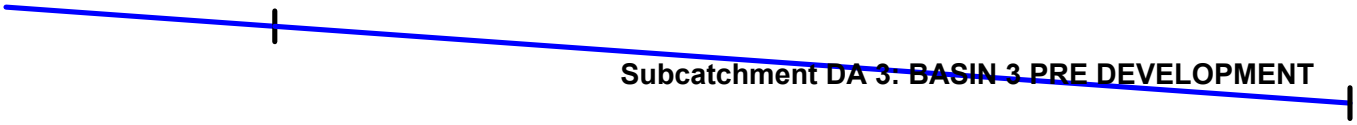
Summary for Subcatchment DA 3: BASIN 3 PRE DEVELOPMENT

Runoff = 26.12 cfs @ 12.24 hrs, Volume= 113,362 cf, Depth= 3.27"
Routed to Reach OF4 : Primary Stream for Outfalls

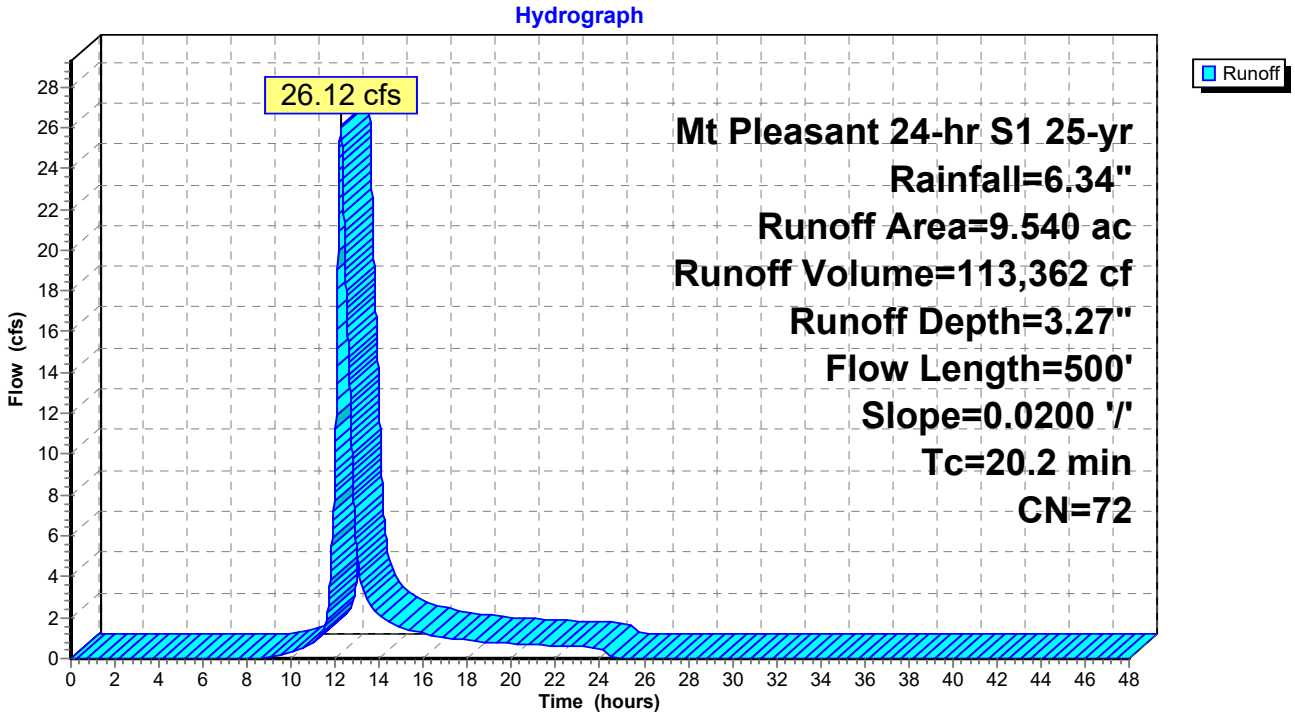
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
3.340	78	Meadow, non-grazed, HSG D
3.340	79	Woods, Fair, HSG D
2.290	58	Meadow, non-grazed, HSG B
0.570	60	Woods, Fair, HSG B
9.540	72	Weighted Average
9.540		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0200	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
6.7	400	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.2	500	Total			



Subcatchment DA 3: BASIN 3 PRE DEVELOPMENT



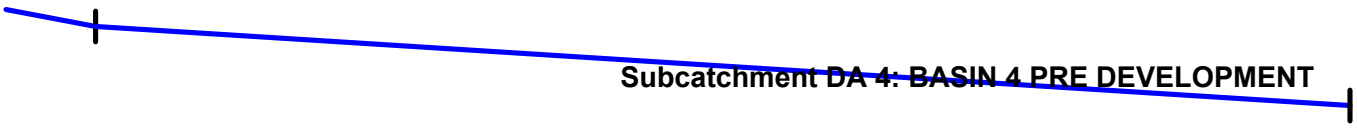
Summary for Subcatchment DA 4: BASIN 4 PRE DEVELOPMENT

Runoff = 69.60 cfs @ 12.69 hrs, Volume= 463,594 cf, Depth= 3.08"
Routed to Reach OF4 : Primary Stream for Outfalls

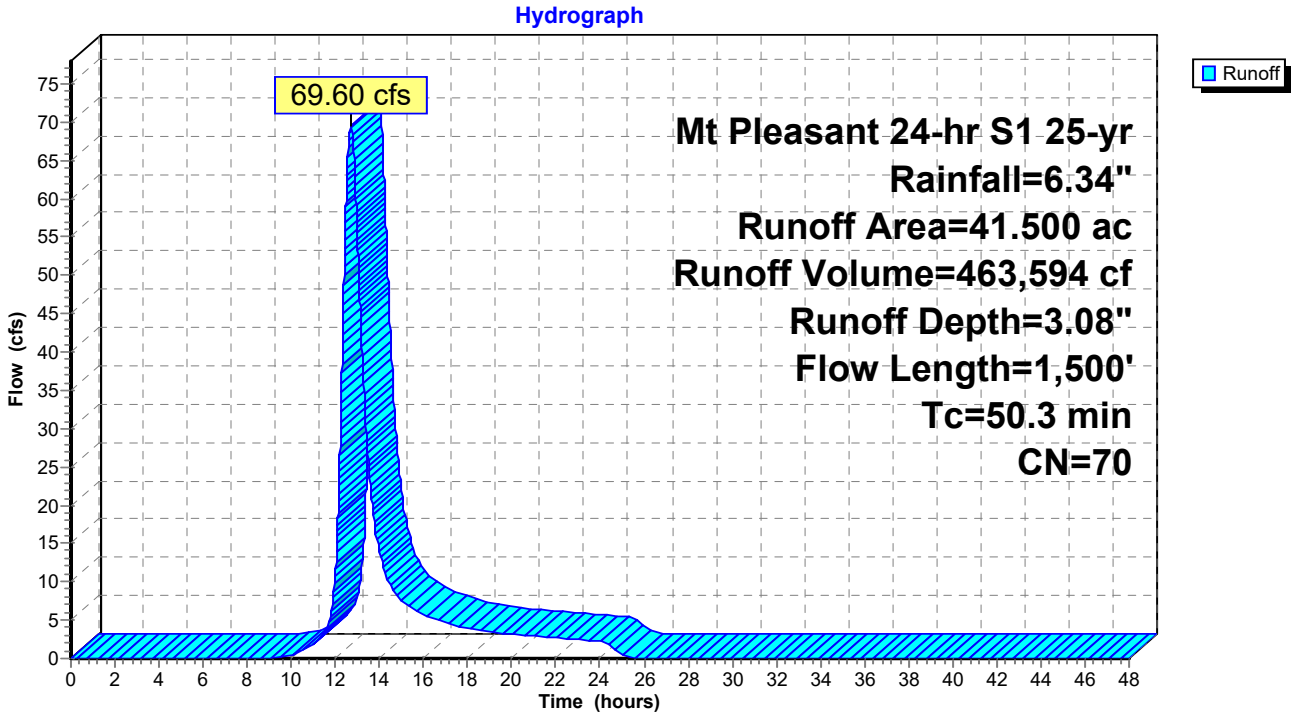
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
7.300	78	Meadow, non-grazed, HSG D
1.830	79	Woods, Fair, HSG D
7.640	58	Meadow, non-grazed, HSG B
1.910	60	Woods, Fair, HSG B
4.150	73	Woods, Fair, HSG C
9.960	71	Meadow, non-grazed, HSG C
2.490	73	Woods, Fair, HSG C
4.970	71	Meadow, non-grazed, HSG C
1.250	73	Woods, Fair, HSG C
41.500	70	Weighted Average
41.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
25.8	1,400	0.0167	0.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
50.3	1,500	Total			



Subcatchment DA 4: BASIN 4 PRE DEVELOPMENT



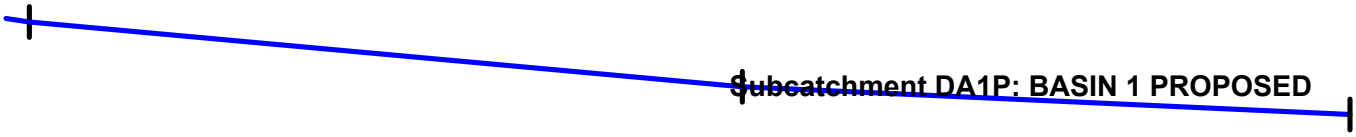
Summary for Subcatchment DA1P: BASIN 1 PROPOSED

Runoff = 141.35 cfs @ 13.83 hrs, Volume= 1,855,048 cf, Depth= 3.57"
Routed to Reach OF4P : Primary Stream for Outfalls

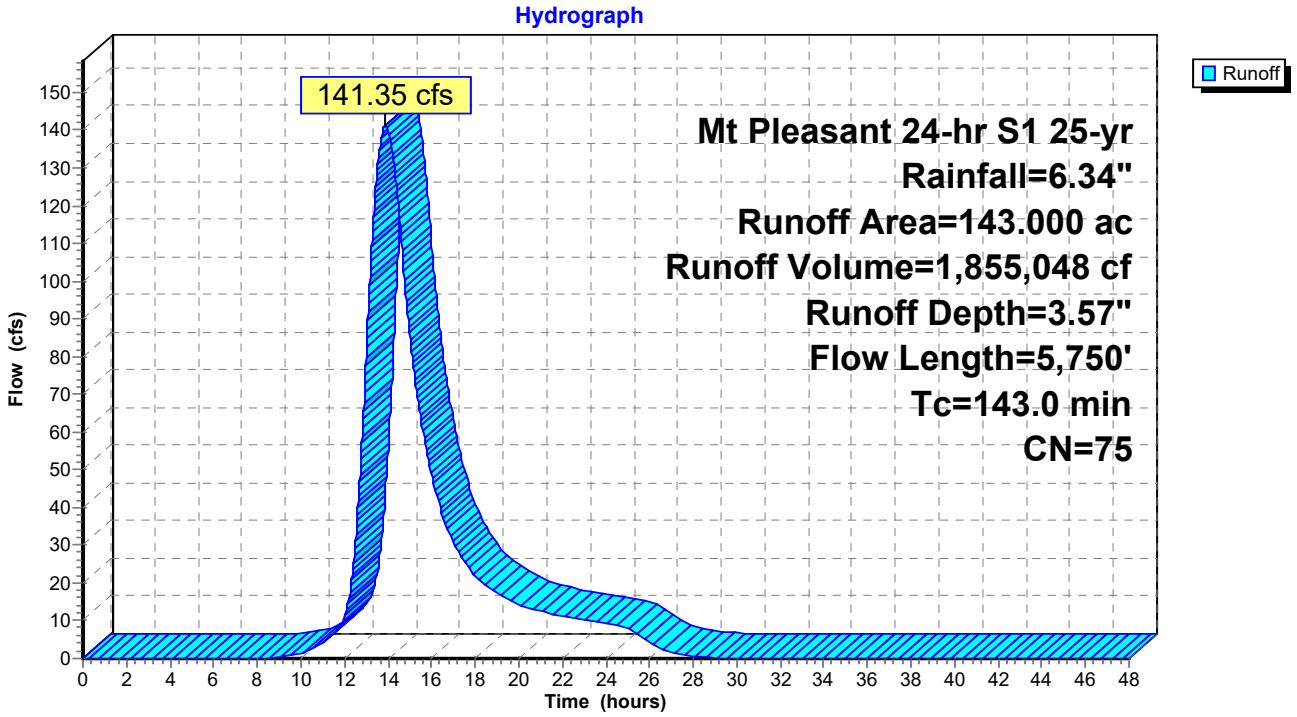
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
69.500	74	>75% Grass cover, Good, HSG C
71.000	76	Woods/grass comb., Fair, HSG C
2.500	98	Paved parking, HSG C
143.000	75	Weighted Average
140.500		98.25% Pervious Area
2.500		1.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.4	100	0.0200	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
92.8	3,050	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	2,600	0.0060	2.93	11.71	**Channel Flow,** Area= 4.0 sf Perim= 6.0' r= 0.67' n= 0.030
143.0	5,750	Total			



Subcatchment DA1P: BASIN 1 PROPOSED



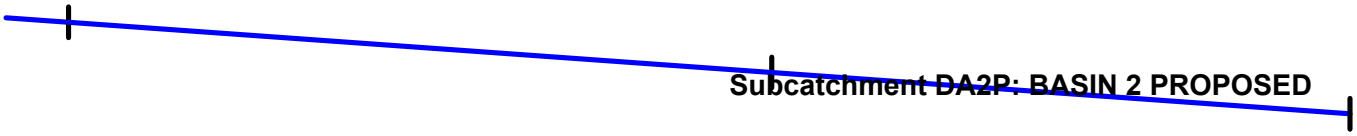
Summary for Subcatchment DA2P: BASIN 2 PROPOSED

Runoff = 38.11 cfs @ 12.88 hrs, Volume= 294,710 cf, Depth= 2.33"
Routed to Pond CD2 : Cross Drain

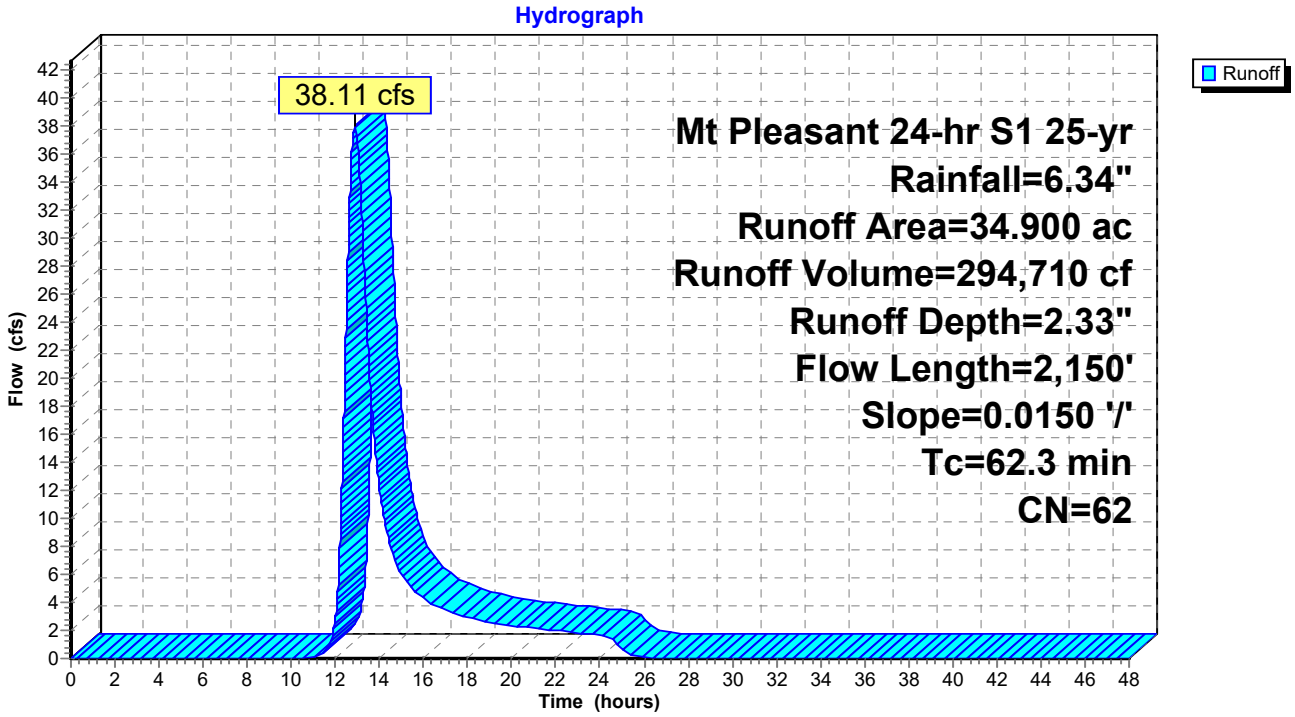
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
17.450	58	Meadow, non-grazed, HSG B
14.450	60	Woods, Fair, HSG B
3.000	96	Gravel surface, HSG C
34.900	62	Weighted Average
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0150	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
21.9	1,125	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	925	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.3	2,150	Total			



Subcatchment DA2P: BASIN 2 PROPOSED



Summary for Subcatchment DA3P: BASIN 3 PRE DEVELOPMENT

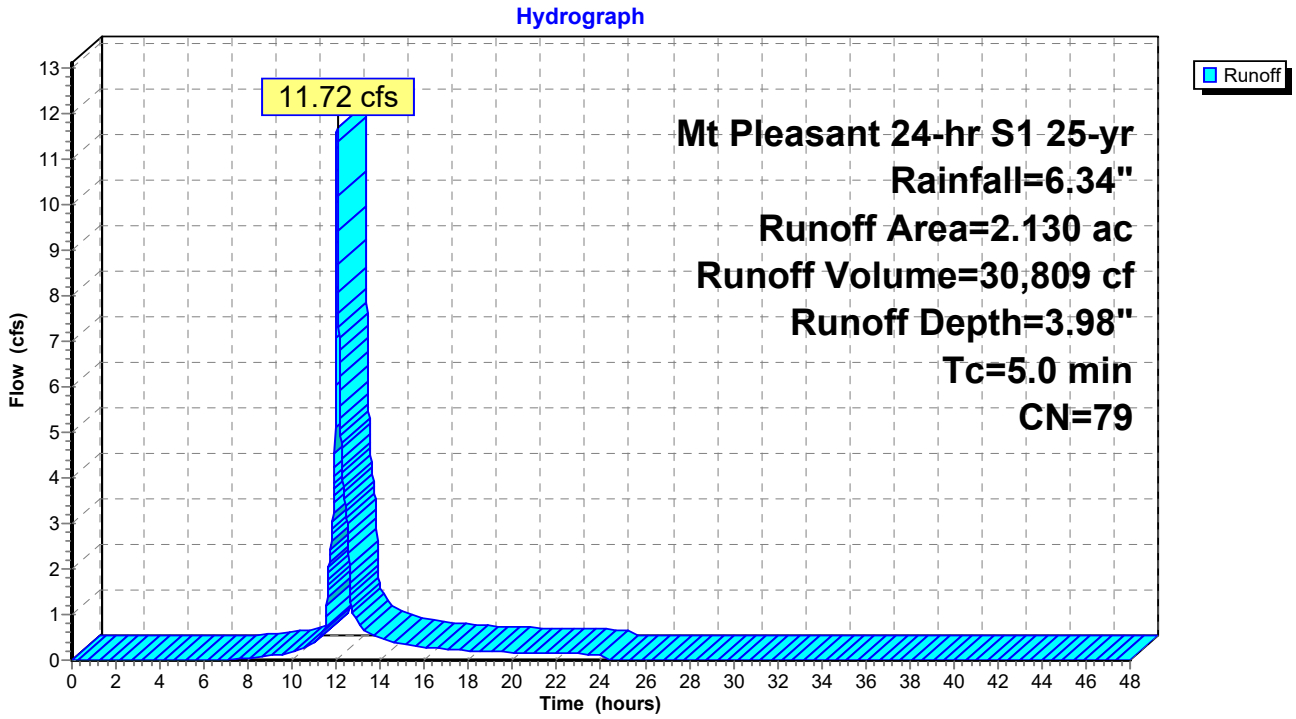
Runoff = 11.72 cfs @ 12.03 hrs, Volume= 30,809 cf, Depth= 3.98"
Routed to Reach OF4P : Primary Stream for Outfalls

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
2.130	79	Woods, Fair, HSG D
2.130		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA3P: BASIN 3 PRE DEVELOPMENT



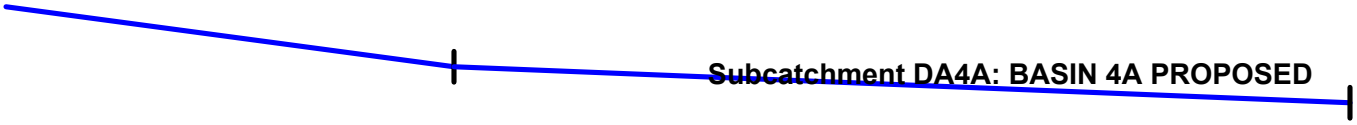
Summary for Subcatchment DA4A: BASIN 4A PROPOSED

Runoff = 10.18 cfs @ 12.37 hrs, Volume= 52,040 cf, Depth= 2.88"
Routed to Reach OF4P : Primary Stream for Outfalls

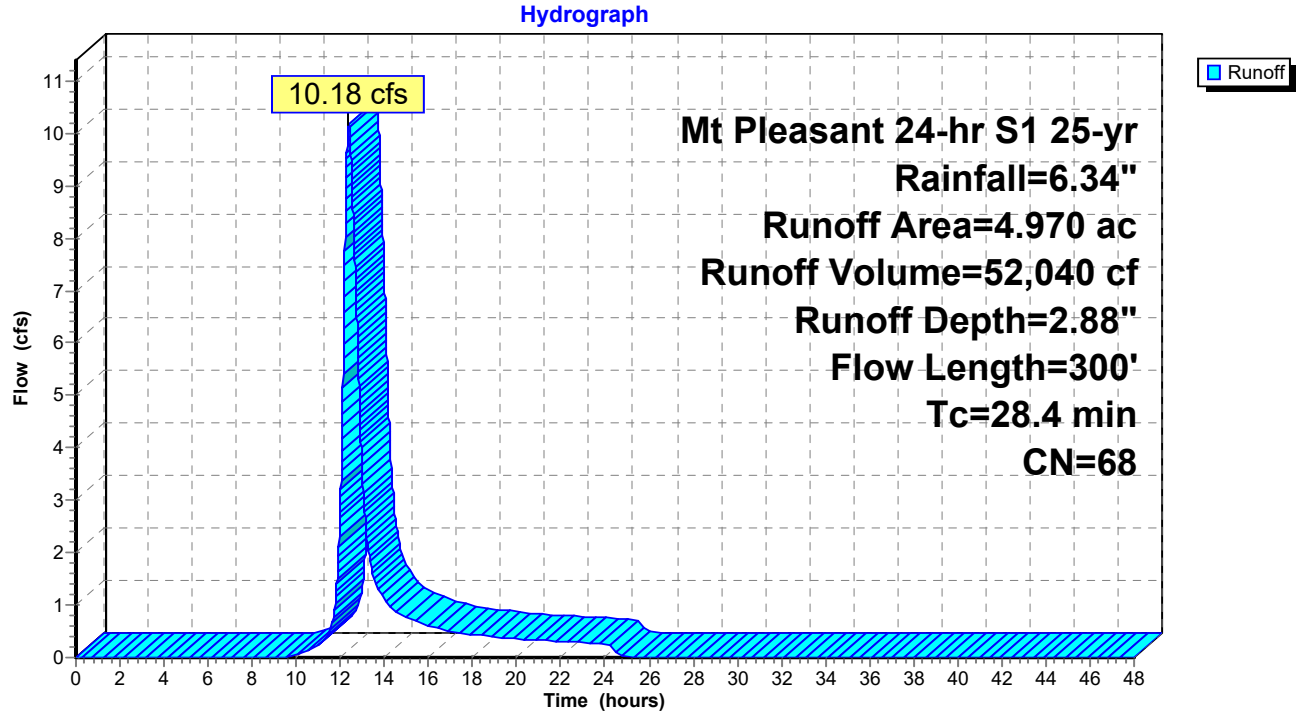
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
1.910	60	Woods, Fair, HSG B
3.060	73	Woods, Fair, HSG C
4.970	68	Weighted Average
4.970		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
3.9	200	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
28.4	300	Total			



Subcatchment DA4A: BASIN 4A PROPOSED



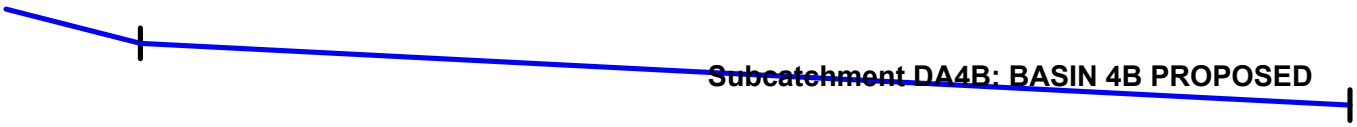
Summary for Subcatchment DA4B: BASIN 4B PROPOSED

Runoff = 43.69 cfs @ 12.40 hrs, Volume= 259,995 cf, Depth= 5.87"
Routed to Pond POND1P : PROP POND

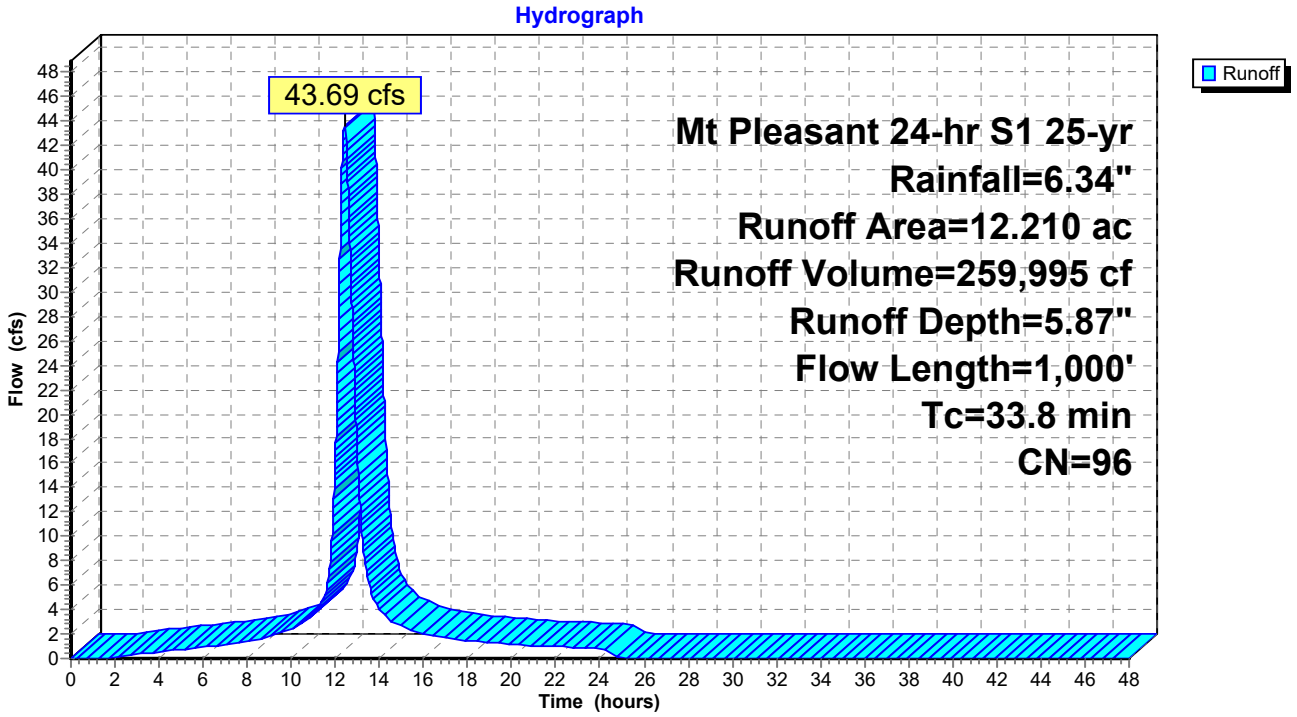
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
9.210	96	Gravel surface, HSG C
1.000	98	Paved parking, HSG D
2.000	98	Roofs, HSG D
12.210	96	Weighted Average
9.210		75.43% Pervious Area
3.000		24.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** n= 0.800 P2= 3.57"
9.3	900	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
33.8	1,000	Total			



Subcatchment DA4B: BASIN 4B PROPOSED



Summary for Subcatchment DA4C: BASIN 4C PROPOSED

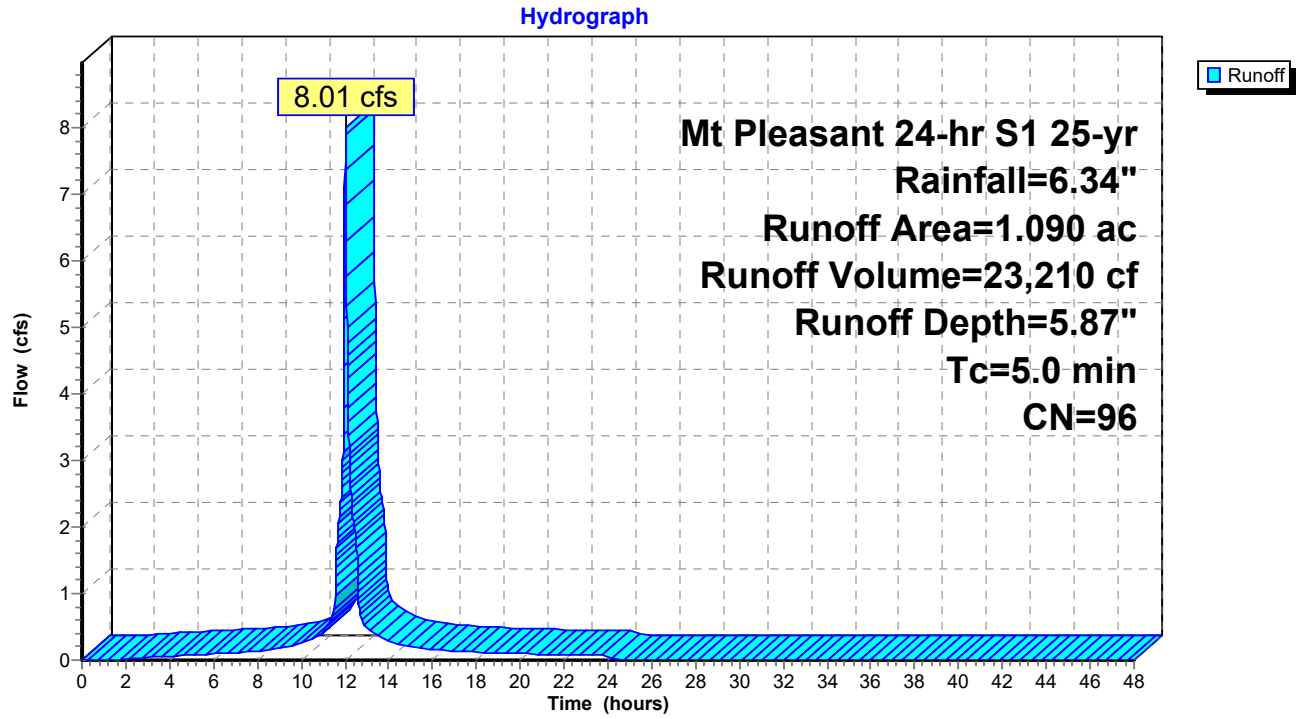
Runoff = 8.01 cfs @ 12.03 hrs, Volume= 23,210 cf, Depth= 5.87"
Routed to Reach D4C : Ditch 4C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
1.090	96	Gravel surface, HSG C
1.090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA4C: BASIN 4C PROPOSED



Summary for Subcatchment DA4D: BASIN 4D PROPOSED

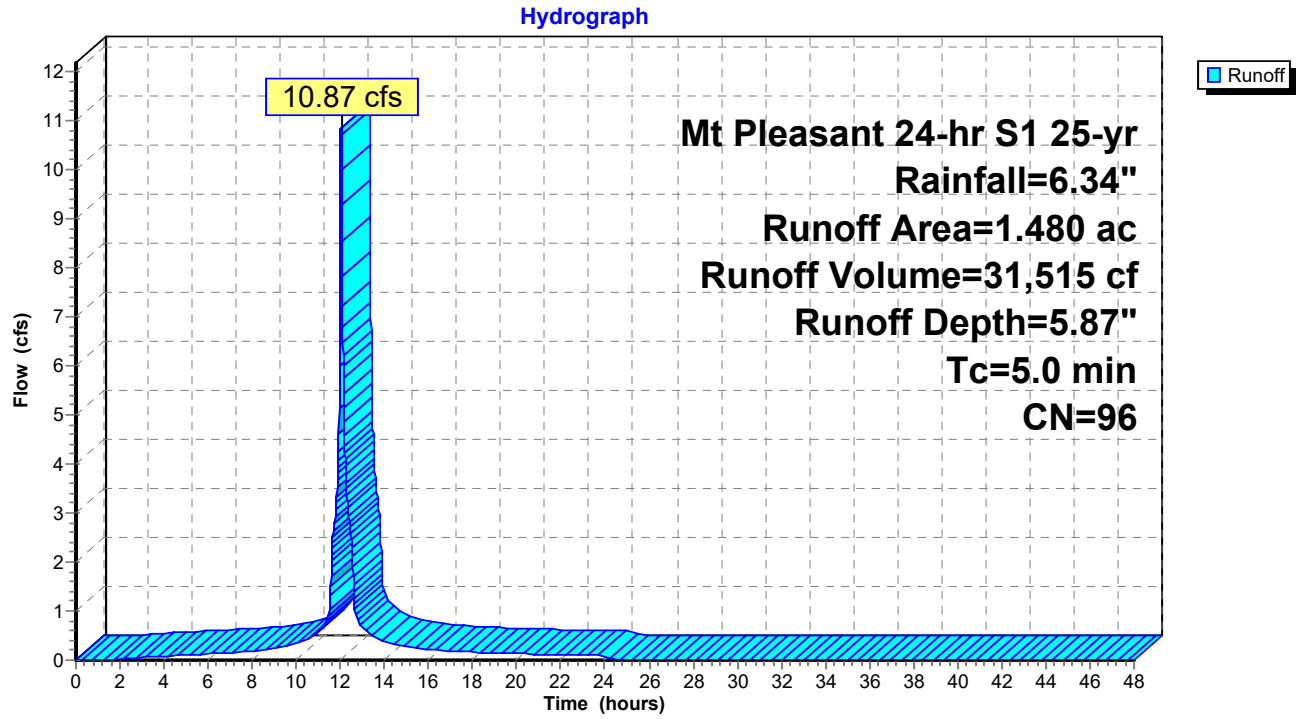
Runoff = 10.87 cfs @ 12.03 hrs, Volume= 31,515 cf, Depth= 5.87"
Routed to Reach D4D : Ditch 4D

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
1.480	96	Gravel surface, HSG C
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA4D: BASIN 4D PROPOSED



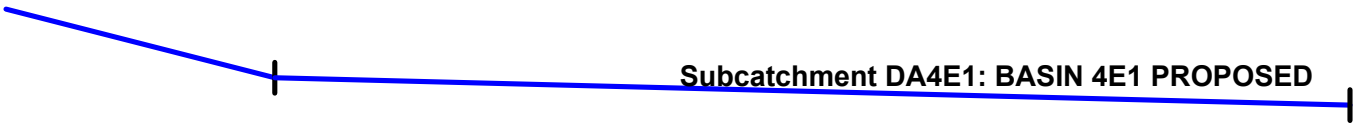
Summary for Subcatchment DA4E1: BASIN 4E1 PROPOSED

Runoff = 14.70 cfs @ 12.39 hrs, Volume= 76,136 cf, Depth= 2.51"
Routed to Reach D4E1 : Ditch 4E1

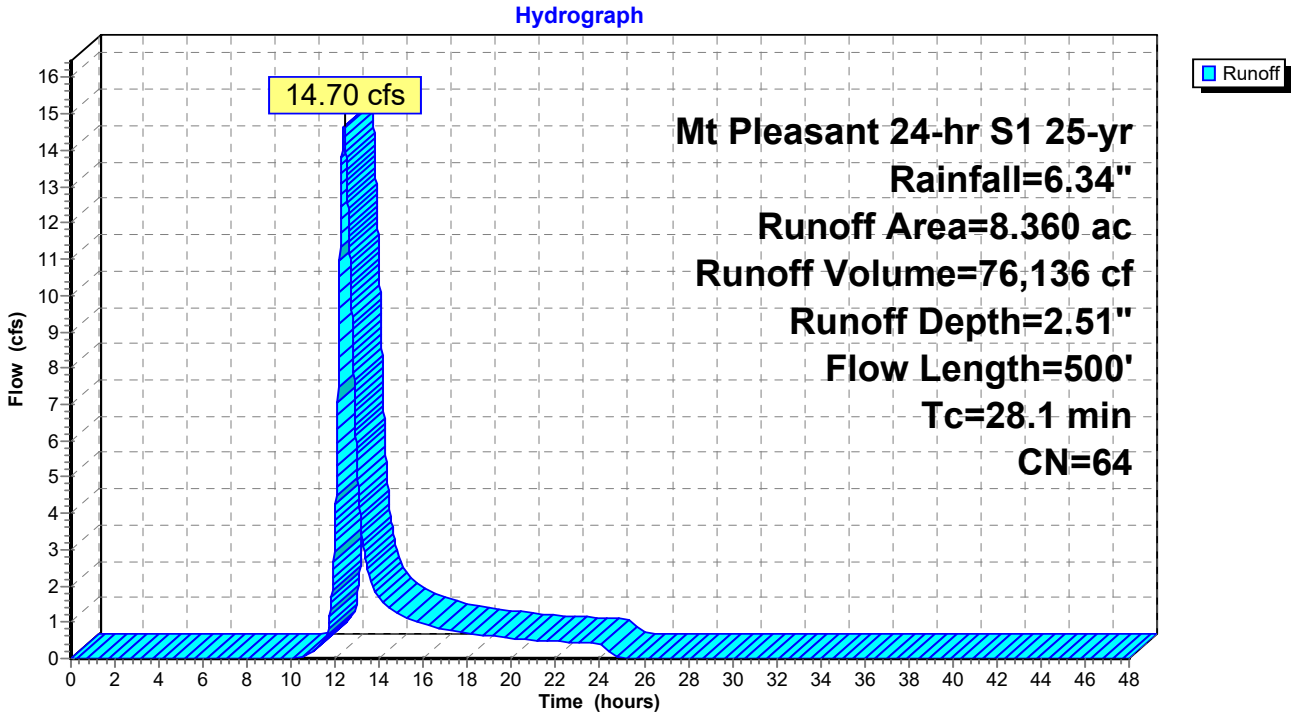
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
3.680	58	Meadow, non-grazed, HSG B
3.680	60	Woods, Fair, HSG B
1.000	98	Paved roads w/curbs & sewers, HSG B
8.360	64	Weighted Average
7.360		88.04% Pervious Area
1.000		11.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.1000	0.09		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
9.5	400	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
28.1	500	Total			



Subcatchment DA4E1: BASIN 4E1 PROPOSED



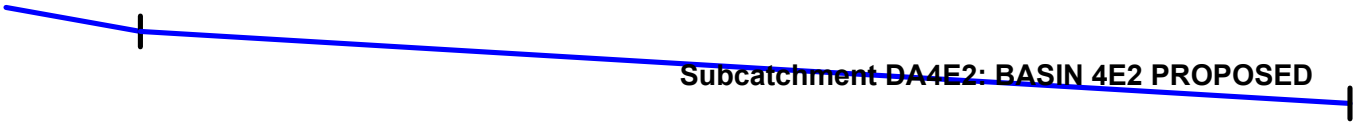
Summary for Subcatchment DA4E2: BASIN 4E2 PROPOSED

Runoff = 31.20 cfs @ 12.56 hrs, Volume= 188,257 cf, Depth= 2.98"
Routed to Pond CD4E : Cross Drain 4E

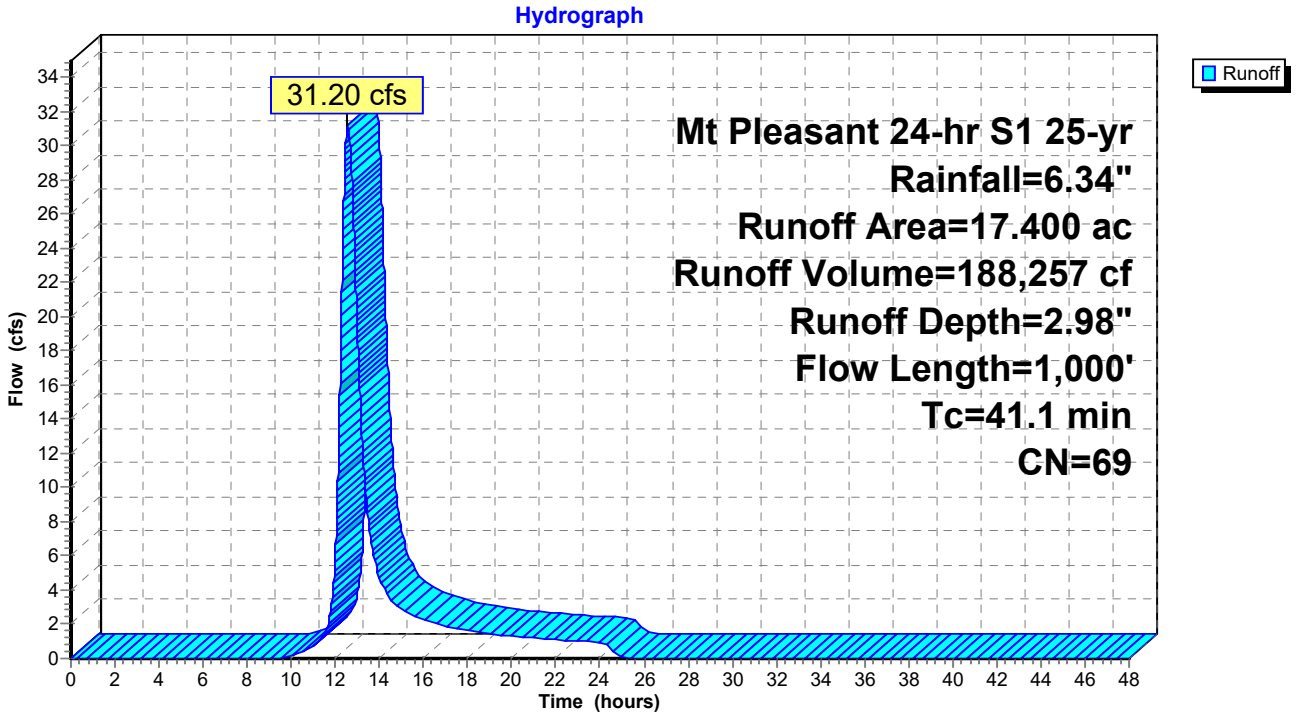
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 25-yr Rainfall=6.34"

Area (ac)	CN	Description
8.700	79	Woods, Fair, HSG D
4.350	58	Meadow, non-grazed, HSG B
4.350	60	Woods, Fair, HSG B
17.400	69	Weighted Average
17.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
16.6	900	0.0167	0.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
41.1	1,000	Total			



Subcatchment DA4E2: BASIN 4E2 PROPOSED



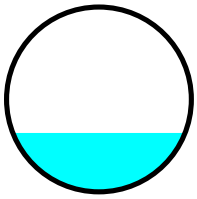
Summary for Reach CD4C: Cross Drain 4C

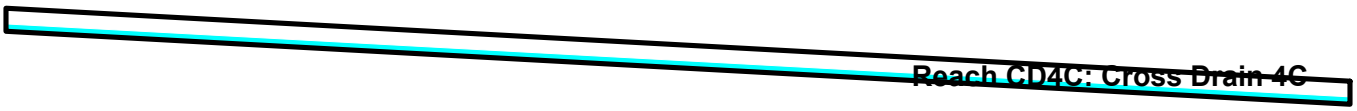
Inflow Area = 47,480 sf, 0.00% Impervious, Inflow Depth = 5.87" for 25-yr event
Inflow = 7.63 cfs @ 12.04 hrs, Volume= 23,210 cf
Outflow = 7.63 cfs @ 12.05 hrs, Volume= 23,210 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond CD4DCE : Cross Drain 4DCE

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 15.81 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 4.80 fps, Avg. Travel Time= 0.2 min

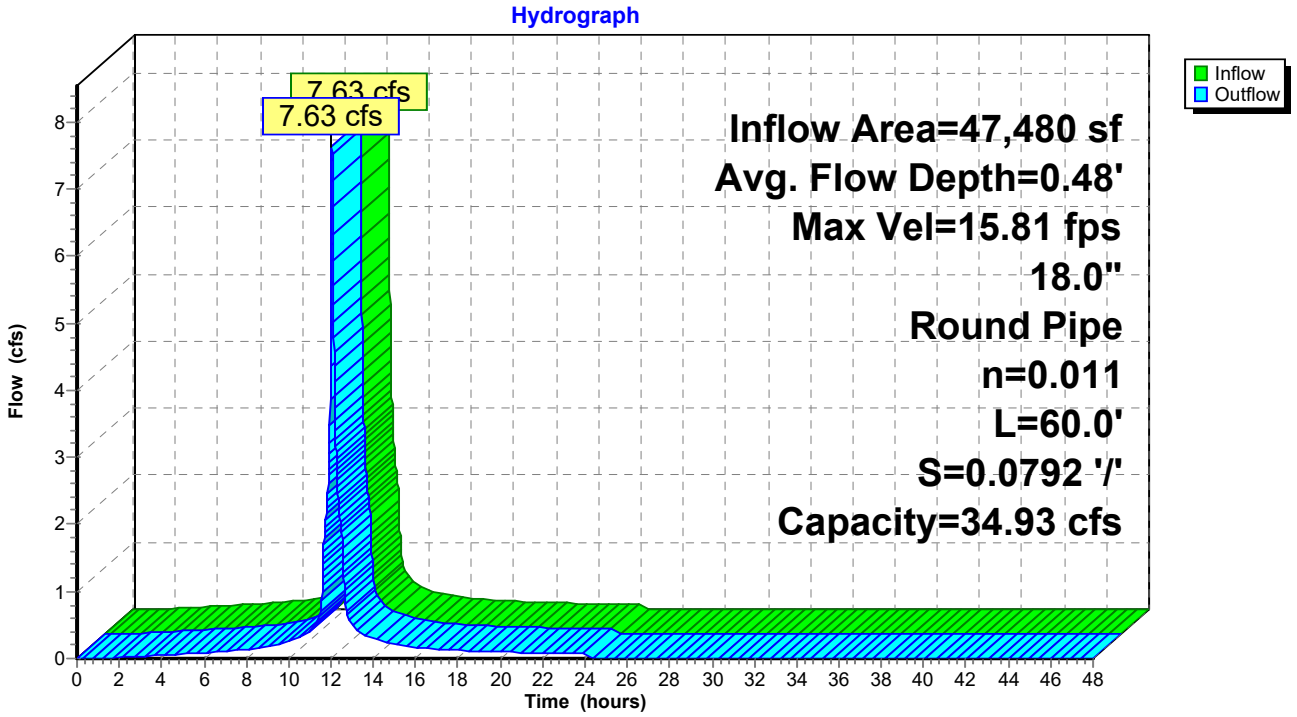
Peak Storage= 29 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.48' , Surface Width= 1.40'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 34.93 cfs

18.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 60.0' Slope= 0.0792 '/'
Inlet Invert= 683.75', Outlet Invert= 679.00'

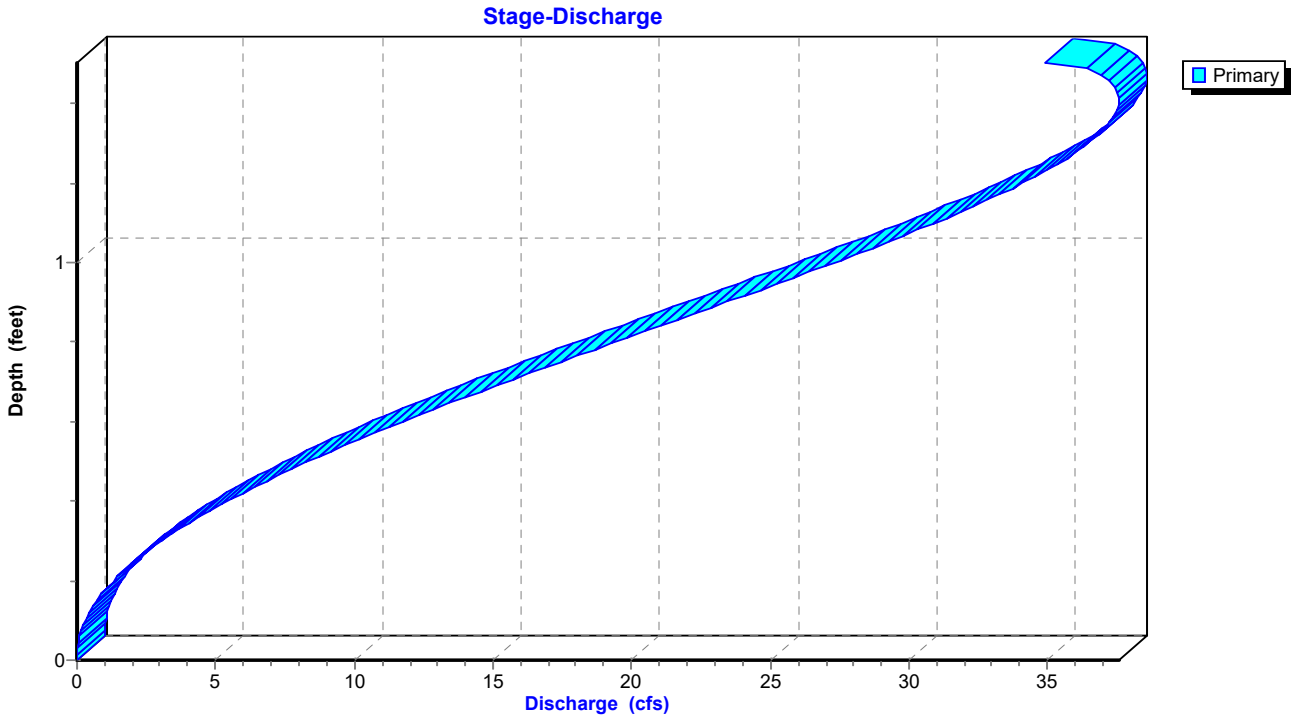




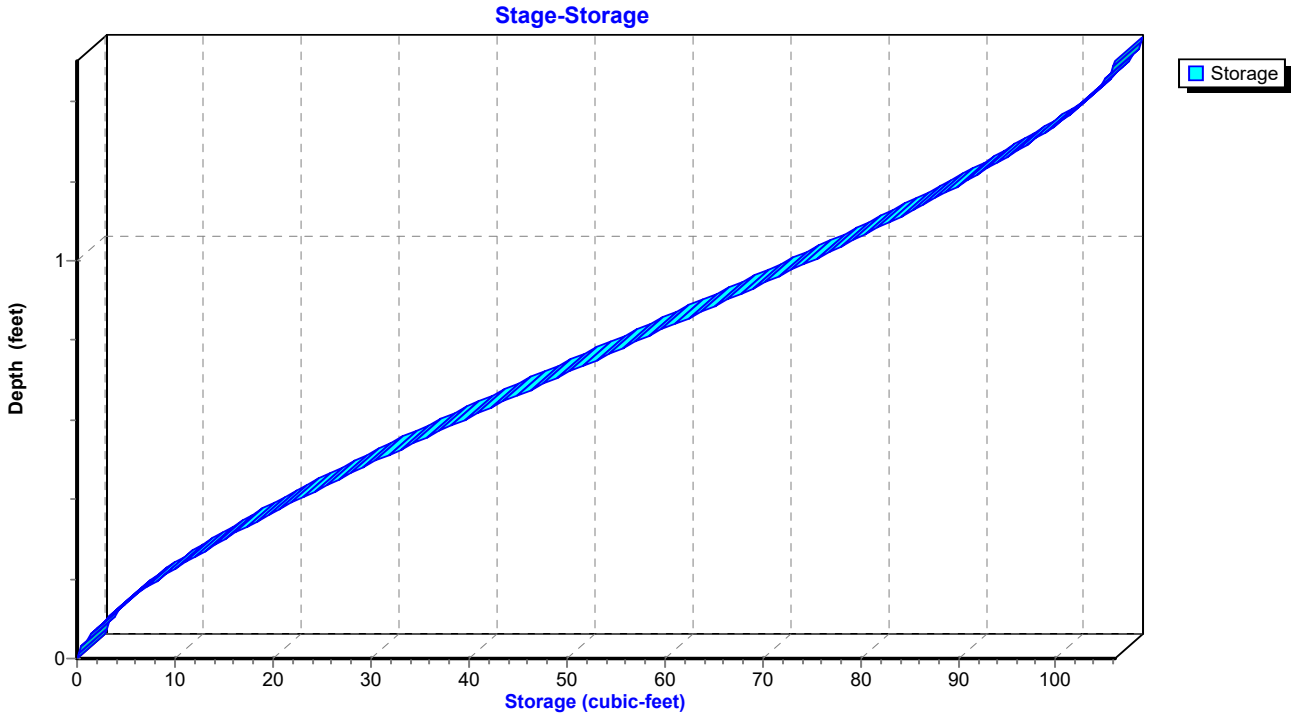
Reach CD4C: Cross Drain 4C



Reach CD4C: Cross Drain 4C



Reach CD4C: Cross Drain 4C



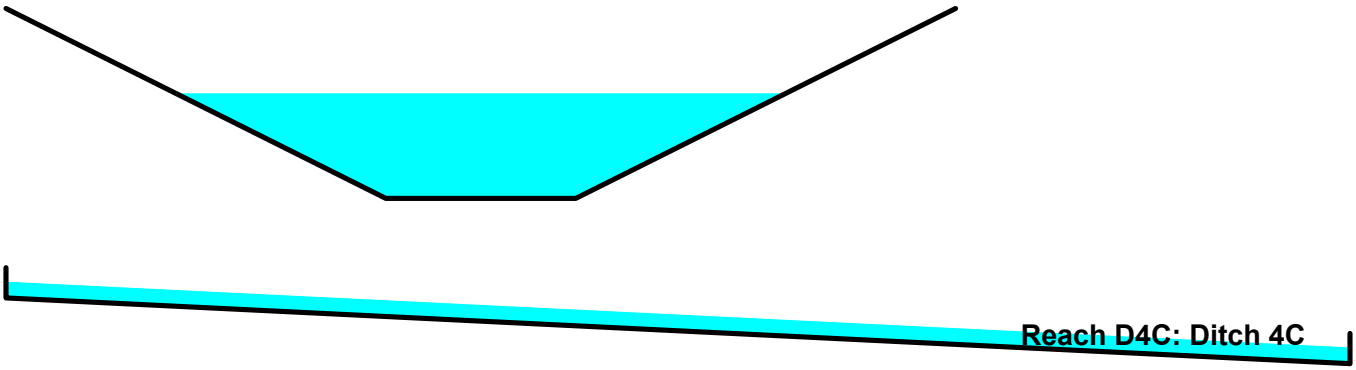
Summary for Reach D4C: Ditch 4C

Inflow Area = 47,480 sf, 0.00% Impervious, Inflow Depth = 5.87" for 25-yr event
Inflow = 8.01 cfs @ 12.03 hrs, Volume= 23,210 cf
Outflow = 7.63 cfs @ 12.04 hrs, Volume= 23,210 cf, Atten= 5%, Lag= 1.1 min
Routed to Reach CD4C : Cross Drain 4C

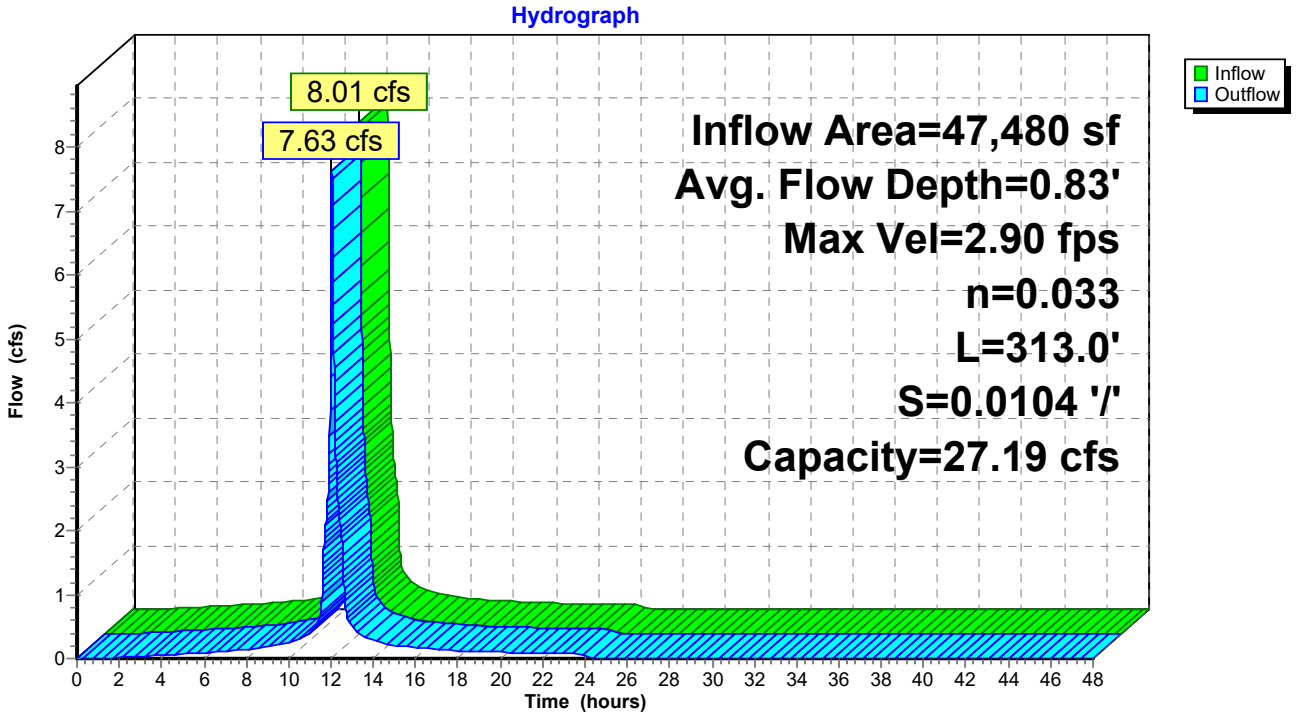
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.90 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.85 fps, Avg. Travel Time= 6.1 min

Peak Storage= 822 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.83' , Surface Width= 4.82'
Bank-Full Depth= 1.50' Flow Area= 6.8 sf, Capacity= 27.19 cfs

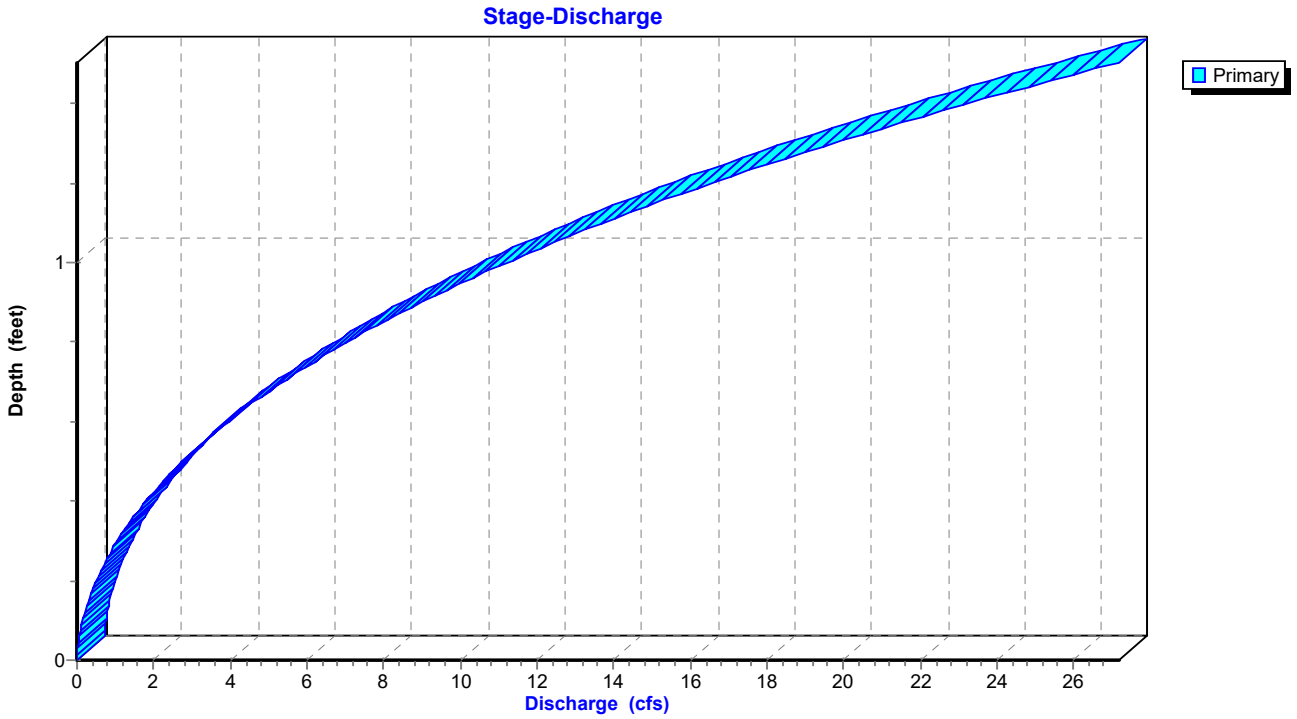
1.50' x 1.50' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 7.50'
Length= 313.0' Slope= 0.0104 '/'
Inlet Invert= 687.00', Outlet Invert= 683.75'



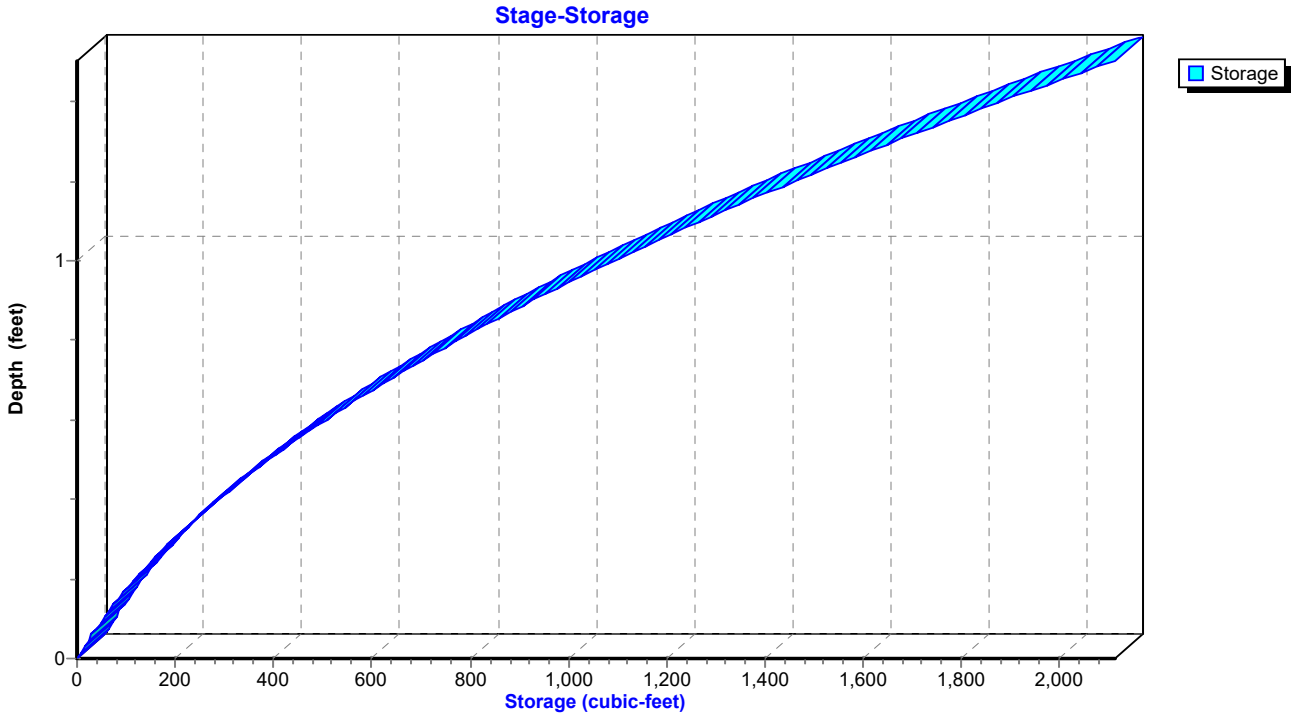
Reach D4C: Ditch 4C



Reach D4C: Ditch 4C



Reach D4C: Ditch 4C



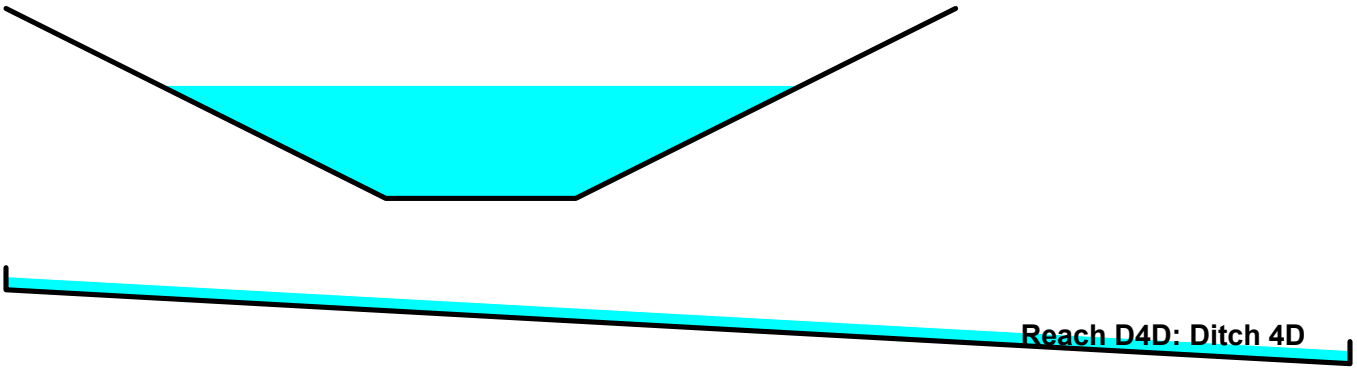
Summary for Reach D4D: Ditch 4D

Inflow Area = 64,469 sf, 0.00% Impervious, Inflow Depth = 5.87" for 25-yr event
Inflow = 10.87 cfs @ 12.03 hrs, Volume= 31,515 cf
Outflow = 10.47 cfs @ 12.04 hrs, Volume= 31,515 cf, Atten= 4%, Lag= 1.0 min
Routed to Pond CD4DCE : Cross Drain 4DCE

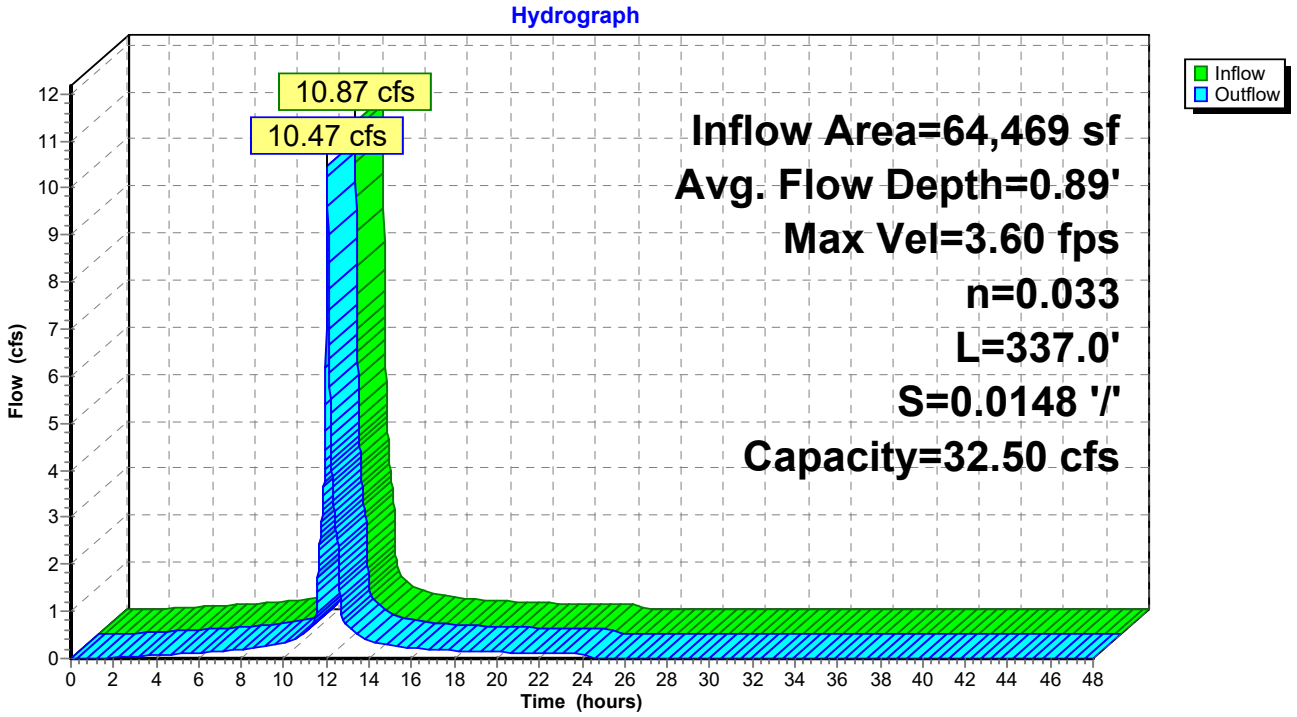
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.60 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 1.07 fps, Avg. Travel Time= 5.3 min

Peak Storage= 980 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.89' , Surface Width= 5.05'
Bank-Full Depth= 1.50' Flow Area= 6.8 sf, Capacity= 32.50 cfs

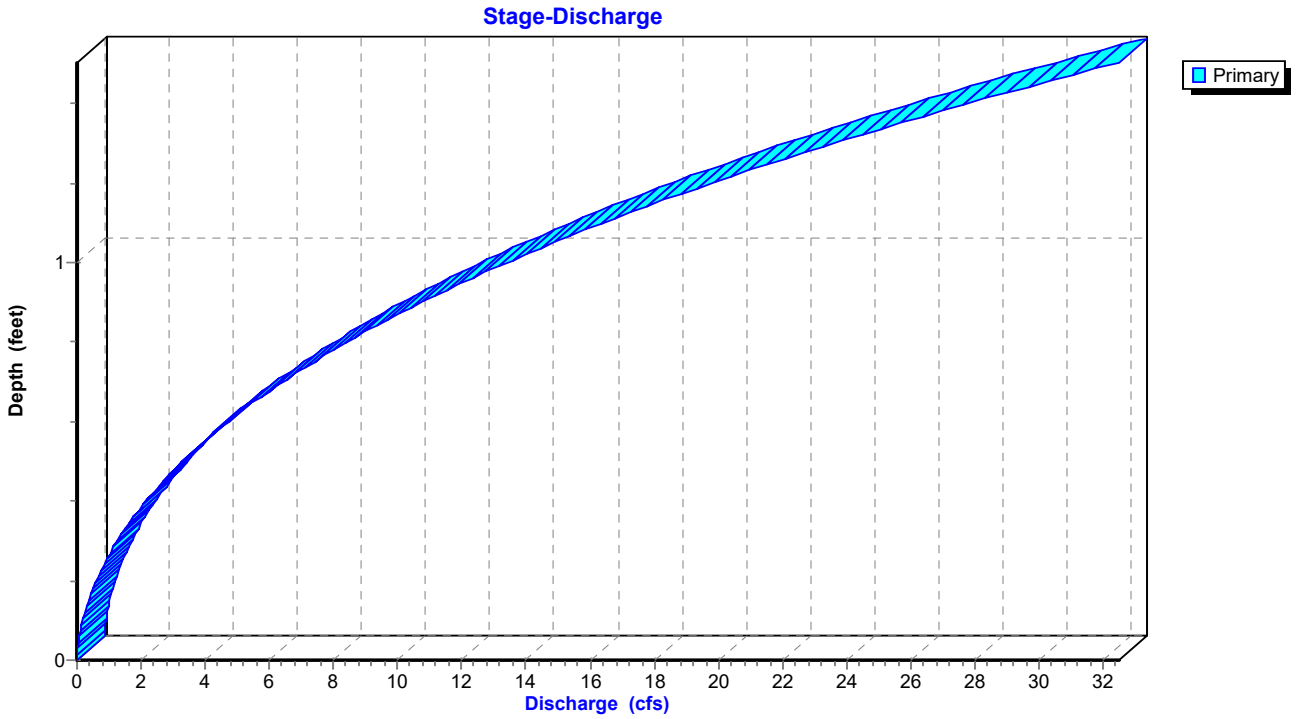
1.50' x 1.50' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 7.50'
Length= 337.0' Slope= 0.0148 '/'
Inlet Invert= 688.00', Outlet Invert= 683.00'



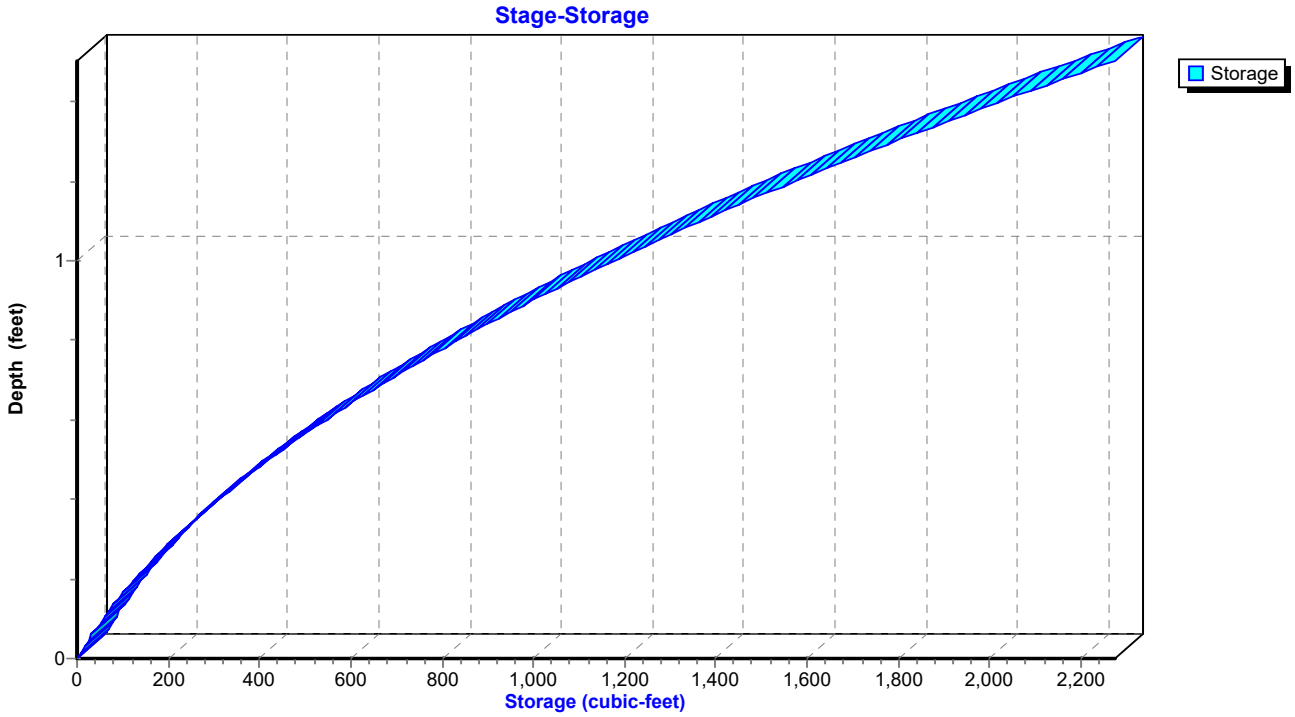
Reach D4D: Ditch 4D



Reach D4D: Ditch 4D



Reach D4D: Ditch 4D



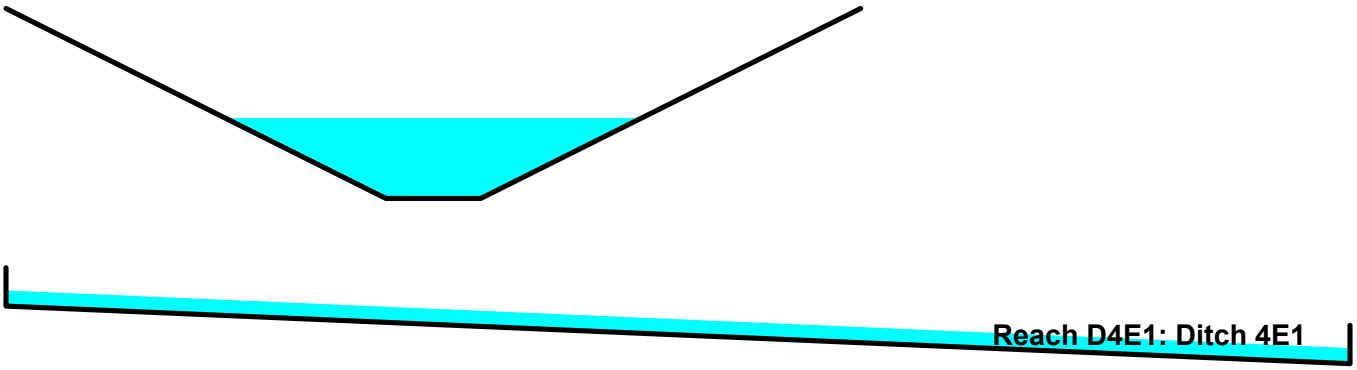
Summary for Reach D4E1: Ditch 4E1

Inflow Area = 364,162 sf, 11.96% Impervious, Inflow Depth = 2.51" for 25-yr event
Inflow = 14.70 cfs @ 12.39 hrs, Volume= 76,136 cf
Outflow = 14.36 cfs @ 12.44 hrs, Volume= 76,136 cf, Atten= 2%, Lag= 3.1 min
Routed to Pond CD4E : Cross Drain 4E

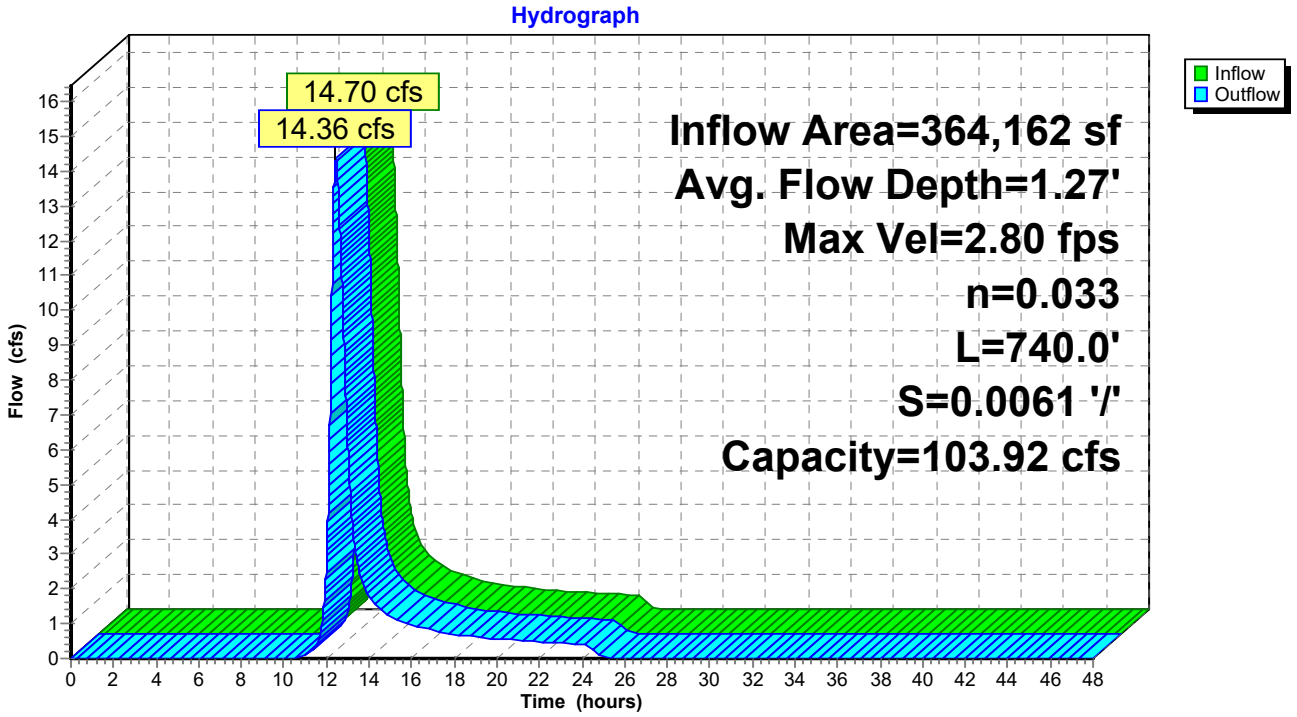
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.80 fps, Min. Travel Time= 4.4 min
Avg. Velocity = 1.06 fps, Avg. Travel Time= 11.6 min

Peak Storage= 3,788 cf @ 12.44 hrs
Average Depth at Peak Storage= 1.27' , Surface Width= 6.57'
Bank-Full Depth= 3.00' Flow Area= 22.5 sf, Capacity= 103.92 cfs

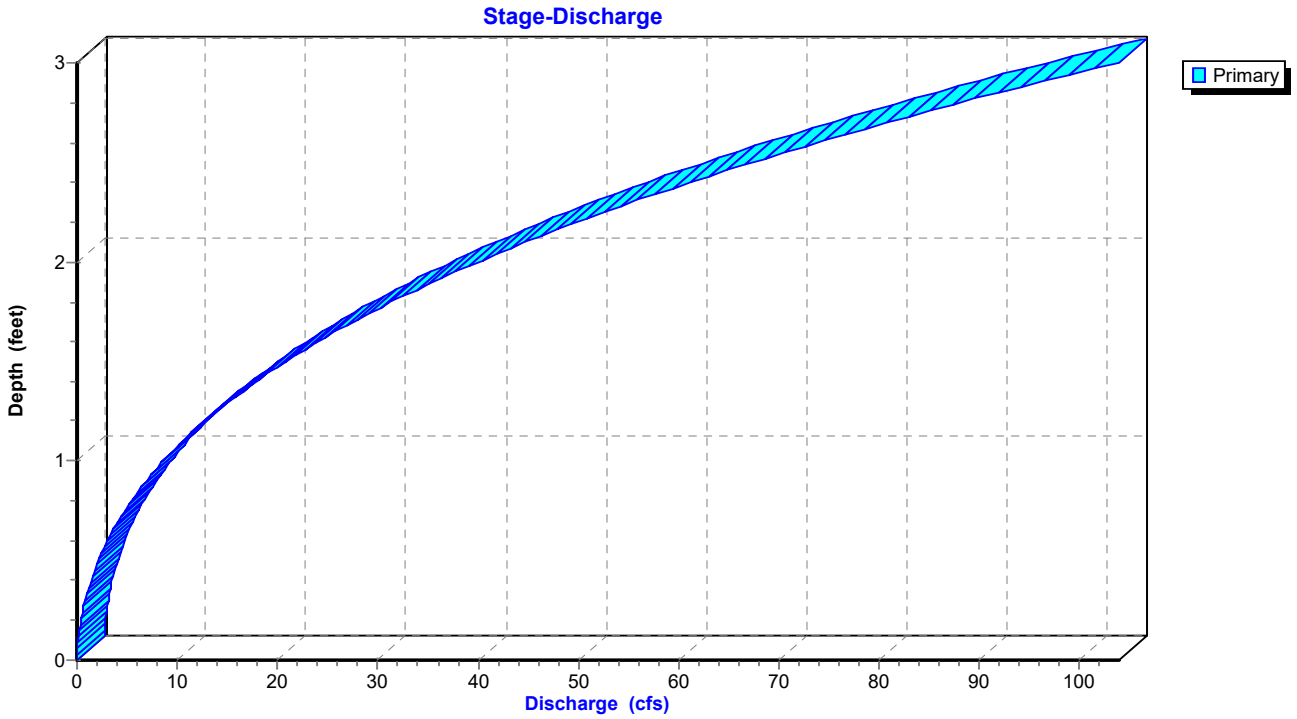
1.50' x 3.00' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 13.50'
Length= 740.0' Slope= 0.0061 '/'
Inlet Invert= 684.00', Outlet Invert= 679.50'



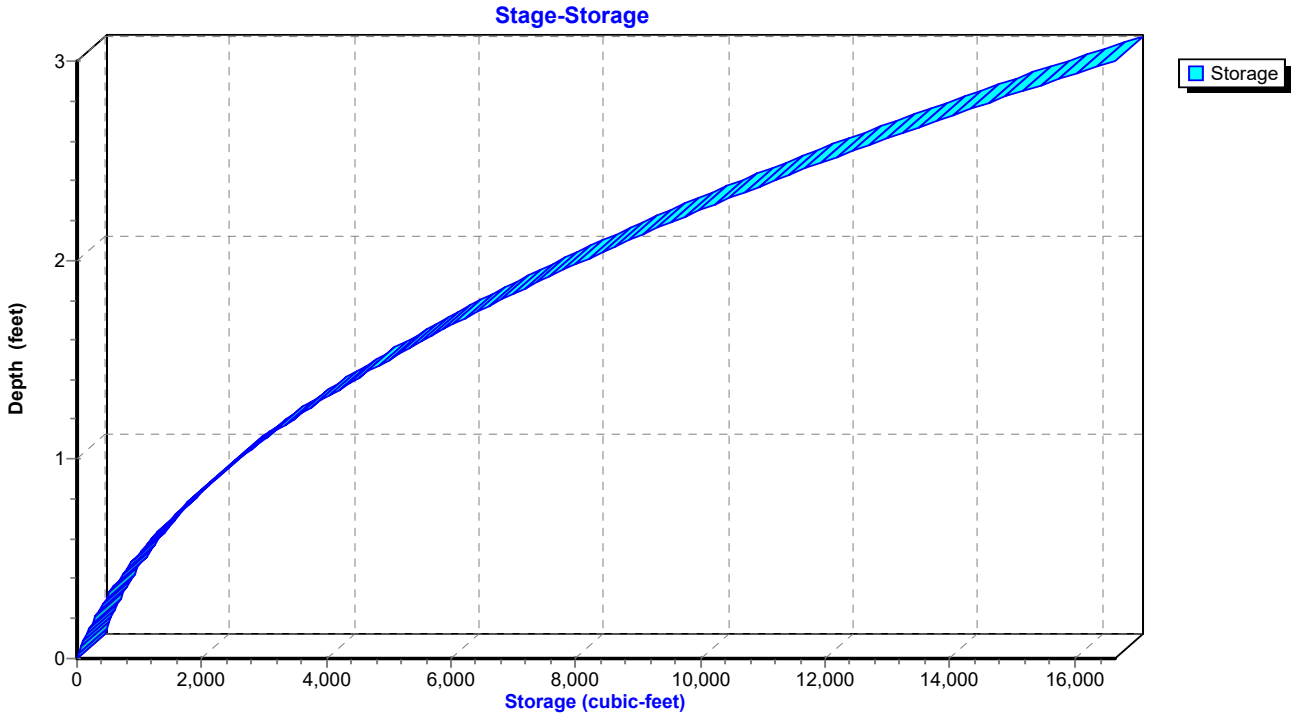
Reach D4E1: Ditch 4E1



Reach D4E1: Ditch 4E1



Reach D4E1: Ditch 4E1



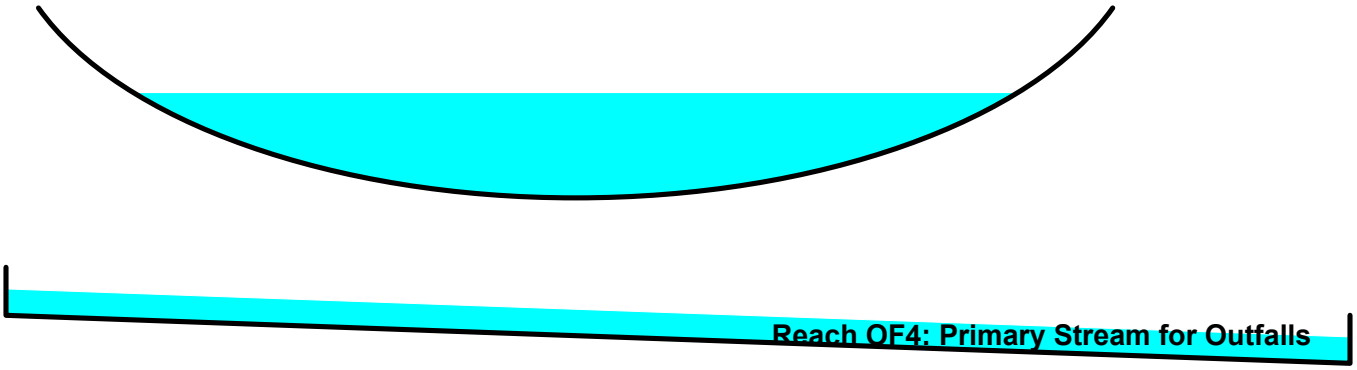
Summary for Reach OF4: Primary Stream for Outfalls

Inflow Area = 9,972,626 sf, 1.09% Impervious, Inflow Depth = 3.28" for 25-yr event
Inflow = 179.49 cfs @ 13.35 hrs, Volume= 2,726,715 cf
Outflow = 179.28 cfs @ 13.37 hrs, Volume= 2,726,715 cf, Atten= 0%, Lag= 1.6 min

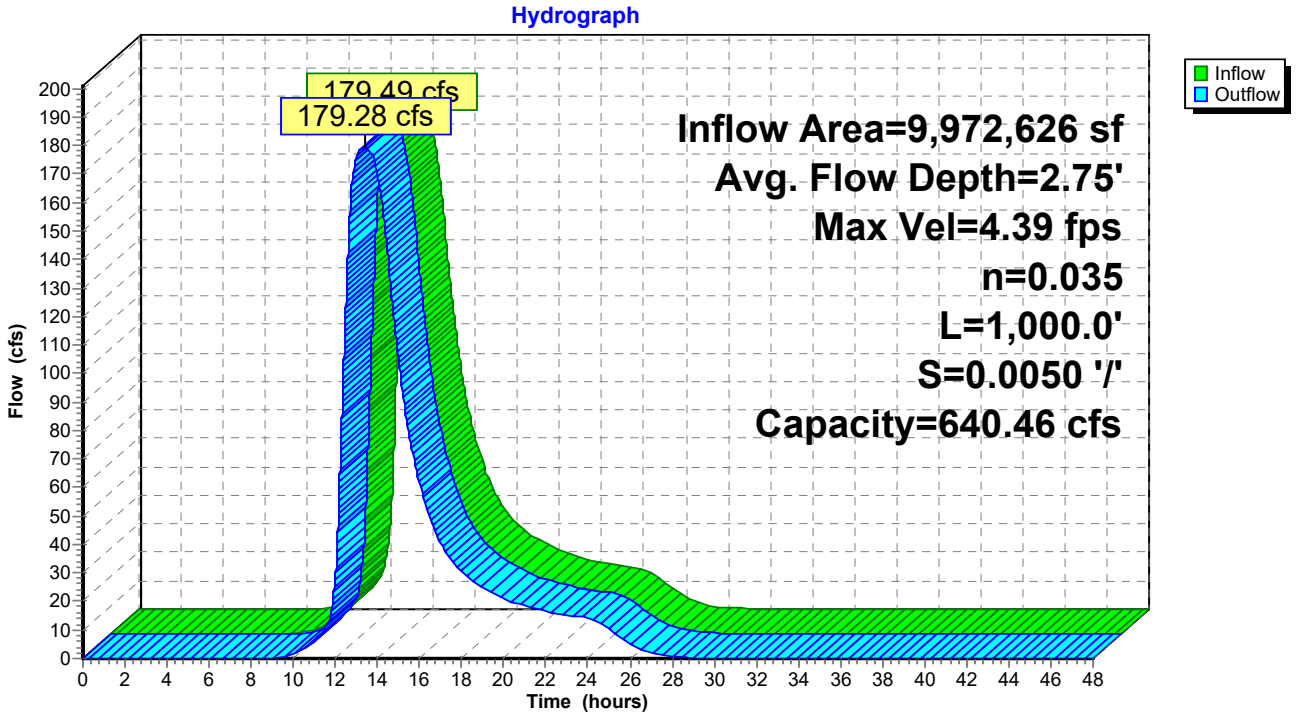
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.39 fps, Min. Travel Time= 3.8 min
Avg. Velocity = 1.64 fps, Avg. Travel Time= 10.2 min

Peak Storage= 40,870 cf @ 13.37 hrs
Average Depth at Peak Storage= 2.75' , Surface Width= 22.26'
Bank-Full Depth= 5.00' Flow Area= 100.0 sf, Capacity= 640.46 cfs

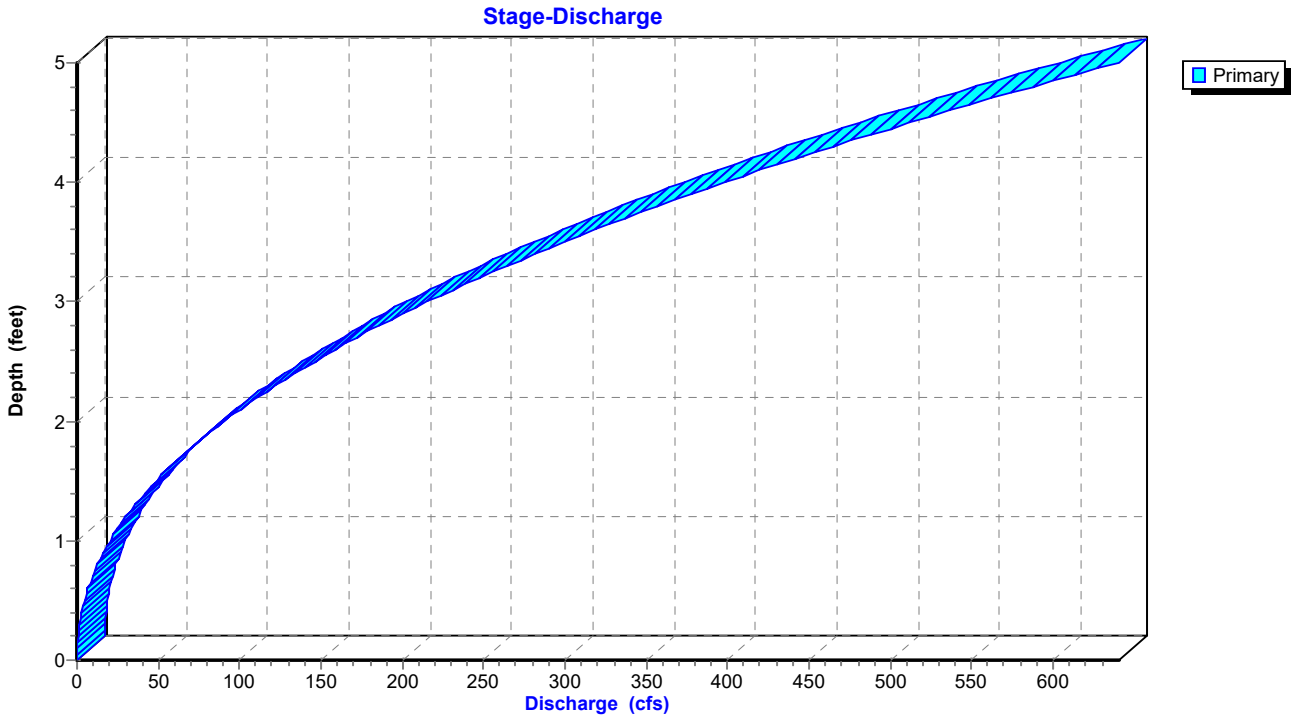
30.00' x 5.00' deep Parabolic Channel, n= 0.035
Length= 1,000.0' Slope= 0.0050 '/'
Inlet Invert= 675.00', Outlet Invert= 670.00'



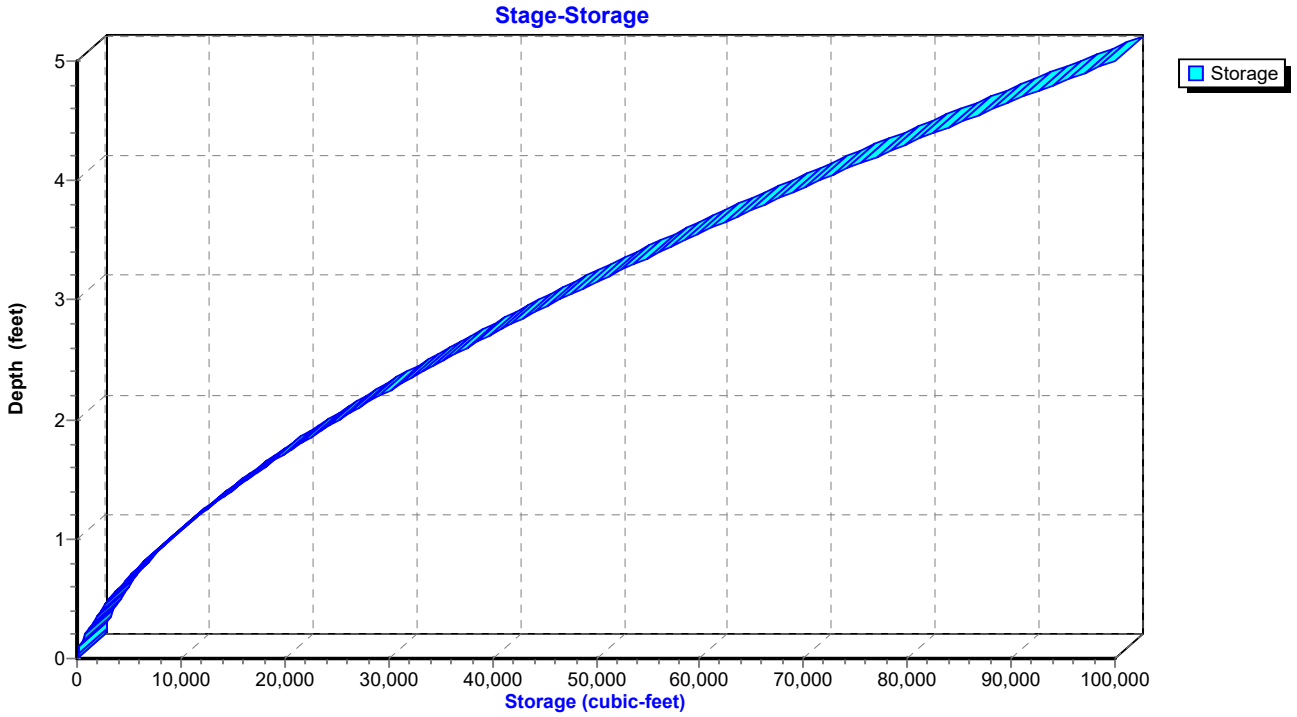
Reach OF4: Primary Stream for Outfalls



Reach OF4: Primary Stream for Outfalls



Reach OF4: Primary Stream for Outfalls



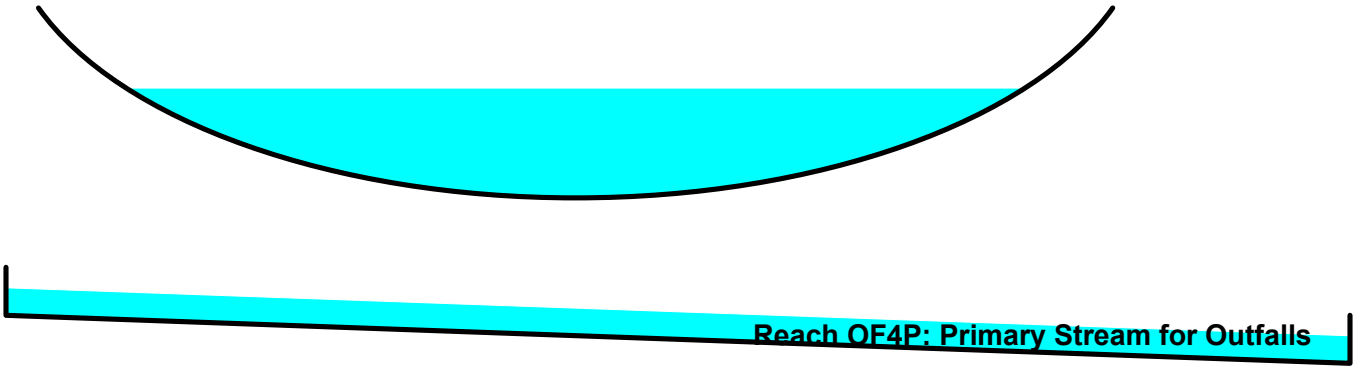
Summary for Reach OF4P: Primary Stream for Outfalls

Inflow Area = 9,824,522 sf, 2.88% Impervious, Inflow Depth = 3.43" for 25-yr event
Inflow = 196.26 cfs @ 13.66 hrs, Volume= 2,811,155 cf
Outflow = 196.02 cfs @ 13.69 hrs, Volume= 2,811,153 cf, Atten= 0%, Lag= 1.6 min

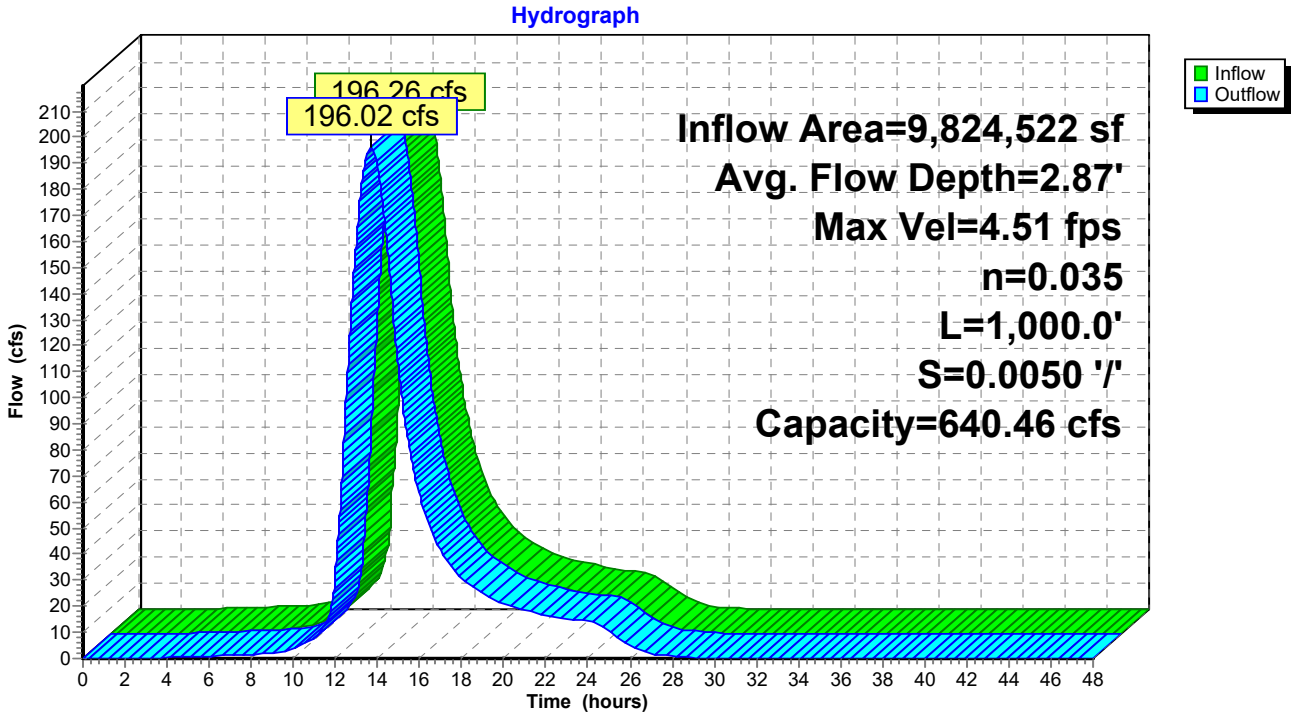
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.51 fps, Min. Travel Time= 3.7 min
Avg. Velocity = 1.27 fps, Avg. Travel Time= 13.1 min

Peak Storage= 43,506 cf @ 13.69 hrs
Average Depth at Peak Storage= 2.87' , Surface Width= 22.73'
Bank-Full Depth= 5.00' Flow Area= 100.0 sf, Capacity= 640.46 cfs

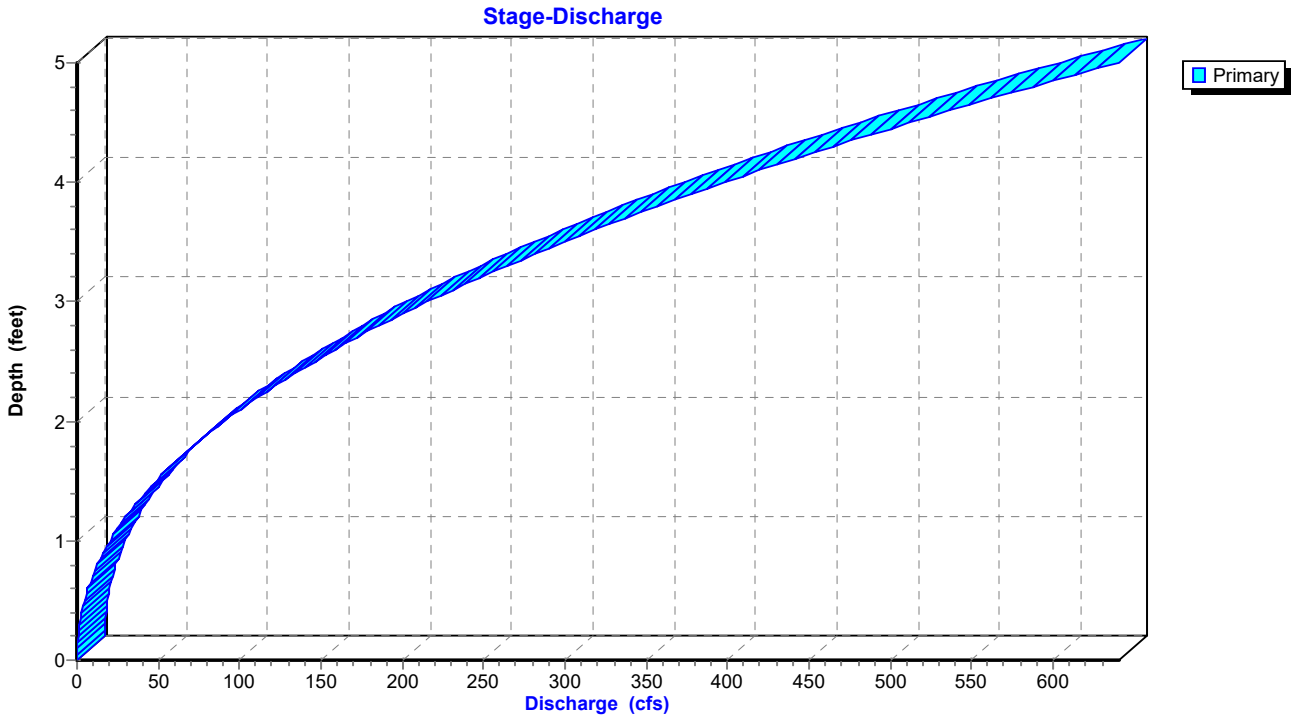
30.00' x 5.00' deep Parabolic Channel, n= 0.035
Length= 1,000.0' Slope= 0.0050 '/'
Inlet Invert= 675.00', Outlet Invert= 670.00'



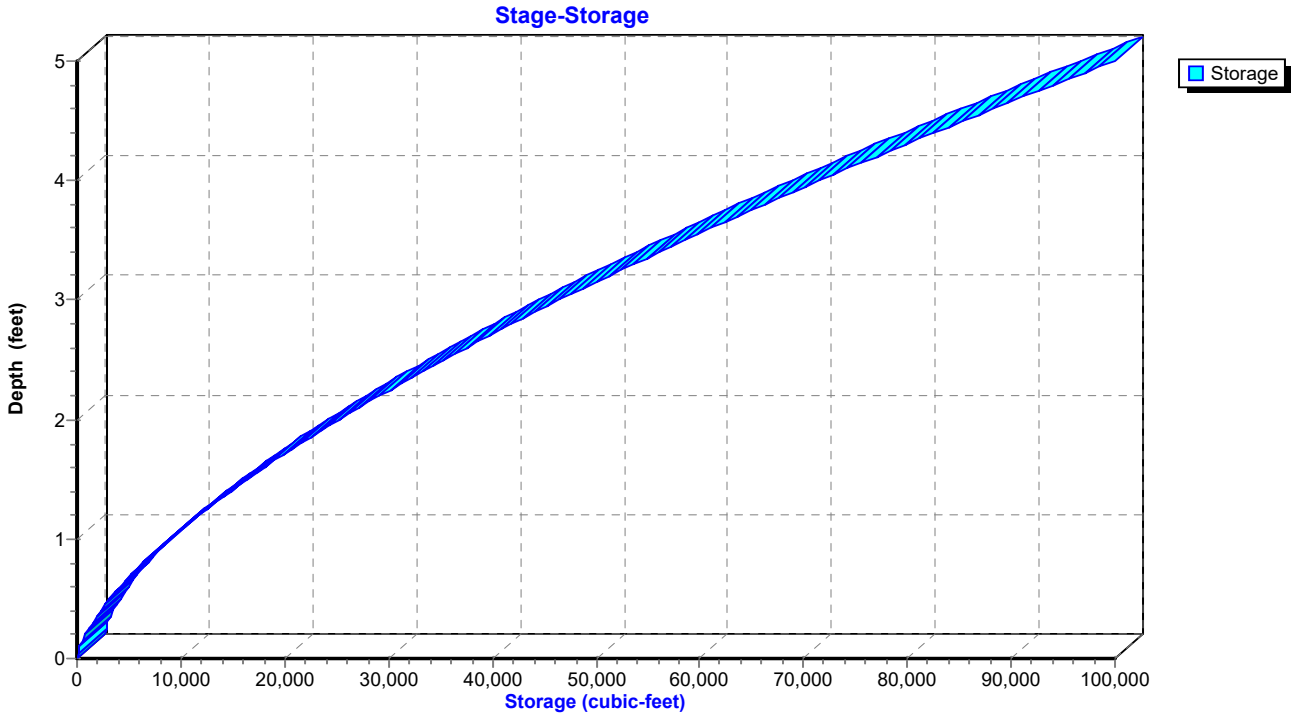
Reach OF4P: Primary Stream for Outfalls



Reach OF4P: Primary Stream for Outfalls



Reach OF4P: Primary Stream for Outfalls



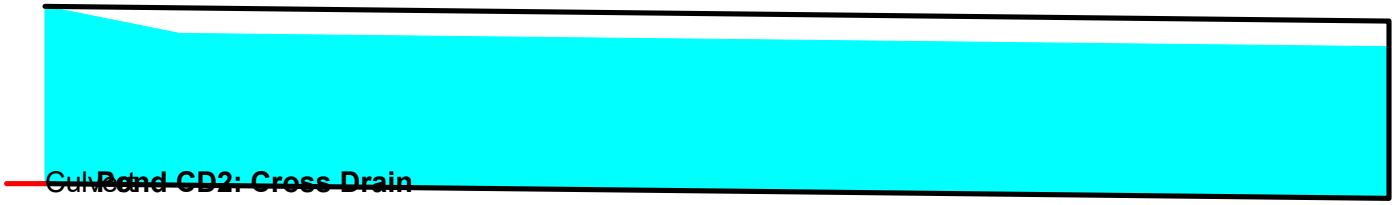
Summary for Pond CD2: Cross Drain

Inflow Area = 1,520,244 sf, 0.00% Impervious, Inflow Depth = 2.33" for 25-yr event
Inflow = 38.11 cfs @ 12.88 hrs, Volume= 294,710 cf
Outflow = 38.11 cfs @ 12.88 hrs, Volume= 294,710 cf, Atten= 0%, Lag= 0.0 min
Primary = 38.11 cfs @ 12.88 hrs, Volume= 294,710 cf
Routed to Reach OF4P : Primary Stream for Outfalls

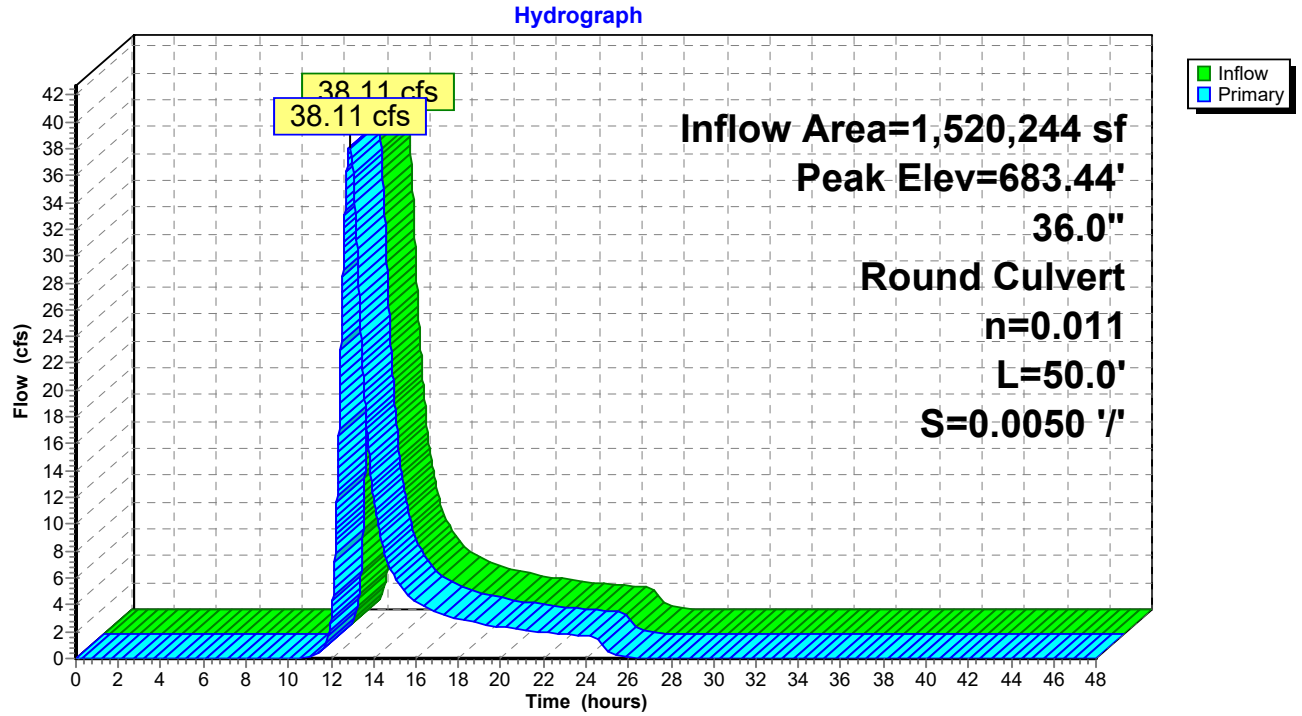
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 683.44' @ 12.88 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	680.25'	**36.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 680.25' / 680.00' S= 0.0050 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

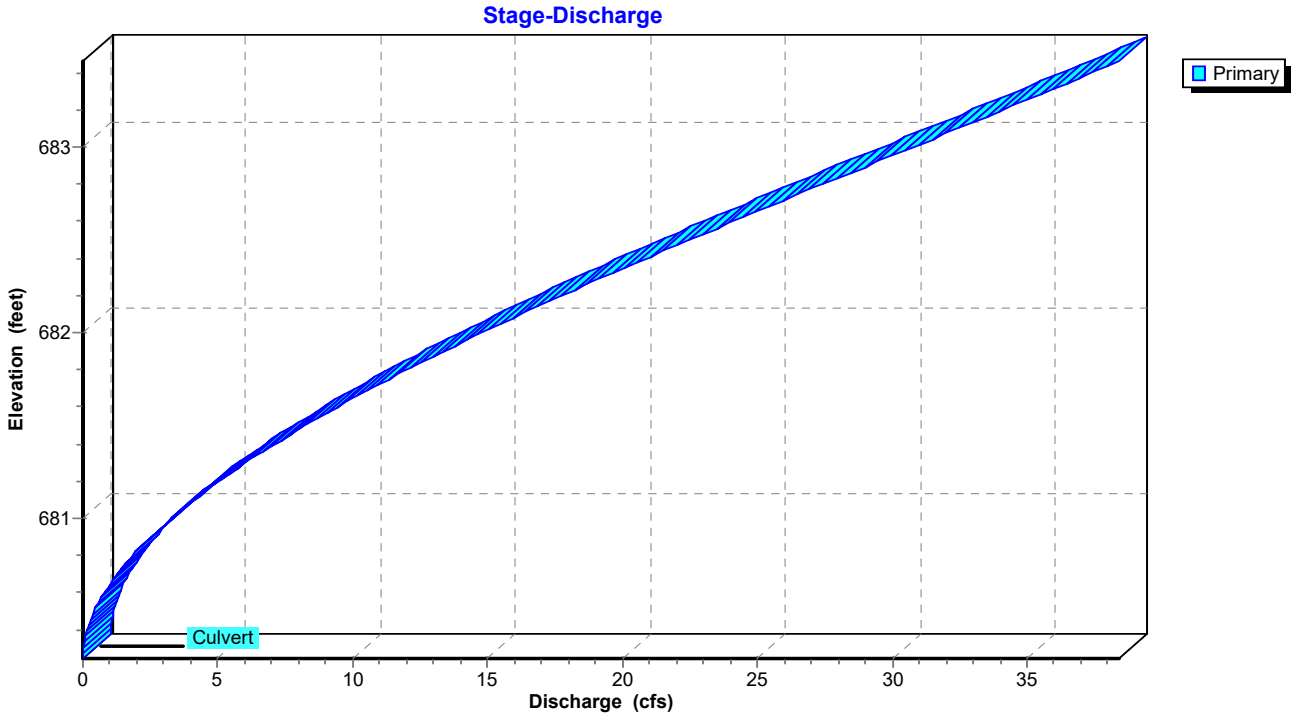
Primary OutFlow Max=38.11 cfs @ 12.88 hrs HW=683.44' (Free Discharge)
└**1=Culvert** (Barrel Controls 38.11 cfs @ 6.30 fps)



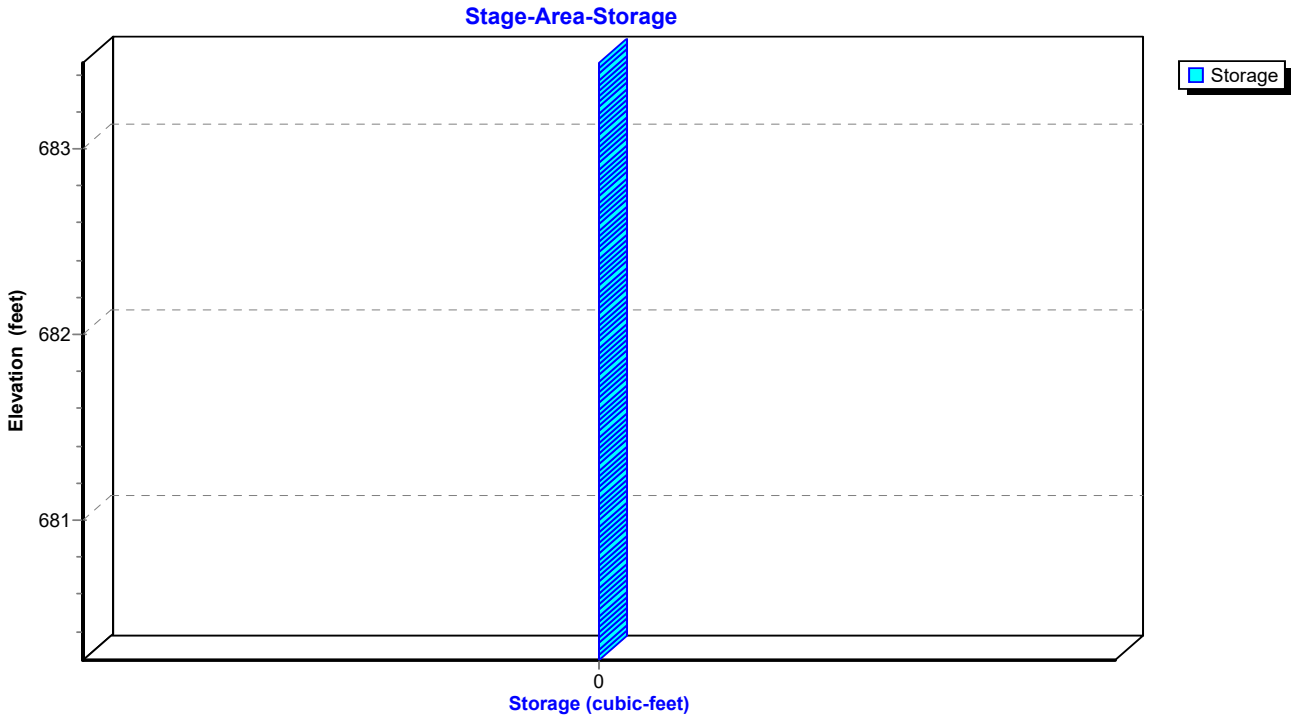
Pond CD2: Cross Drain



Pond CD2: Cross Drain



Pond CD2: Cross Drain



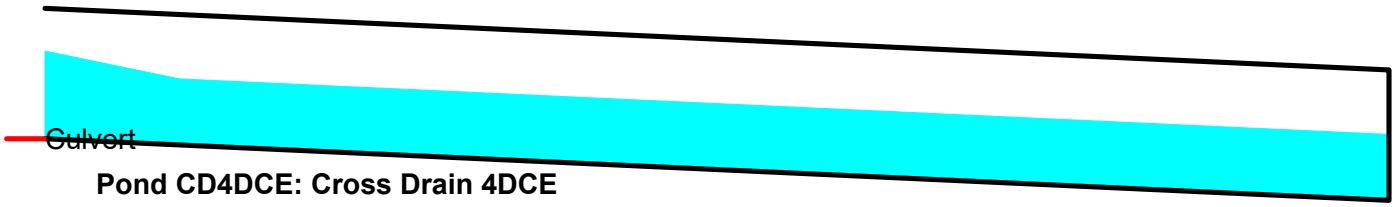
Summary for Pond CD4DCE: Cross Drain 4DCE

Inflow Area = 1,234,055 sf, 3.53% Impervious, Inflow Depth = 3.10" for 25-yr event
Inflow = 49.09 cfs @ 12.51 hrs, Volume= 319,118 cf
Outflow = 49.09 cfs @ 12.51 hrs, Volume= 319,118 cf, Atten= 0%, Lag= 0.0 min
Primary = 49.09 cfs @ 12.51 hrs, Volume= 319,118 cf
Routed to Pond POND1P : PROP POND

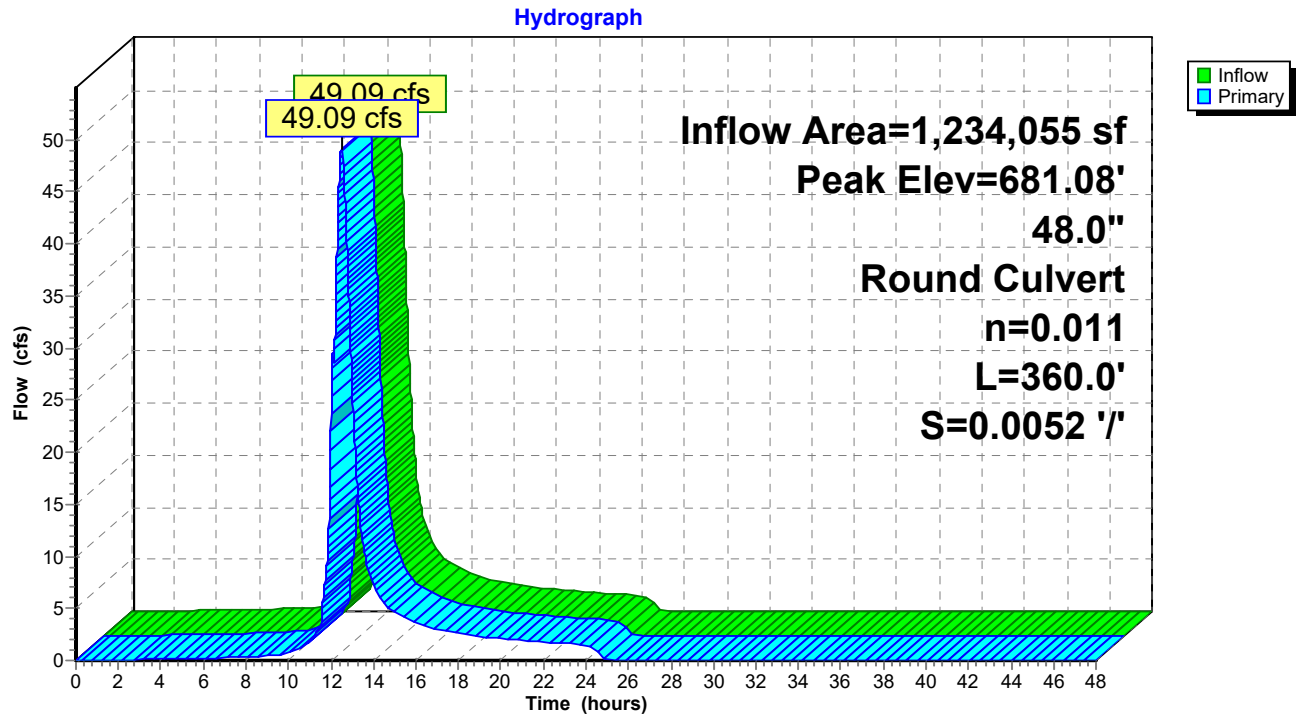
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 681.08' @ 12.51 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	678.39'	**48.0" Round Culvert** L= 360.0' Ke= 0.500 Inlet / Outlet Invert= 678.39' / 676.50' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 12.57 sf

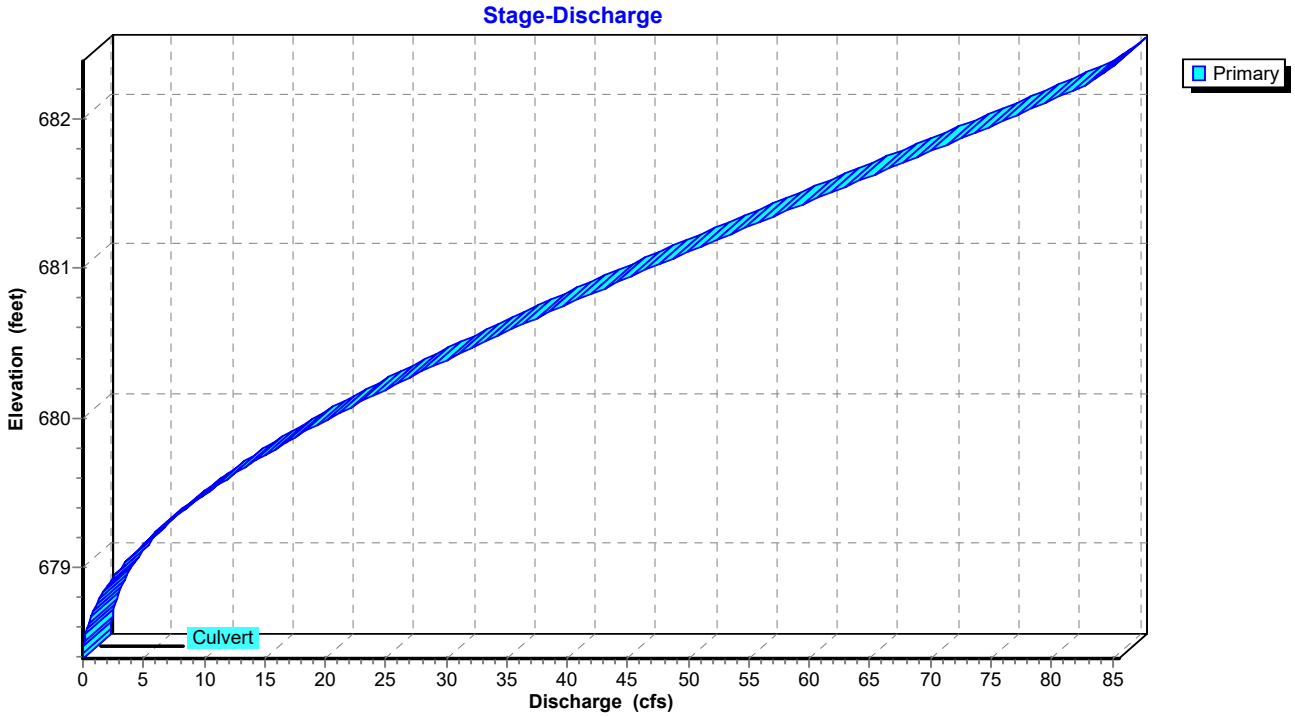
Primary OutFlow Max=49.09 cfs @ 12.51 hrs HW=681.08' (Free Discharge)
1=Culvert (Barrel Controls 49.09 cfs @ 7.72 fps)



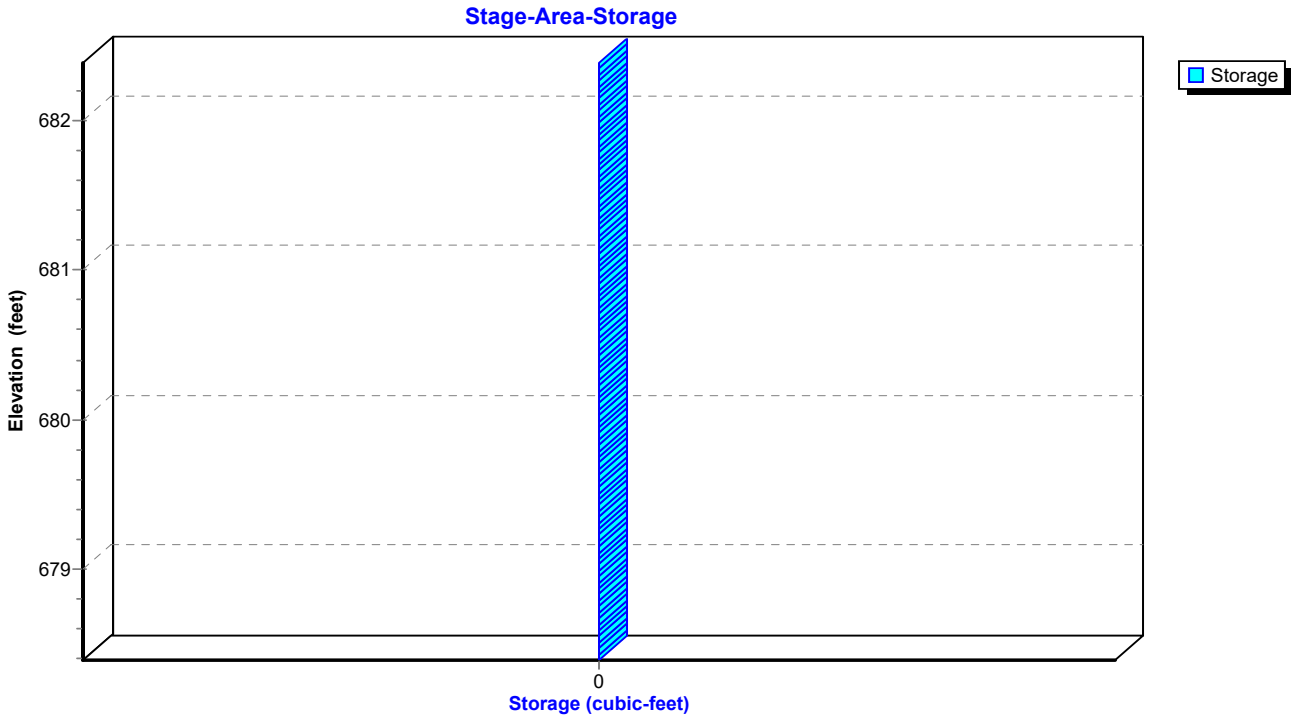
Pond CD4DCE: Cross Drain 4DCE



Pond CD4DCE: Cross Drain 4DCE



Pond CD4DCE: Cross Drain 4DCE



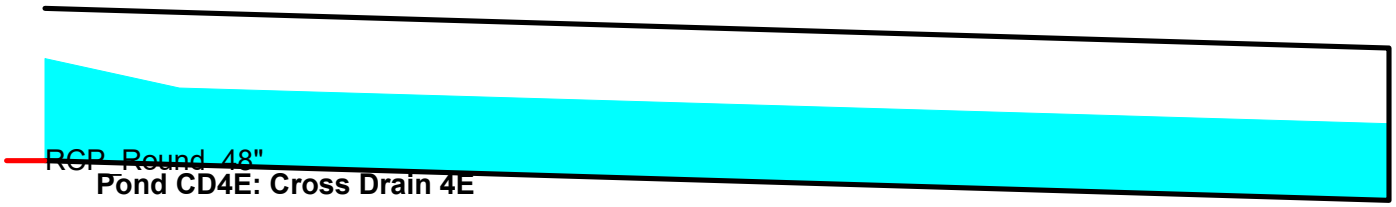
Summary for Pond CD4E: Cross Drain 4E

Inflow Area = 1,122,106 sf, 3.88% Impervious, Inflow Depth = 2.83" for 25-yr event
Inflow = 44.67 cfs @ 12.52 hrs, Volume= 264,394 cf
Outflow = 44.67 cfs @ 12.52 hrs, Volume= 264,394 cf, Atten= 0%, Lag= 0.0 min
Primary = 44.67 cfs @ 12.52 hrs, Volume= 264,394 cf
Routed to Pond CD4DCE : Cross Drain 4DCE

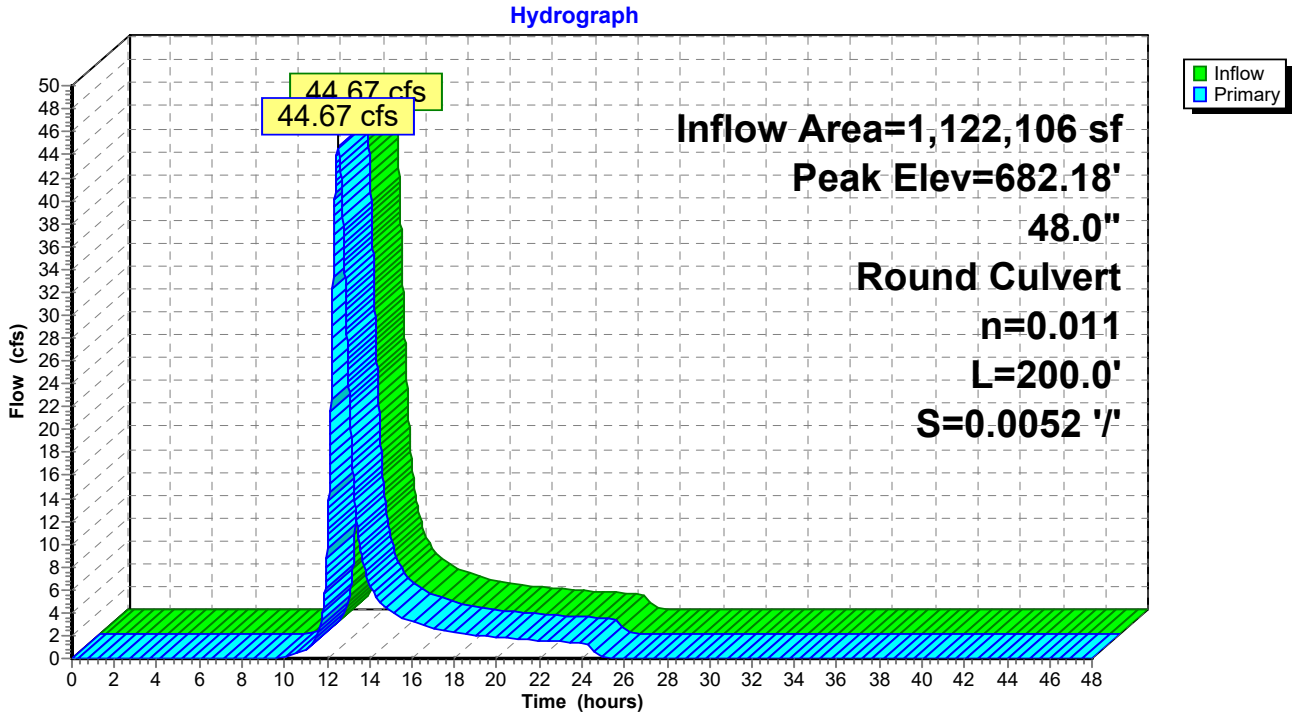
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 682.18' @ 12.52 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	679.50'	**48.0" Round RCP_Round 48"** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 679.50' / 678.46' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 12.57 sf

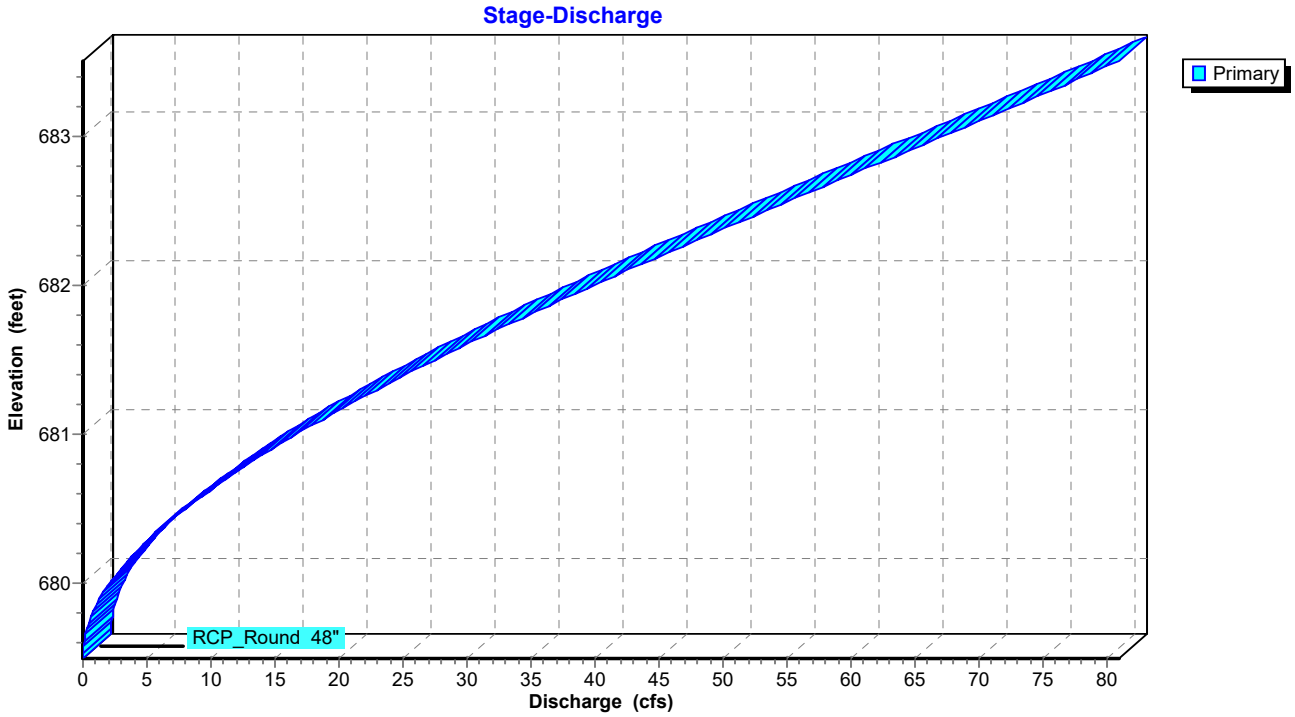
Primary OutFlow Max=44.67 cfs @ 12.52 hrs HW=682.18' (Free Discharge)
└**1=RCP_Round 48"** (Barrel Controls 44.67 cfs @ 7.07 fps)



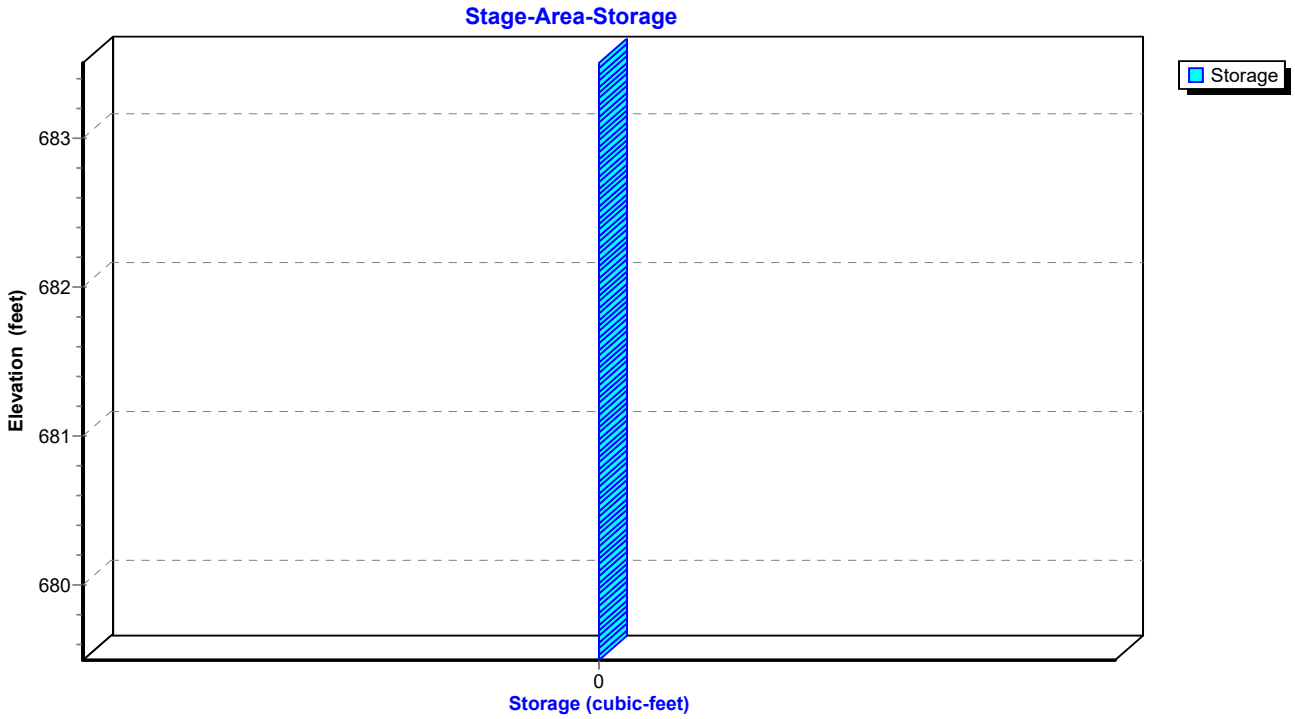
Pond CD4E: Cross Drain 4E



Pond CD4E: Cross Drain 4E



Pond CD4E: Cross Drain 4E



Summary for Pond POND1P: PROP POND

Inflow Area = 1,765,922 sf, 9.87% Impervious, Inflow Depth = 3.94" for 25-yr event
Inflow = 91.82 cfs @ 12.46 hrs, Volume= 579,114 cf
Outflow = 43.94 cfs @ 12.99 hrs, Volume= 578,547 cf, Atten= 52%, Lag= 31.9 min
Primary = 43.94 cfs @ 12.99 hrs, Volume= 578,547 cf
Routed to Reach OF4P : Primary Stream for Outfalls

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 681.43' @ 12.99 hrs Surf.Area= 78,131 sf Storage= 152,782 cf

Plug-Flow detention time= 43.7 min calculated for 578,427 cf (100% of inflow)
Center-of-Mass det. time= 43.2 min (864.8 - 821.7)

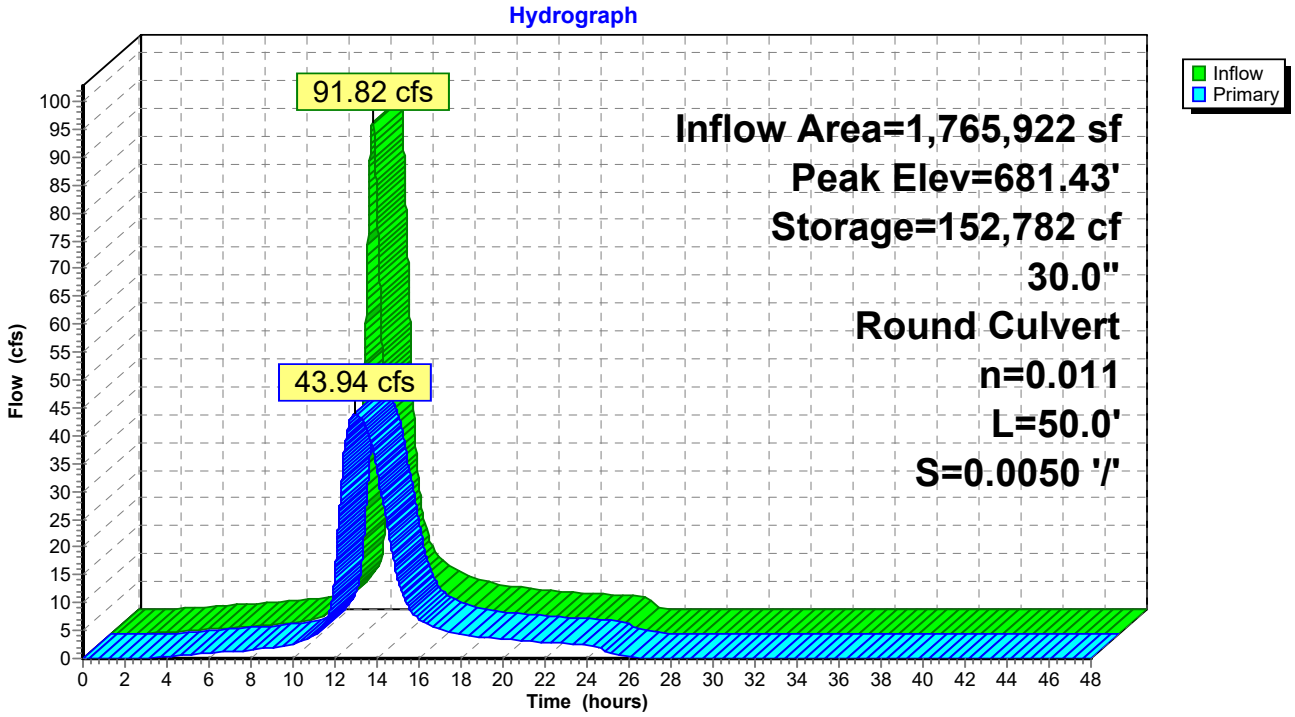
Volume	Invert	Avail.Storage	Storage Description
#1	676.00'	327,838 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
676.00	505	0	0
677.00	14,000	7,253	7,253
678.00	20,000	17,000	24,253
679.00	29,000	24,500	48,753
680.00	39,000	34,000	82,753
681.00	47,000	43,000	125,753
682.00	119,057	83,029	208,781
683.00	119,057	119,057	327,838

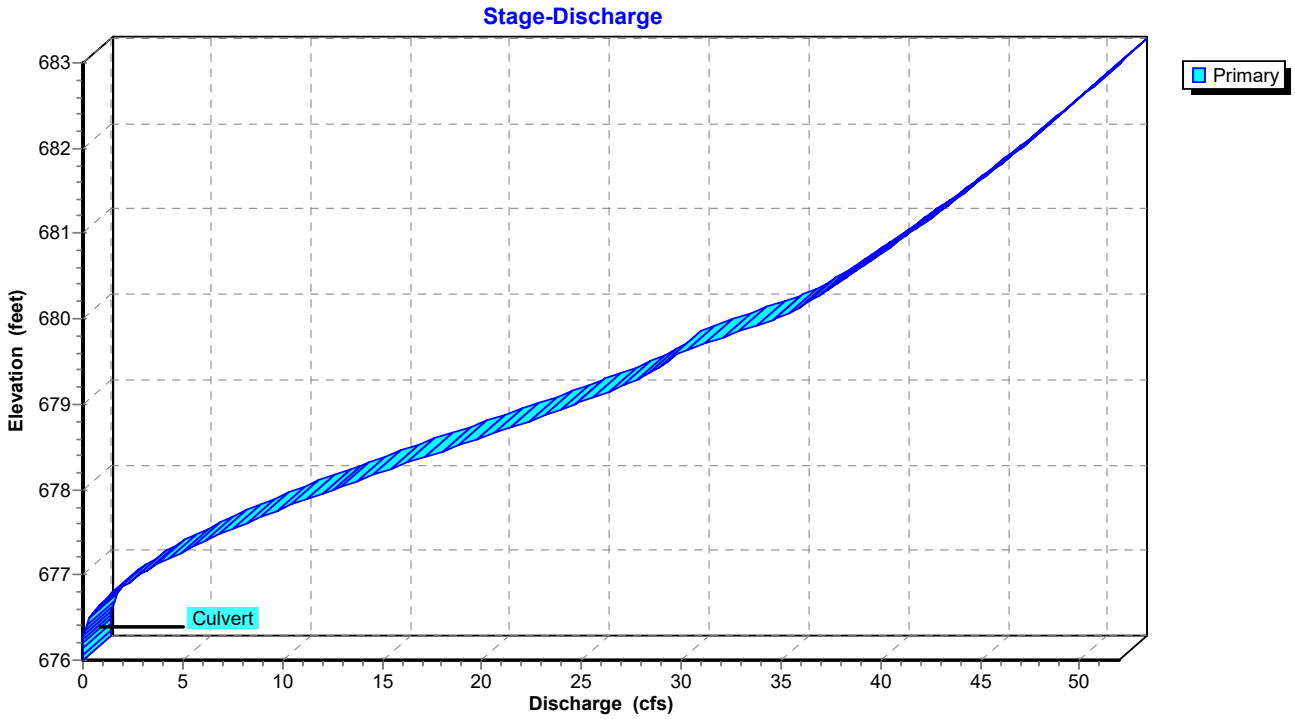
Device	Routing	Invert	Outlet Devices
#1	Primary	676.25'	**30.0" Round Culvert** L= 50.0' Ke= 0.600 Inlet / Outlet Invert= 676.25' / 676.00' S= 0.0050 '/' Cc= 0.900 n= 0.011, Flow Area= 4.91 sf

Primary OutFlow Max=43.94 cfs @ 12.99 hrs HW=681.43' (Free Discharge)
1=Culvert (Inlet Controls 43.94 cfs @ 8.95 fps)

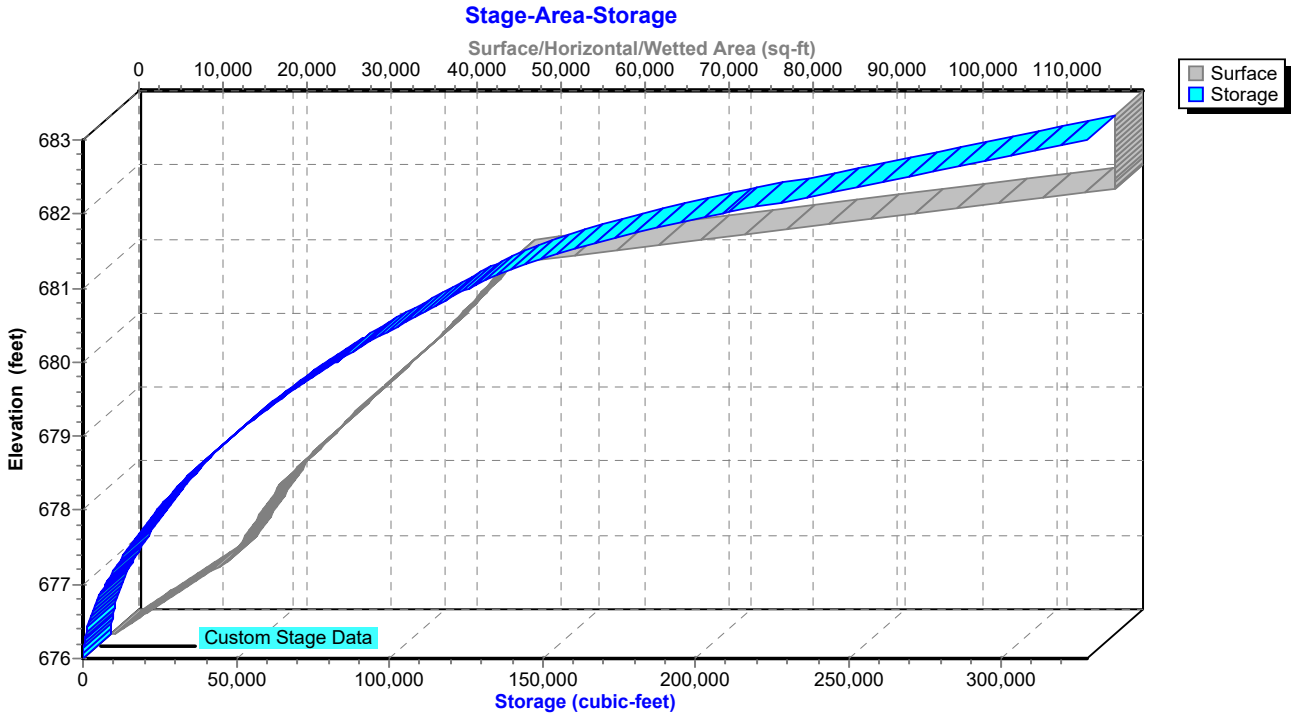
Pond POND1P: PROP POND



Pond POND1P: PROP POND



Pond POND1P: PROP POND



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment DA 1: BASIN 1 PRE Runoff Area=143.000 ac 1.75% Impervious Runoff Depth=4.22"
Flow Length=5,750' Tc=143.0 min CN=75 Runoff=169.27 cfs 2,190,555 cf

Subcatchment DA 2: BASIN 2 PRE Runoff Area=34.900 ac 0.00% Impervious Runoff Depth=2.86"
Flow Length=2,150' Slope=0.0150 '/' Tc=62.3 min CN=62 Runoff=48.09 cfs 362,320 cf

Subcatchment DA 3: BASIN 3 PRE Runoff Area=9.540 ac 0.00% Impervious Runoff Depth=3.90"
Flow Length=500' Slope=0.0200 '/' Tc=20.2 min CN=72 Runoff=31.23 cfs 134,965 cf

Subcatchment DA 4: BASIN 4 PRE Runoff Area=41.500 ac 0.00% Impervious Runoff Depth=3.68"
Flow Length=1,500' Tc=50.3 min CN=70 Runoff=84.58 cfs 555,125 cf

Subcatchment DA1P: BASIN 1 PROPOSED Runoff Area=143.000 ac 1.75% Impervious Runoff Depth=4.22"
Flow Length=5,750' Tc=143.0 min CN=75 Runoff=169.27 cfs 2,190,555 cf

Subcatchment DA2P: BASIN 2 PROPOSED Runoff Area=34.900 ac 0.00% Impervious Runoff Depth=2.86"
Flow Length=2,150' Slope=0.0150 '/' Tc=62.3 min CN=62 Runoff=48.09 cfs 362,320 cf

Subcatchment DA3P: BASIN 3 PRE Runoff Area=2.130 ac 0.00% Impervious Runoff Depth=4.66"
Tc=5.0 min CN=79 Runoff=13.49 cfs 36,012 cf

Subcatchment DA4A: BASIN 4A PROPOSED Runoff Area=4.970 ac 0.00% Impervious Runoff Depth=3.47"
Flow Length=300' Tc=28.4 min CN=68 Runoff=12.40 cfs 62,692 cf

Subcatchment DA4B: BASIN 4B Runoff Area=12.210 ac 24.57% Impervious Runoff Depth=6.60"
Flow Length=1,000' Tc=33.8 min CN=96 Runoff=49.26 cfs 292,679 cf

Subcatchment DA4C: BASIN 4C PROPOSED Runoff Area=1.090 ac 0.00% Impervious Runoff Depth=6.60"
Tc=5.0 min CN=96 Runoff=8.86 cfs 26,128 cf

Subcatchment DA4D: BASIN 4D PROPOSED Runoff Area=1.480 ac 0.00% Impervious Runoff Depth=6.60"
Tc=5.0 min CN=96 Runoff=12.02 cfs 35,476 cf

Subcatchment DA4E1: BASIN 4E1 Runoff Area=8.360 ac 11.96% Impervious Runoff Depth=3.06"
Flow Length=500' Tc=28.1 min CN=64 Runoff=18.24 cfs 92,933 cf

Subcatchment DA4E2: BASIN 4E2 Runoff Area=17.400 ac 0.00% Impervious Runoff Depth=3.58"
Flow Length=1,000' Tc=41.1 min CN=69 Runoff=38.00 cfs 226,100 cf

Reach CD4C: Cross Drain 4C Avg. Flow Depth=0.50' Max Vel=16.28 fps Inflow=8.46 cfs 26,128 cf
18.0" Round Pipe n=0.011 L=60.0' S=0.0792 '/' Capacity=34.93 cfs Outflow=8.46 cfs 26,128 cf

Reach D4C: Ditch 4C Avg. Flow Depth=0.87' Max Vel=2.98 fps Inflow=8.86 cfs 26,128 cf
n=0.033 L=313.0' S=0.0104 '/' Capacity=27.19 cfs Outflow=8.46 cfs 26,128 cf

Reach D4D: Ditch 4D Avg. Flow Depth=0.93' Max Vel=3.70 fps Inflow=12.02 cfs 35,476 cf
n=0.033 L=337.0' S=0.0148 '/' Capacity=32.50 cfs Outflow=11.61 cfs 35,476 cf

Reach D4E1: Ditch 4E1 Avg. Flow Depth=1.40' Max Vel=2.97 fps Inflow=18.24 cfs 92,933 cf
n=0.033 L=740.0' S=0.0061 '/' Capacity=103.92 cfs Outflow=17.87 cfs 92,933 cf

Reach OF4: Primary Stream for Avg. Flow Depth=3.01' Max Vel=4.65 fps Inflow=217.29 cfs 3,242,965 cf
n=0.035 L=1,000.0' S=0.0050 '/' Capacity=640.46 cfs Outflow=217.22 cfs 3,242,965 cf

Reach OF4P: Primary Stream for Avg. Flow Depth=3.11' Max Vel=4.74 fps Inflow=232.59 cfs 3,324,329 cf
n=0.035 L=1,000.0' S=0.0050 '/' Capacity=640.46 cfs Outflow=232.28 cfs 3,324,326 cf

Pond CD2: Cross Drain Peak Elev=684.26' Inflow=48.09 cfs 362,320 cf
36.0" Round Culvert n=0.011 L=50.0' S=0.0050 '/' Outflow=48.09 cfs 362,320 cf

Pond CD4DCE: Cross Drain 4DCE Peak Elev=681.45' Inflow=59.89 cfs 380,637 cf
48.0" Round Culvert n=0.011 L=360.0' S=0.0052 '/' Outflow=59.89 cfs 380,637 cf

Pond CD4E: Cross Drain 4E Peak Elev=682.55' Inflow=54.75 cfs 319,033 cf
48.0" Round Culvert n=0.011 L=200.0' S=0.0052 '/' Outflow=54.75 cfs 319,033 cf

Pond POND1P: PROP POND Peak Elev=681.87' Storage=193,726 cf Inflow=108.19 cfs 673,315 cf
30.0" Round Culvert n=0.011 L=50.0' S=0.0050 '/' Outflow=46.31 cfs 672,749 cf

Total Runoff Area = 19,797,149 sf Runoff Volume = 6,567,861 cf Average Runoff Depth = 3.98"
98.02% Pervious = 19,405,109 sf 1.98% Impervious = 392,040 sf

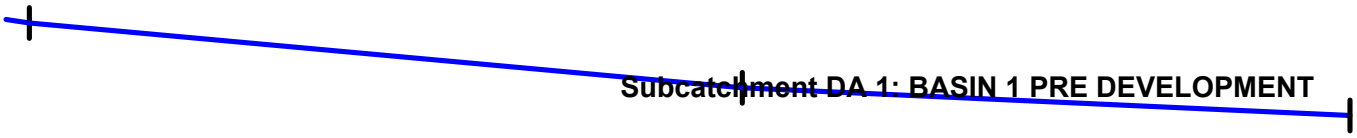
Summary for Subcatchment DA 1: BASIN 1 PRE DEVELOPMENT

Runoff = 169.27 cfs @ 13.83 hrs, Volume= 2,190,555 cf, Depth= 4.22"
Routed to Reach OF4 : Primary Stream for Outfalls

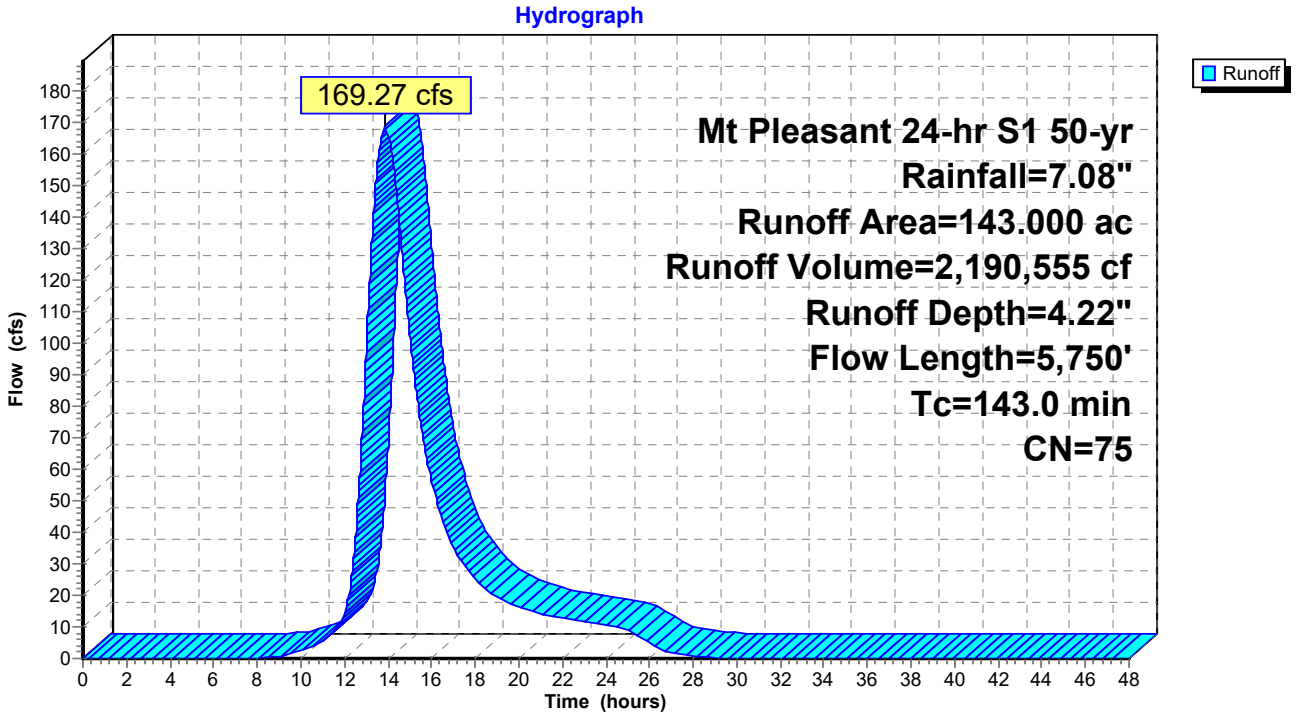
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
69.500	74	>75% Grass cover, Good, HSG C
71.000	76	Woods/grass comb., Fair, HSG C
2.500	98	Paved parking, HSG C
143.000	75	Weighted Average
140.500		98.25% Pervious Area
2.500		1.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.4	100	0.0200	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
92.8	3,050	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	2,600	0.0060	2.93	11.71	**Channel Flow,** Area= 4.0 sf Perim= 6.0' r= 0.67' n= 0.030
143.0	5,750	Total			



Subcatchment DA 1: BASIN 1 PRE DEVELOPMENT



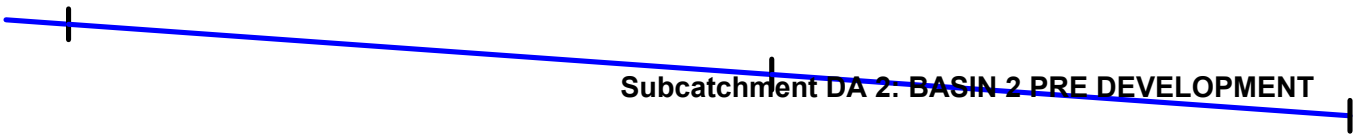
Summary for Subcatchment DA 2: BASIN 2 PRE DEVELOPMENT

Runoff = 48.09 cfs @ 12.88 hrs, Volume= 362,320 cf, Depth= 2.86"
Routed to Reach OF4 : Primary Stream for Outfalls

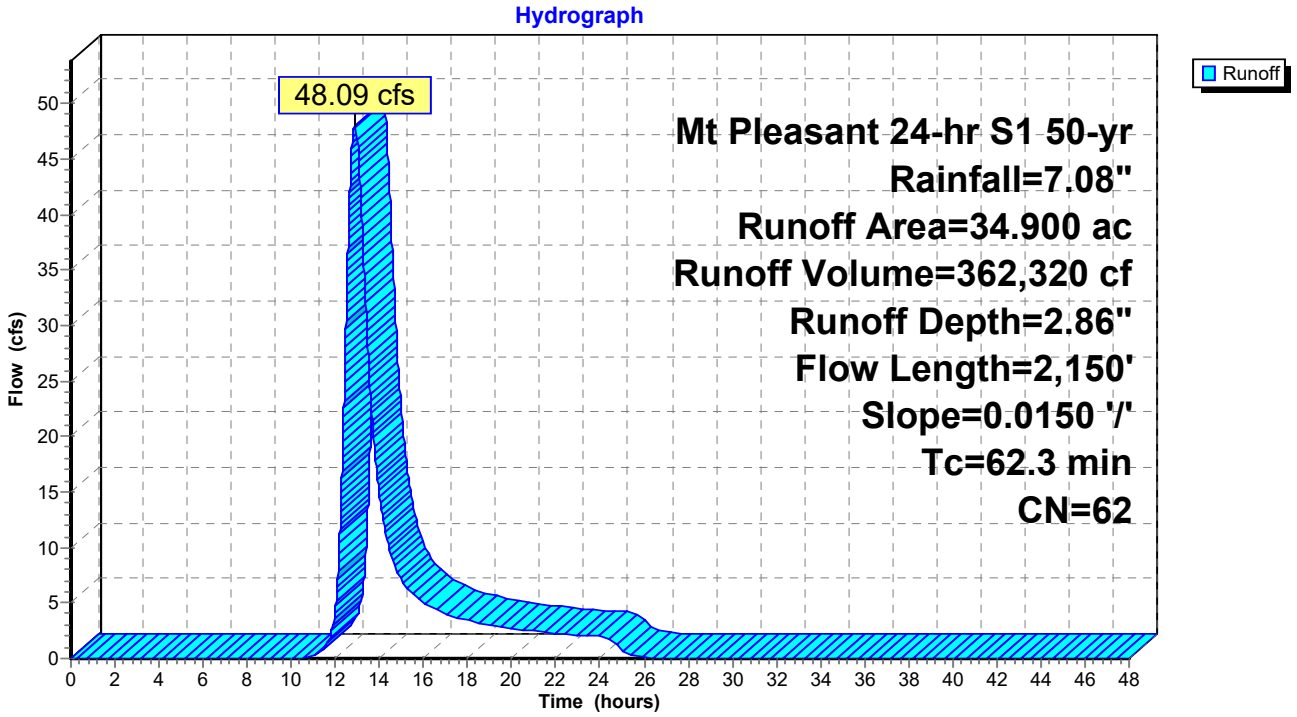
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
17.450	58	Meadow, non-grazed, HSG B
14.450	60	Woods, Fair, HSG B
3.000	96	Gravel surface, HSG C
34.900	62	Weighted Average
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0150	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
21.9	1,125	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	925	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.3	2,150	Total			



Subcatchment DA 2: BASIN 2 PRE DEVELOPMENT



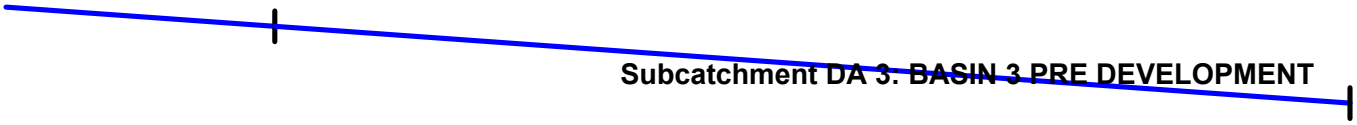
Summary for Subcatchment DA 3: BASIN 3 PRE DEVELOPMENT

Runoff = 31.23 cfs @ 12.24 hrs, Volume= 134,965 cf, Depth= 3.90"
Routed to Reach OF4 : Primary Stream for Outfalls

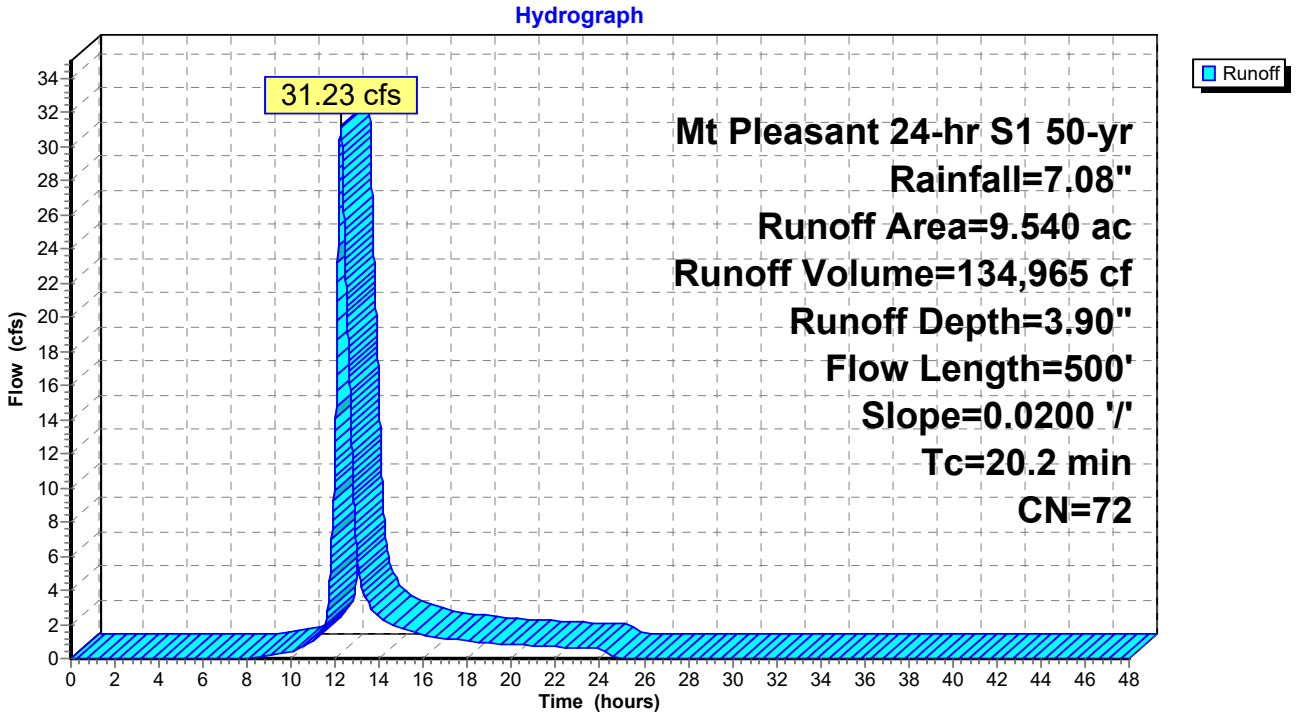
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
3.340	78	Meadow, non-grazed, HSG D
3.340	79	Woods, Fair, HSG D
2.290	58	Meadow, non-grazed, HSG B
0.570	60	Woods, Fair, HSG B
9.540	72	Weighted Average
9.540		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0200	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
6.7	400	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.2	500	Total			



Subcatchment DA 3: BASIN 3 PRE DEVELOPMENT



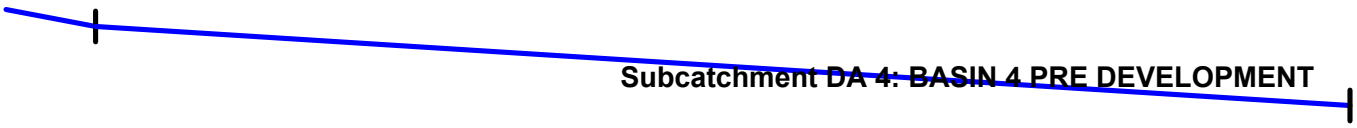
Summary for Subcatchment DA 4: BASIN 4 PRE DEVELOPMENT

Runoff = 84.58 cfs @ 12.69 hrs, Volume= 555,125 cf, Depth= 3.68"
Routed to Reach OF4 : Primary Stream for Outfalls

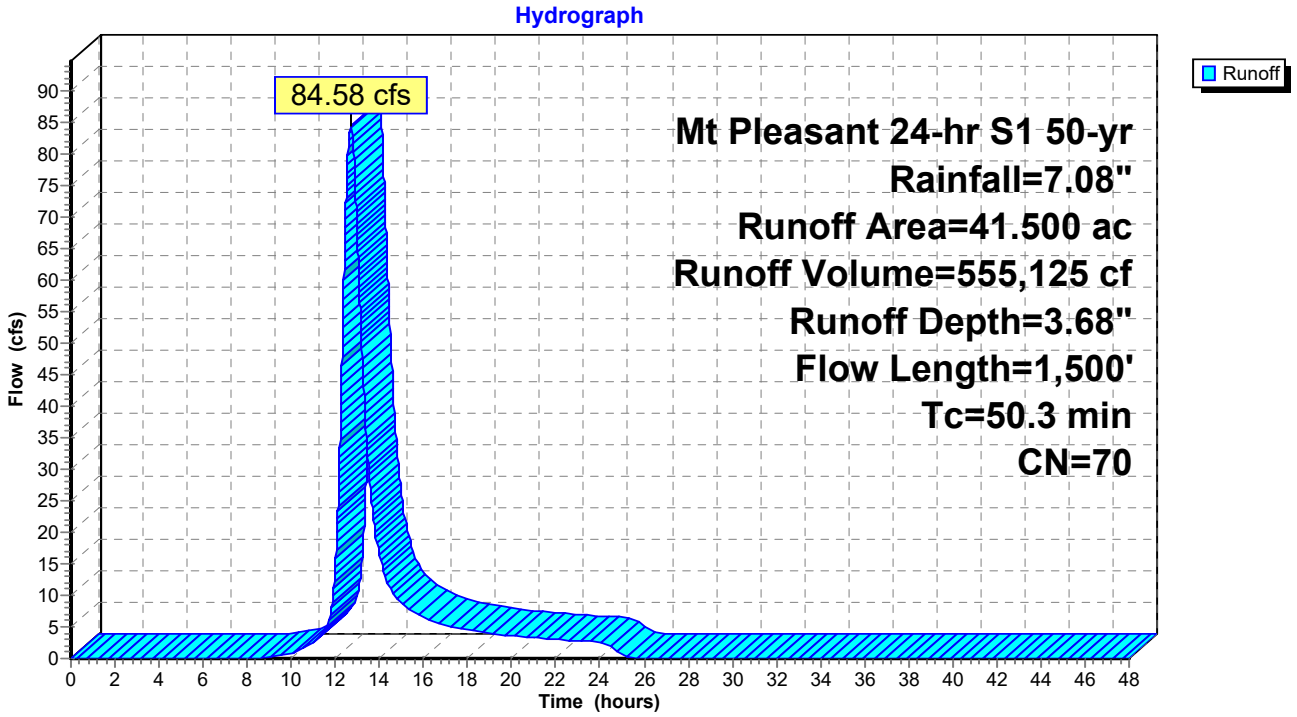
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
7.300	78	Meadow, non-grazed, HSG D
1.830	79	Woods, Fair, HSG D
7.640	58	Meadow, non-grazed, HSG B
1.910	60	Woods, Fair, HSG B
4.150	73	Woods, Fair, HSG C
9.960	71	Meadow, non-grazed, HSG C
2.490	73	Woods, Fair, HSG C
4.970	71	Meadow, non-grazed, HSG C
1.250	73	Woods, Fair, HSG C
41.500	70	Weighted Average
41.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
25.8	1,400	0.0167	0.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
50.3	1,500	Total			



Subcatchment DA 4: BASIN 4 PRE DEVELOPMENT



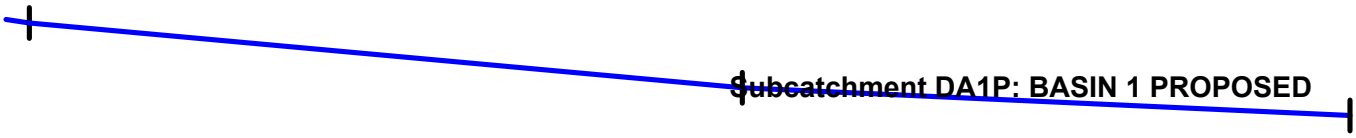
Summary for Subcatchment DA1P: BASIN 1 PROPOSED

Runoff = 169.27 cfs @ 13.83 hrs, Volume= 2,190,555 cf, Depth= 4.22"
Routed to Reach OF4P : Primary Stream for Outfalls

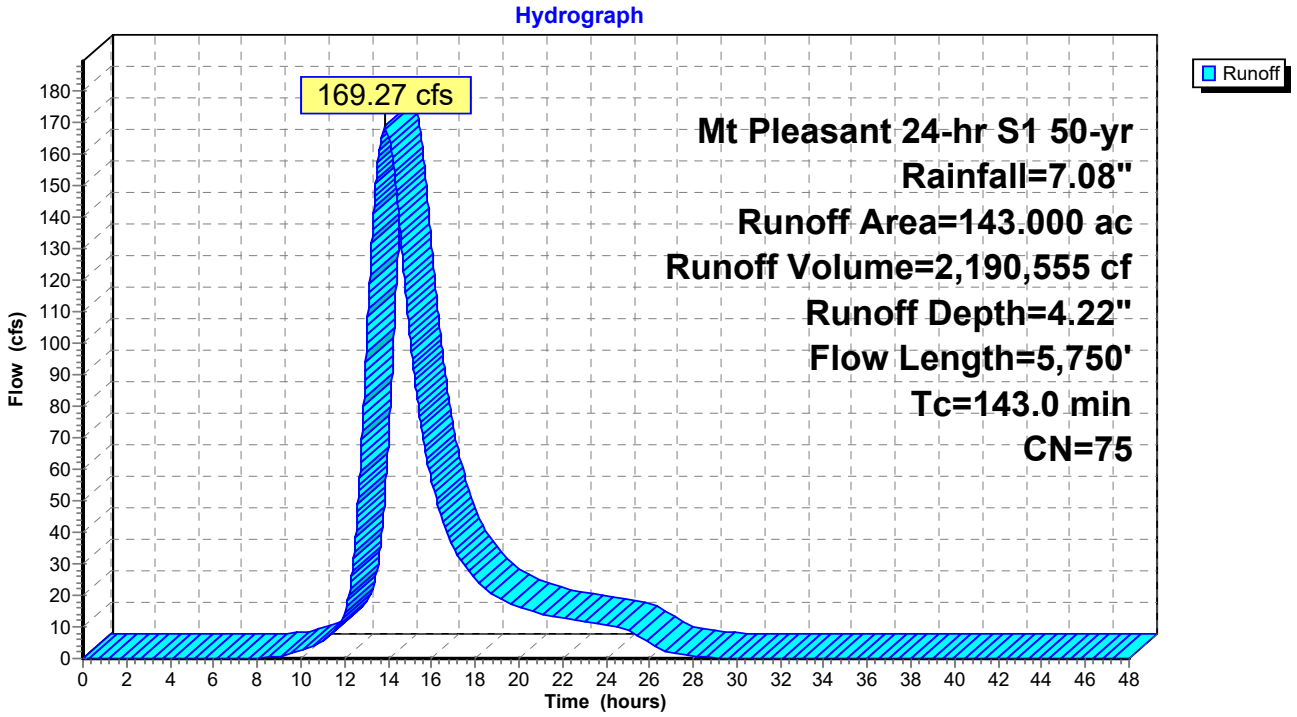
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
69.500	74	>75% Grass cover, Good, HSG C
71.000	76	Woods/grass comb., Fair, HSG C
2.500	98	Paved parking, HSG C
143.000	75	Weighted Average
140.500		98.25% Pervious Area
2.500		1.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.4	100	0.0200	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
92.8	3,050	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	2,600	0.0060	2.93	11.71	**Channel Flow,** Area= 4.0 sf Perim= 6.0' r= 0.67' n= 0.030
143.0	5,750	Total			



Subcatchment DA1P: BASIN 1 PROPOSED



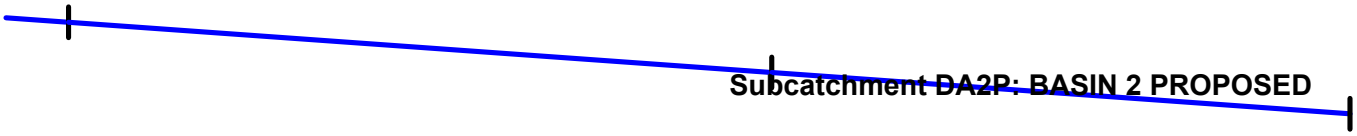
Summary for Subcatchment DA2P: BASIN 2 PROPOSED

Runoff = 48.09 cfs @ 12.88 hrs, Volume= 362,320 cf, Depth= 2.86"
Routed to Pond CD2 : Cross Drain

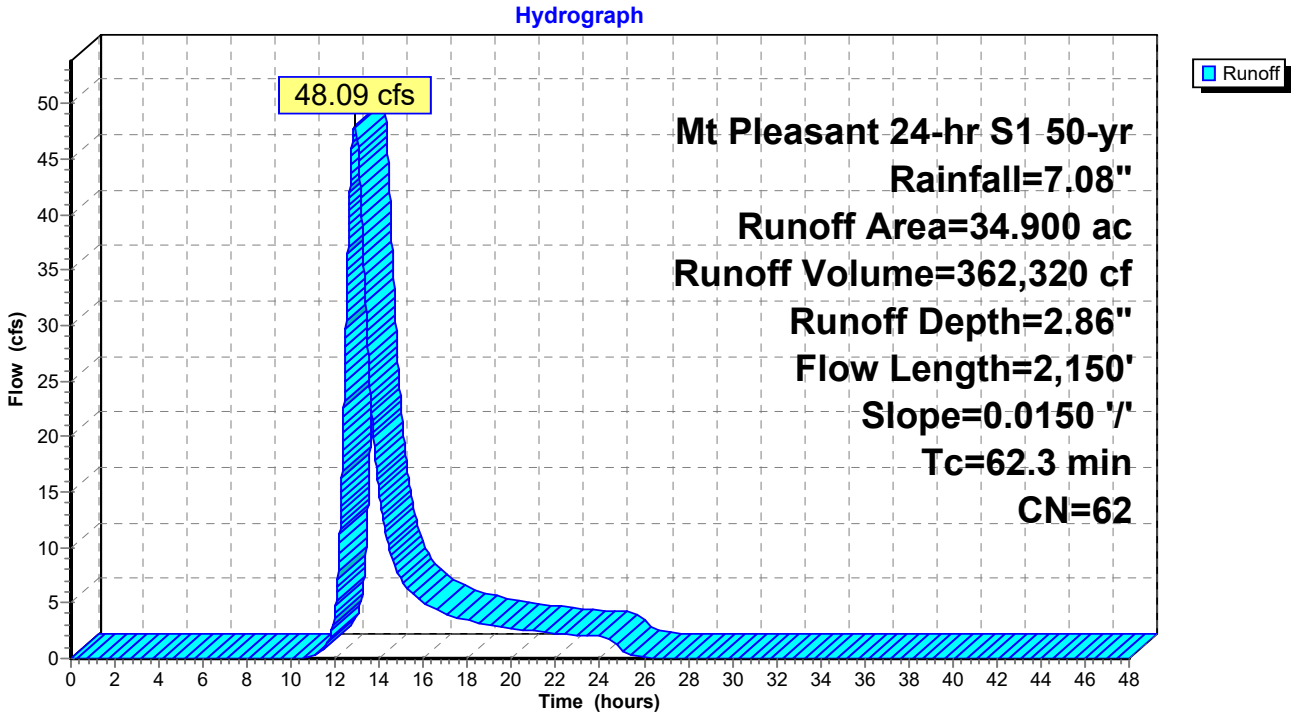
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
17.450	58	Meadow, non-grazed, HSG B
14.450	60	Woods, Fair, HSG B
3.000	96	Gravel surface, HSG C
34.900	62	Weighted Average
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0150	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
21.9	1,125	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	925	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.3	2,150	Total			



Subcatchment DA2P: BASIN 2 PROPOSED



Summary for Subcatchment DA3P: BASIN 3 PRE DEVELOPMENT

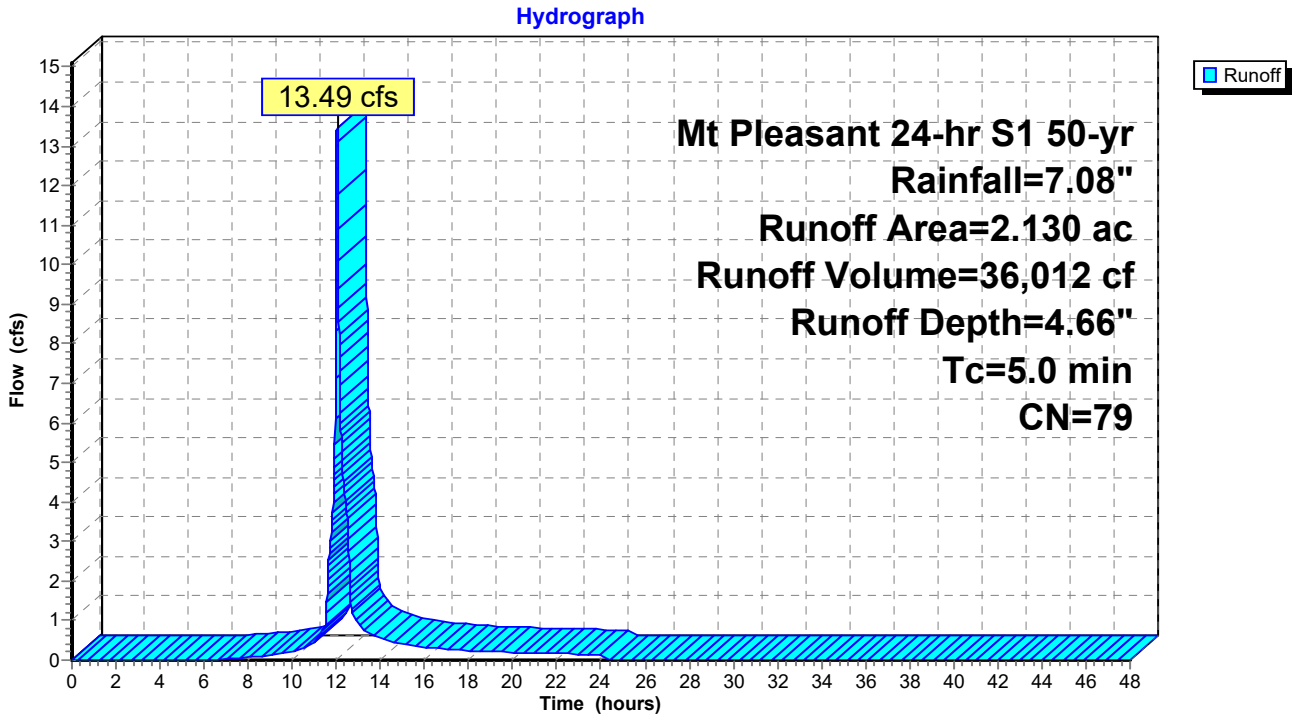
Runoff = 13.49 cfs @ 12.03 hrs, Volume= 36,012 cf, Depth= 4.66"
Routed to Reach OF4P : Primary Stream for Outfalls

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
2.130	79	Woods, Fair, HSG D
2.130		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA3P: BASIN 3 PRE DEVELOPMENT



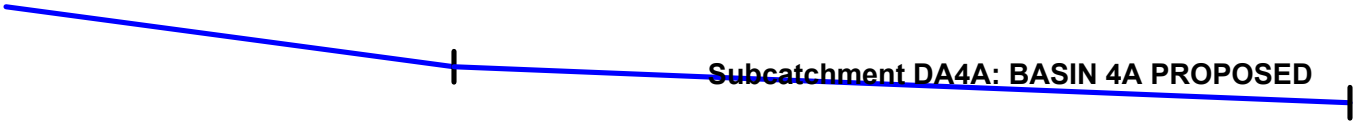
Summary for Subcatchment DA4A: BASIN 4A PROPOSED

Runoff = 12.40 cfs @ 12.37 hrs, Volume= 62,692 cf, Depth= 3.47"
Routed to Reach OF4P : Primary Stream for Outfalls

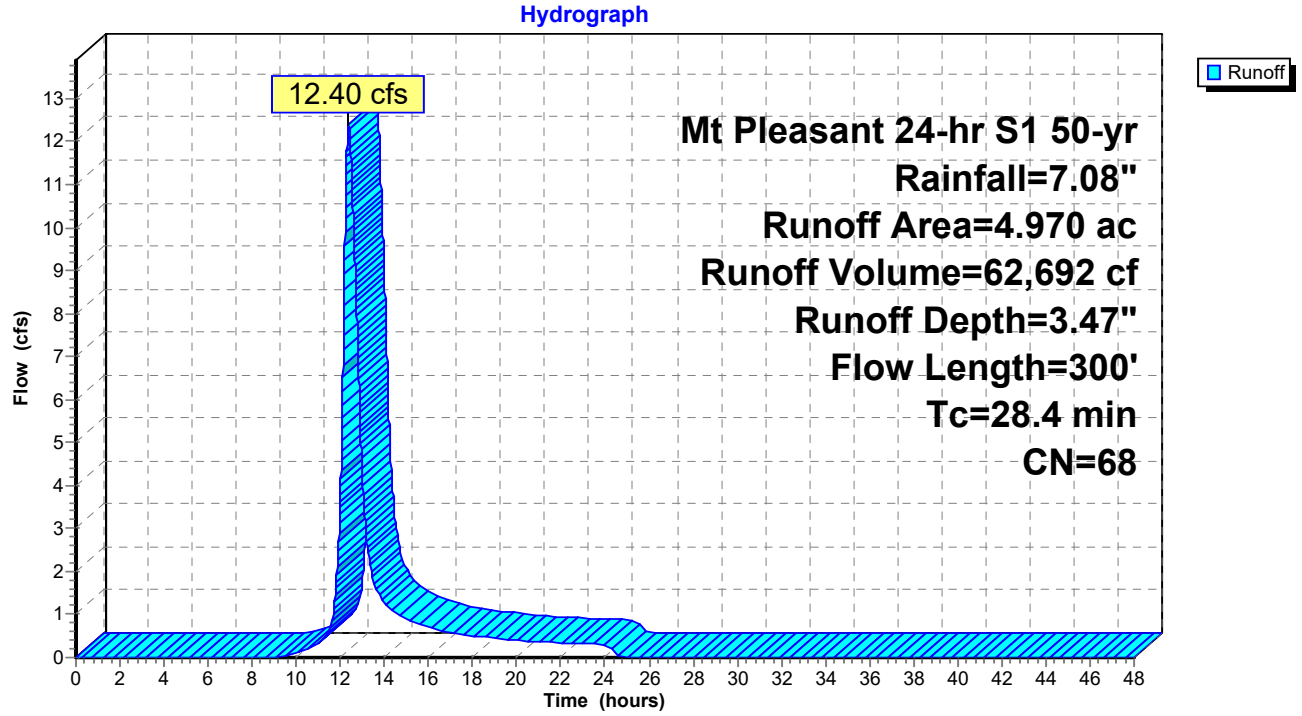
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
1.910	60	Woods, Fair, HSG B
3.060	73	Woods, Fair, HSG C
4.970	68	Weighted Average
4.970		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
3.9	200	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
28.4	300	Total			



Subcatchment DA4A: BASIN 4A PROPOSED



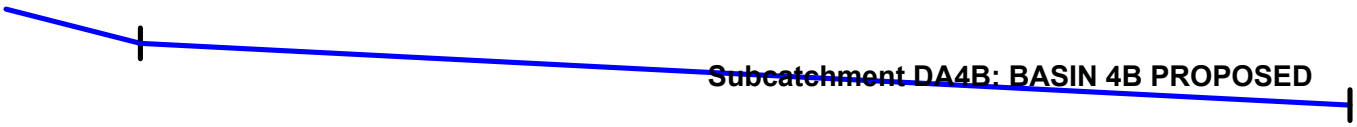
Summary for Subcatchment DA4B: BASIN 4B PROPOSED

Runoff = 49.26 cfs @ 12.40 hrs, Volume= 292,679 cf, Depth= 6.60"
Routed to Pond POND1P : PROP POND

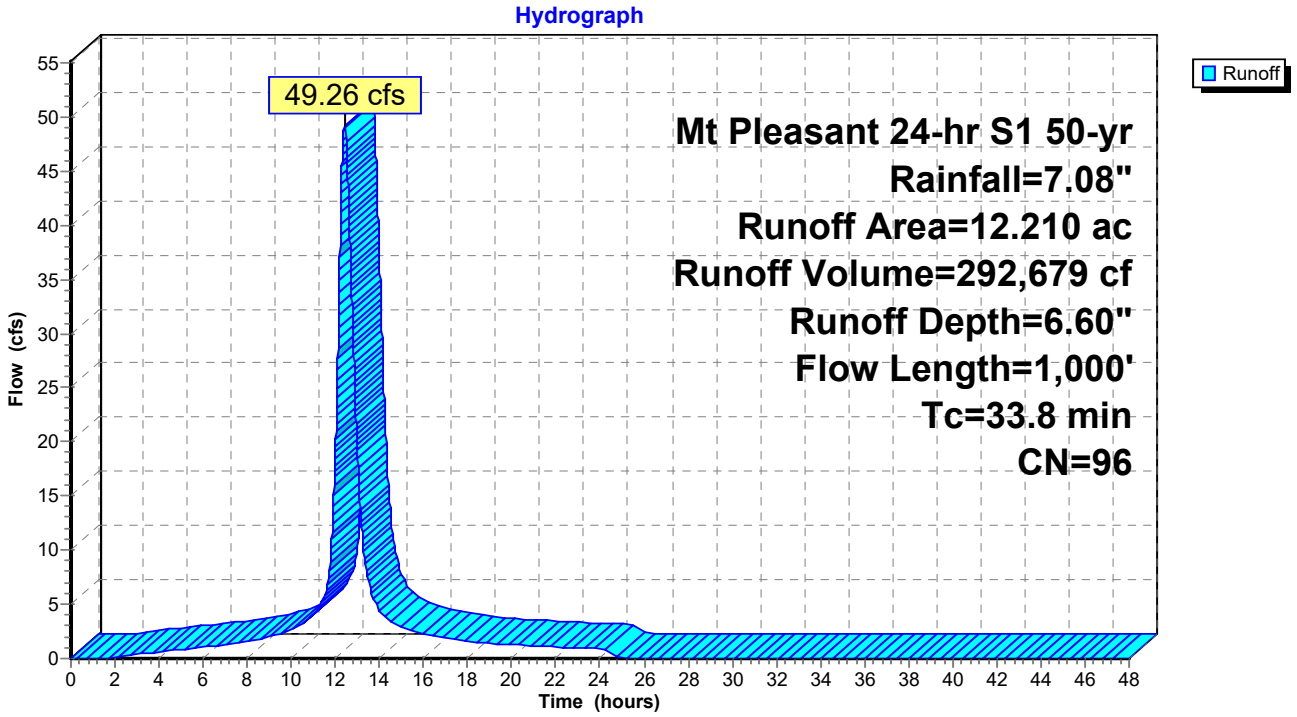
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
9.210	96	Gravel surface, HSG C
1.000	98	Paved parking, HSG D
2.000	98	Roofs, HSG D
12.210	96	Weighted Average
9.210		75.43% Pervious Area
3.000		24.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** n= 0.800 P2= 3.57"
9.3	900	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
33.8	1,000	Total			



Subcatchment DA4B: BASIN 4B PROPOSED



Summary for Subcatchment DA4C: BASIN 4C PROPOSED

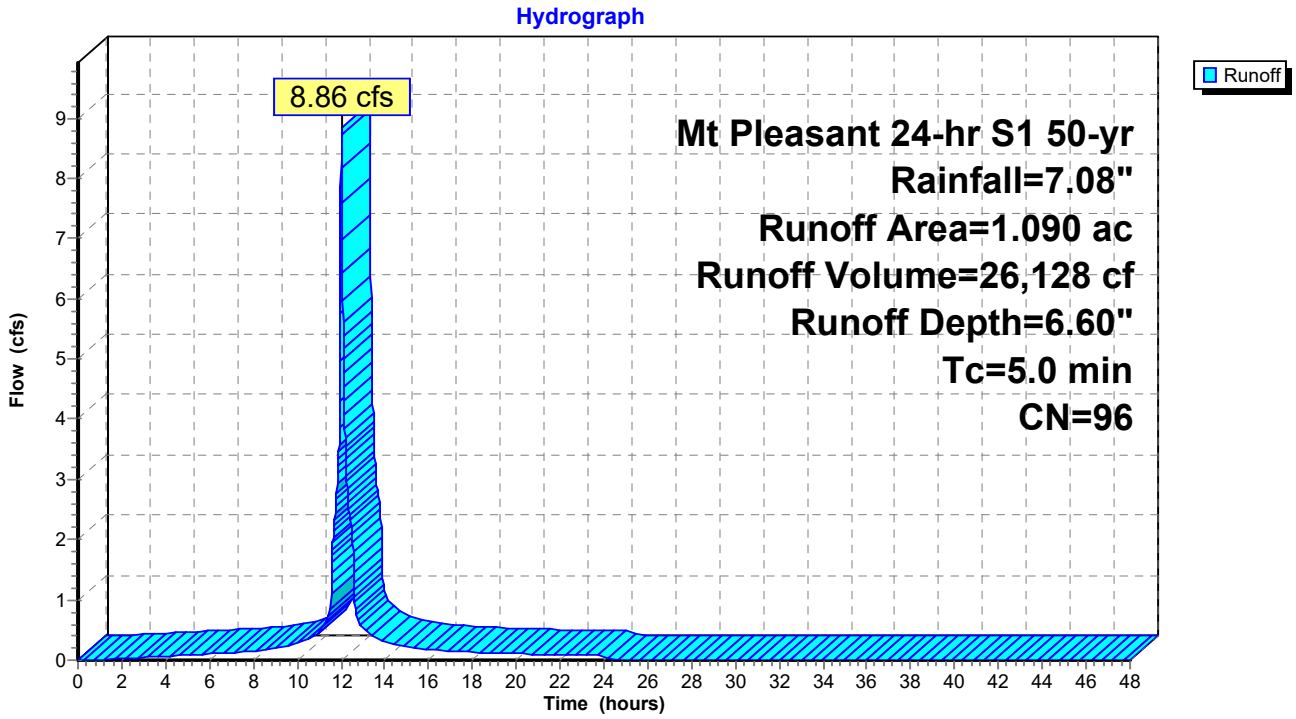
Runoff = 8.86 cfs @ 12.03 hrs, Volume= 26,128 cf, Depth= 6.60"
Routed to Reach D4C : Ditch 4C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
1.090	96	Gravel surface, HSG C
1.090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA4C: BASIN 4C PROPOSED



Summary for Subcatchment DA4D: BASIN 4D PROPOSED

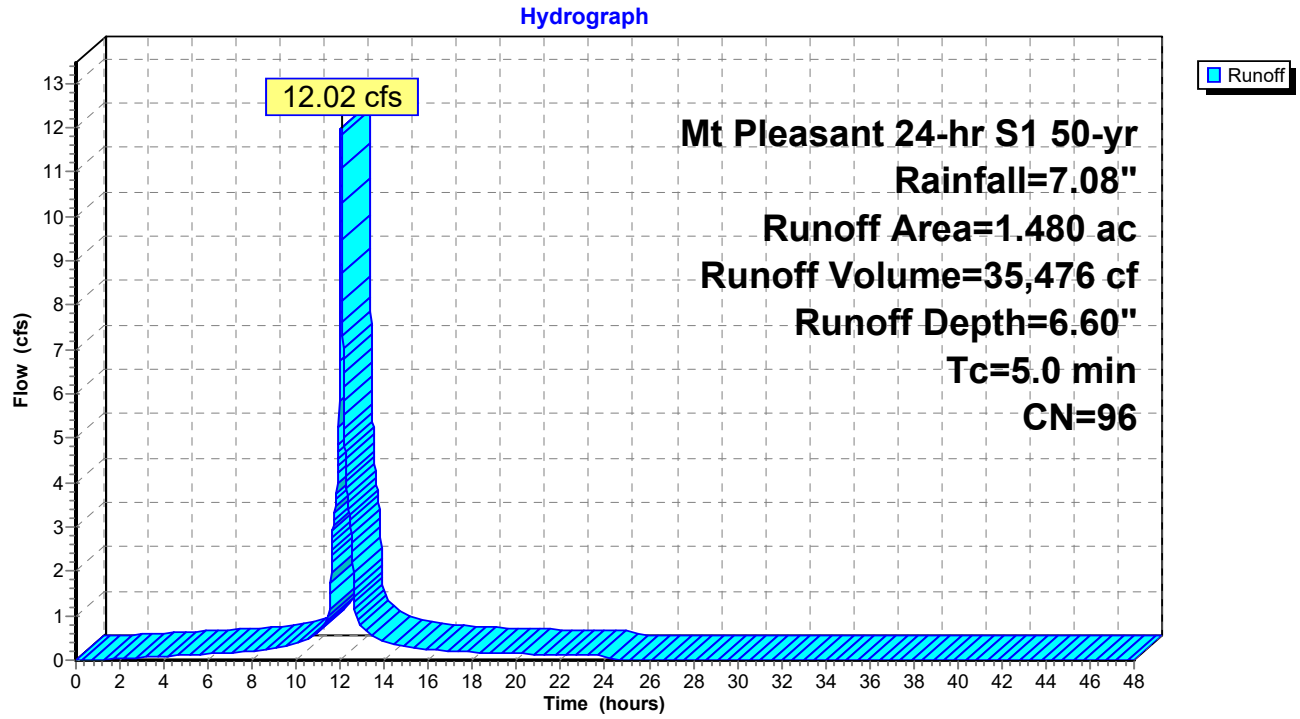
Runoff = 12.02 cfs @ 12.03 hrs, Volume= 35,476 cf, Depth= 6.60"
Routed to Reach D4D : Ditch 4D

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
1.480	96	Gravel surface, HSG C
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA4D: BASIN 4D PROPOSED



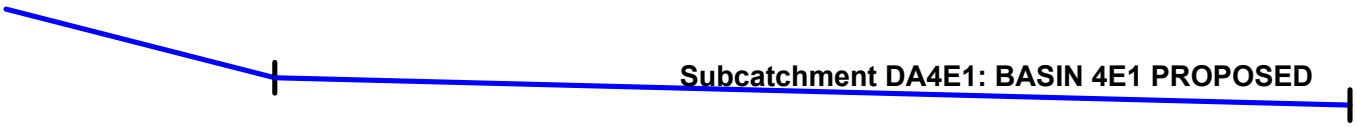
Summary for Subcatchment DA4E1: BASIN 4E1 PROPOSED

Runoff = 18.24 cfs @ 12.37 hrs, Volume= 92,933 cf, Depth= 3.06"
Routed to Reach D4E1 : Ditch 4E1

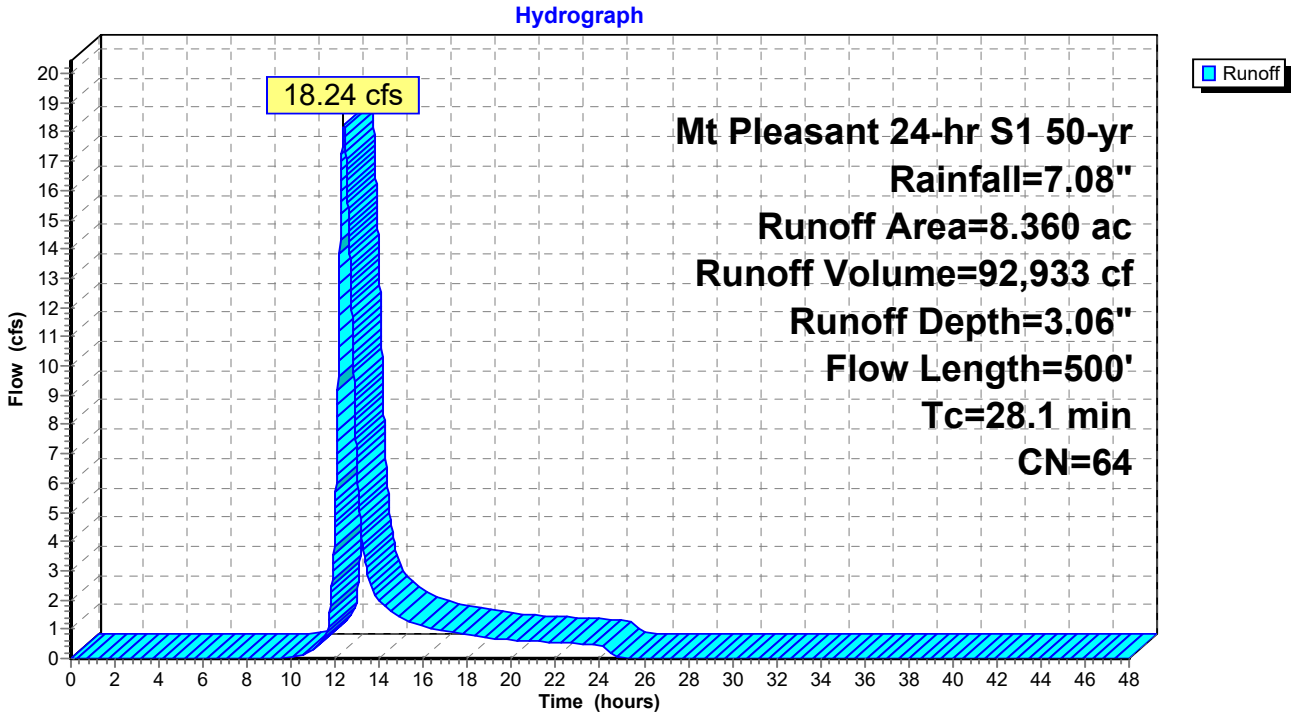
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
3.680	58	Meadow, non-grazed, HSG B
3.680	60	Woods, Fair, HSG B
1.000	98	Paved roads w/curbs & sewers, HSG B
8.360	64	Weighted Average
7.360		88.04% Pervious Area
1.000		11.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.1000	0.09		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
9.5	400	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
28.1	500	Total			



Subcatchment DA4E1: BASIN 4E1 PROPOSED



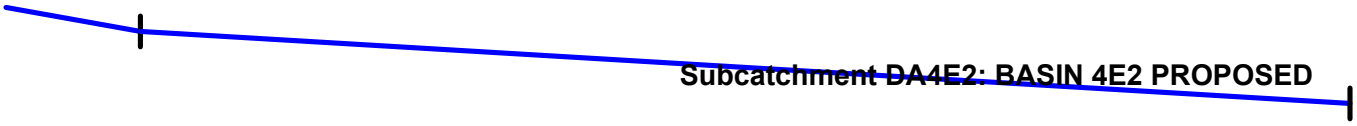
Summary for Subcatchment DA4E2: BASIN 4E2 PROPOSED

Runoff = 38.00 cfs @ 12.56 hrs, Volume= 226,100 cf, Depth= 3.58"
Routed to Pond CD4E : Cross Drain 4E

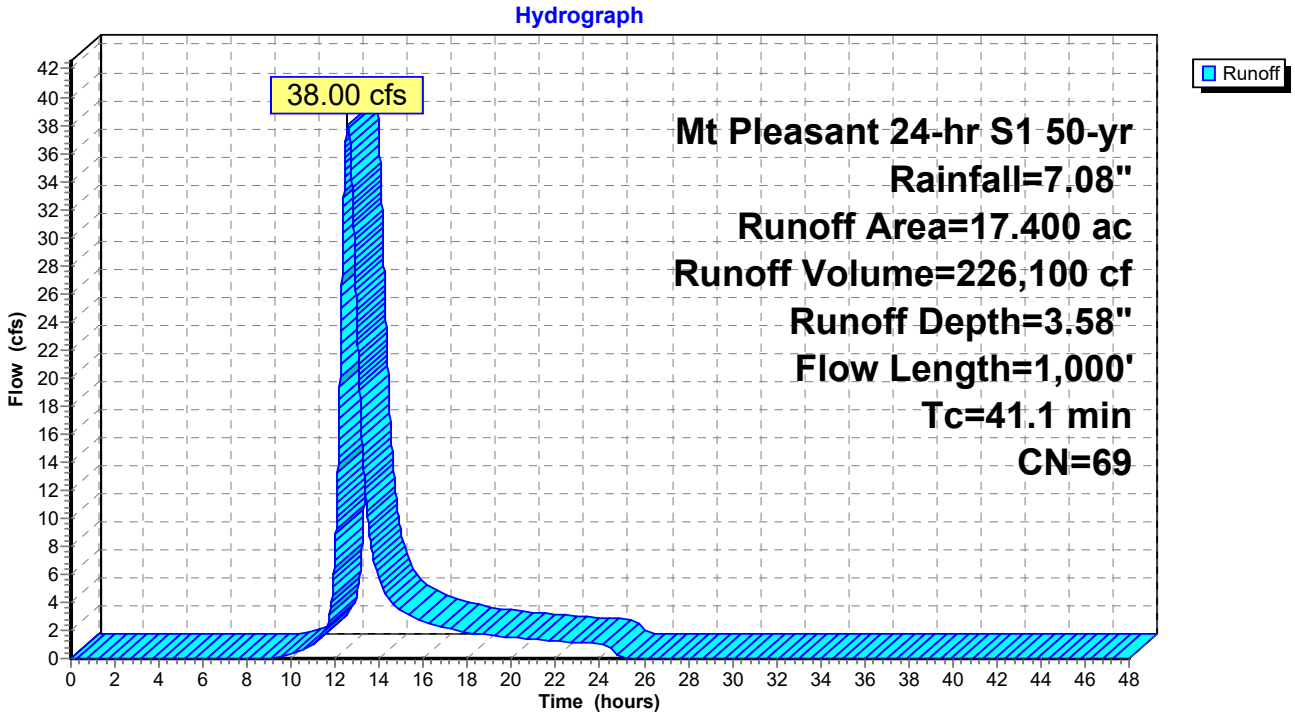
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 50-yr Rainfall=7.08"

Area (ac)	CN	Description
8.700	79	Woods, Fair, HSG D
4.350	58	Meadow, non-grazed, HSG B
4.350	60	Woods, Fair, HSG B
17.400	69	Weighted Average
17.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
16.6	900	0.0167	0.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
41.1	1,000	Total			



Subcatchment DA4E2: BASIN 4E2 PROPOSED



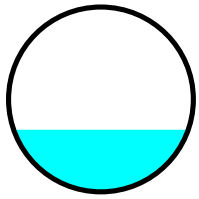
Summary for Reach CD4C: Cross Drain 4C

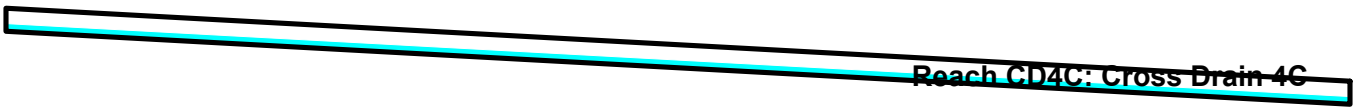
Inflow Area = 47,480 sf, 0.00% Impervious, Inflow Depth = 6.60" for 50-yr event
Inflow = 8.46 cfs @ 12.04 hrs, Volume= 26,128 cf
Outflow = 8.46 cfs @ 12.04 hrs, Volume= 26,128 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond CD4DCE : Cross Drain 4DCE

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 16.28 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 4.95 fps, Avg. Travel Time= 0.2 min

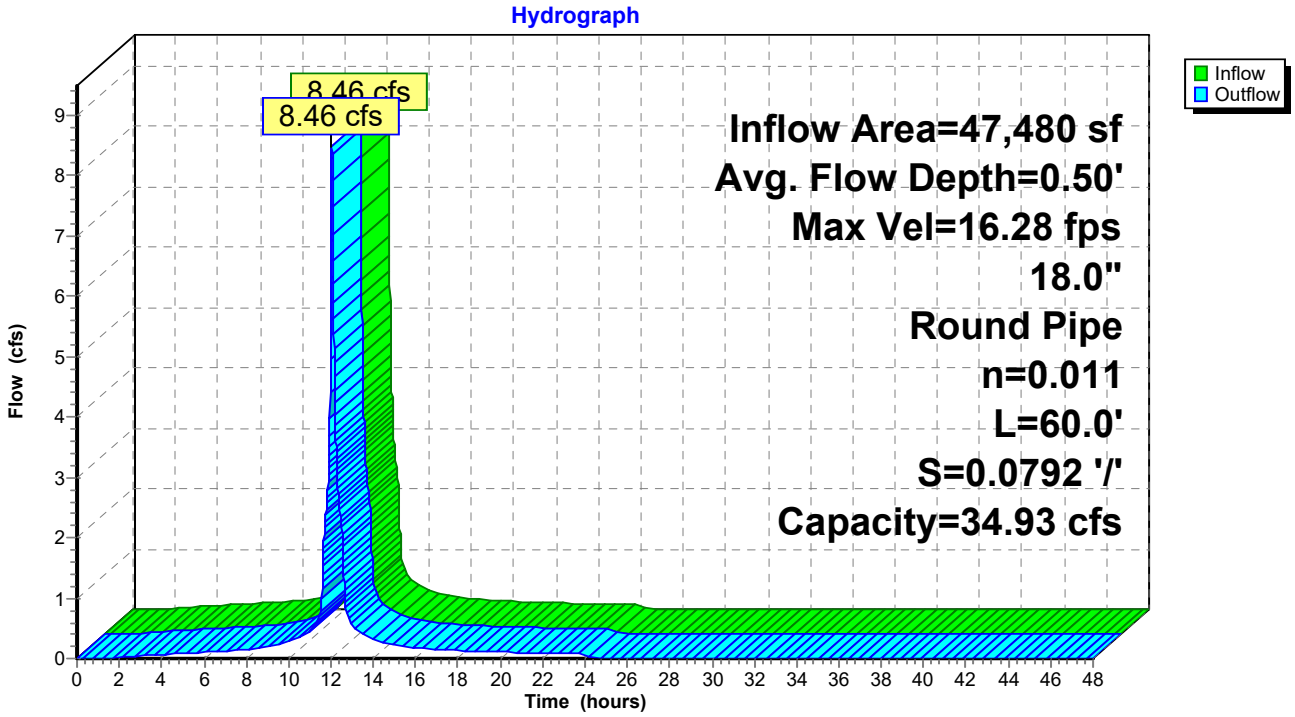
Peak Storage= 31 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.50' , Surface Width= 1.42'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 34.93 cfs

18.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 60.0' Slope= 0.0792 '/'
Inlet Invert= 683.75', Outlet Invert= 679.00'

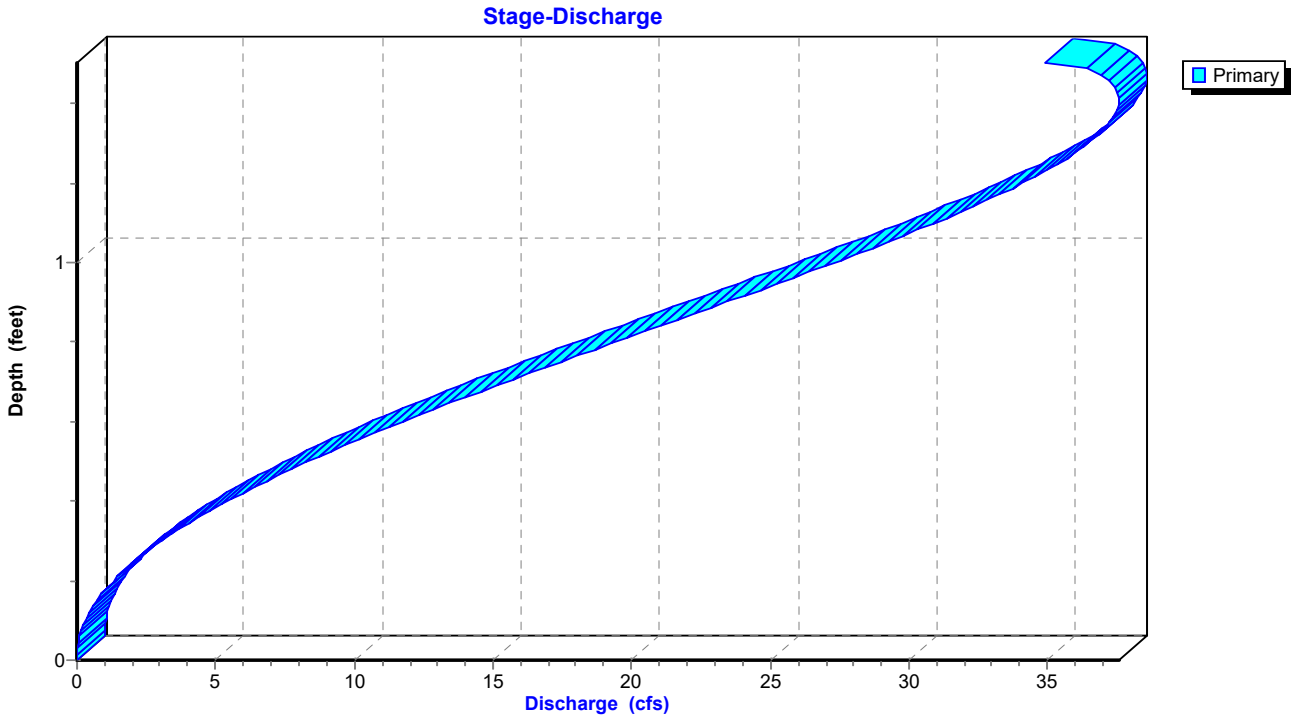




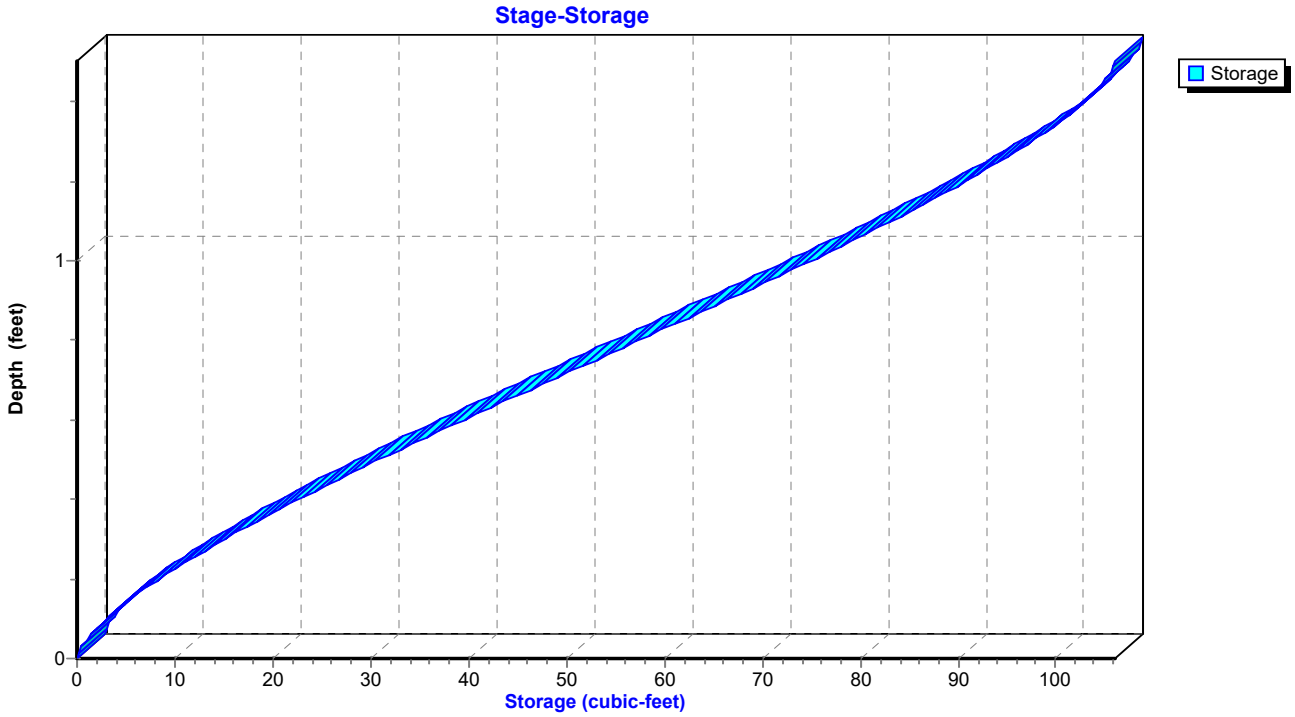
Reach CD4C: Cross Drain 4C



Reach CD4C: Cross Drain 4C



Reach CD4C: Cross Drain 4C



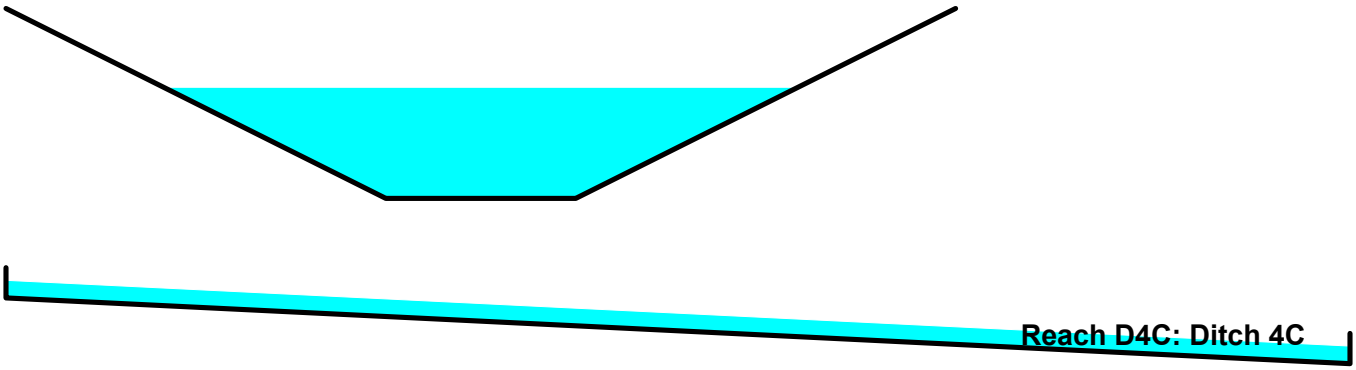
Summary for Reach D4C: Ditch 4C

Inflow Area = 47,480 sf, 0.00% Impervious, Inflow Depth = 6.60" for 50-yr event
Inflow = 8.86 cfs @ 12.03 hrs, Volume= 26,128 cf
Outflow = 8.46 cfs @ 12.04 hrs, Volume= 26,128 cf, Atten= 4%, Lag= 1.1 min
Routed to Reach CD4C : Cross Drain 4C

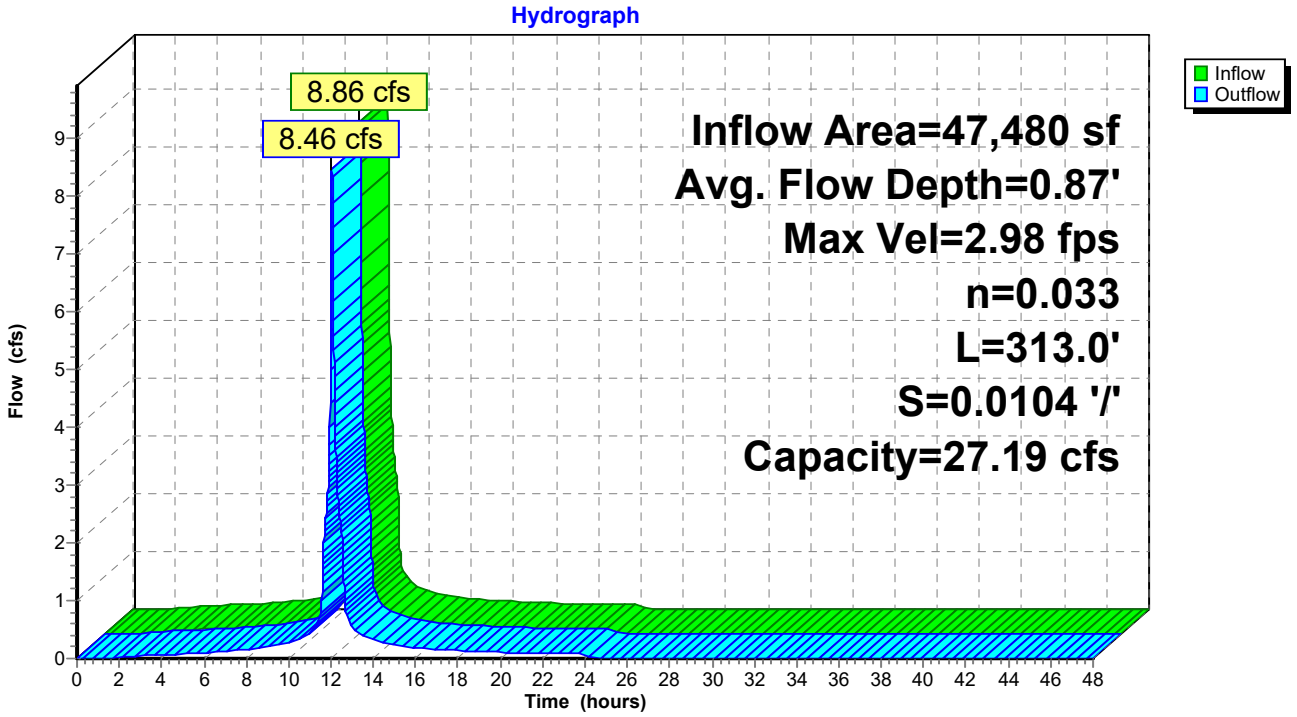
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.98 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.88 fps, Avg. Travel Time= 5.9 min

Peak Storage= 888 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.87' , Surface Width= 4.99'
Bank-Full Depth= 1.50' Flow Area= 6.8 sf, Capacity= 27.19 cfs

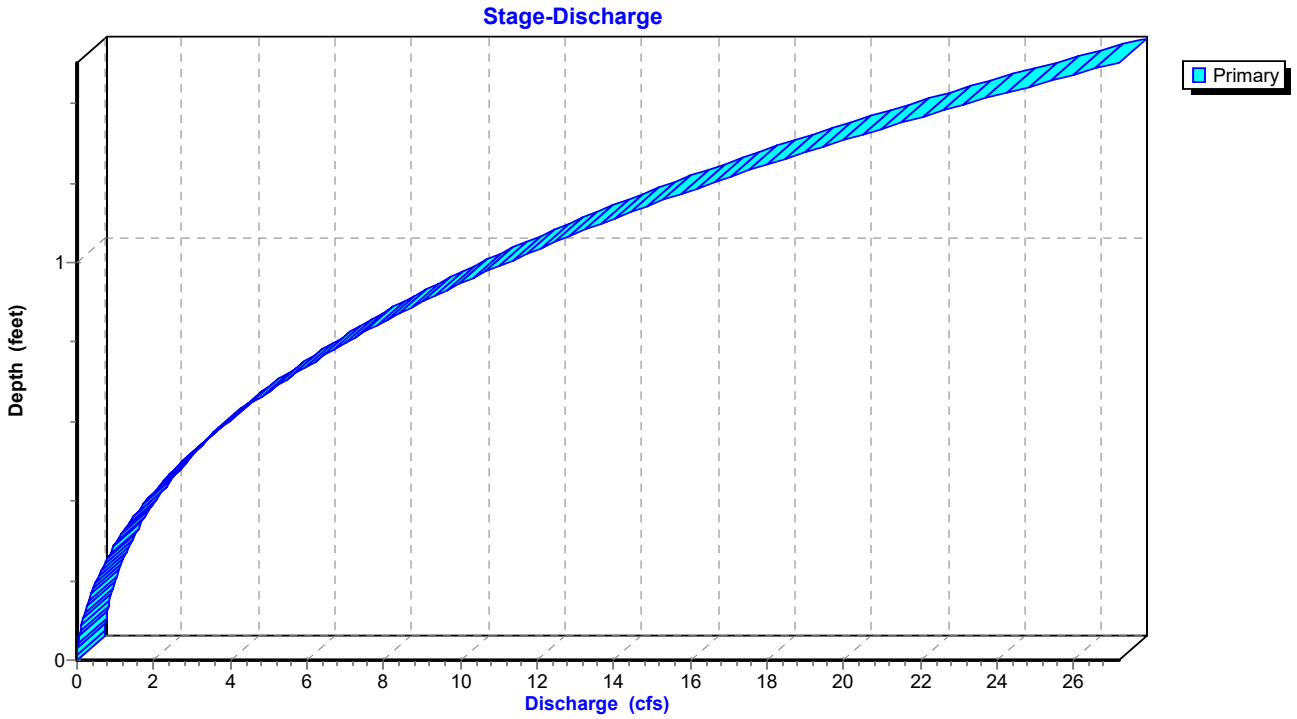
1.50' x 1.50' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 7.50'
Length= 313.0' Slope= 0.0104 '/'
Inlet Invert= 687.00', Outlet Invert= 683.75'



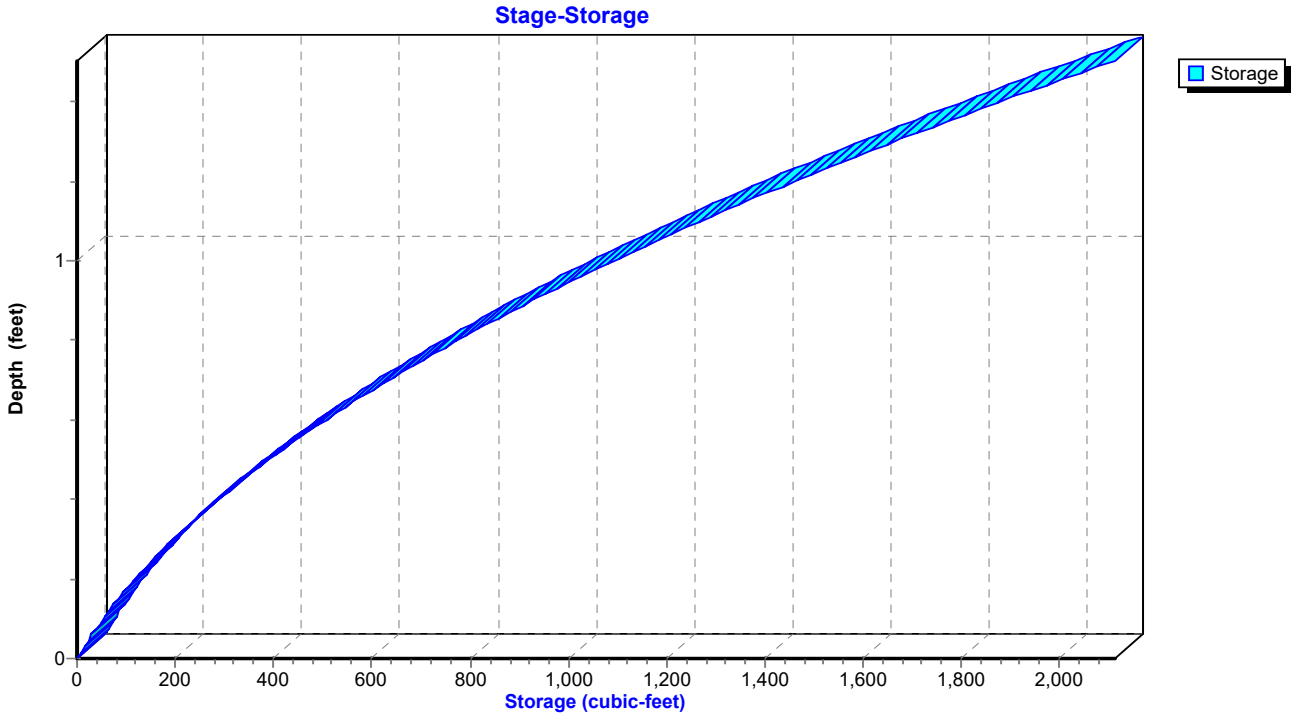
Reach D4C: Ditch 4C



Reach D4C: Ditch 4C



Reach D4C: Ditch 4C



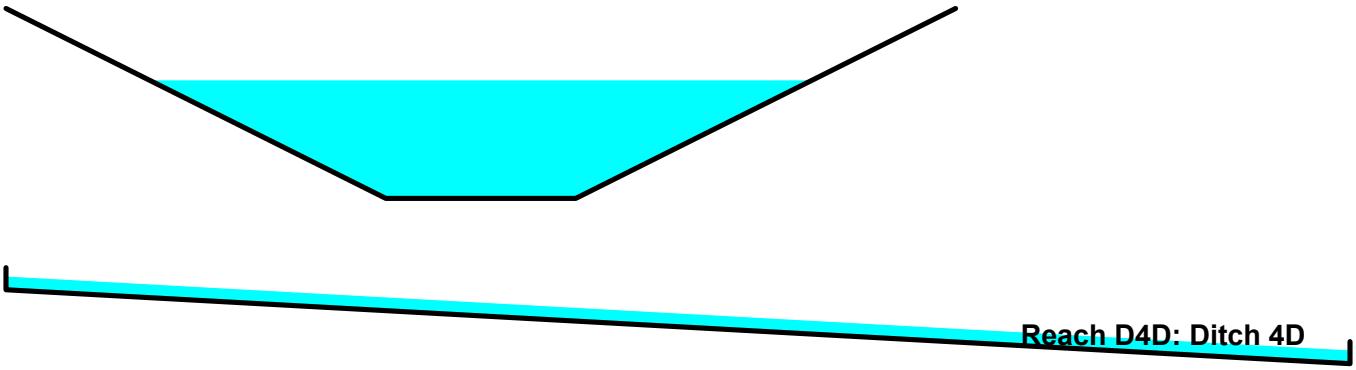
Summary for Reach D4D: Ditch 4D

Inflow Area = 64,469 sf, 0.00% Impervious, Inflow Depth = 6.60" for 50-yr event
Inflow = 12.02 cfs @ 12.03 hrs, Volume= 35,476 cf
Outflow = 11.61 cfs @ 12.04 hrs, Volume= 35,476 cf, Atten= 3%, Lag= 1.0 min
Routed to Pond CD4DCE : Cross Drain 4DCE

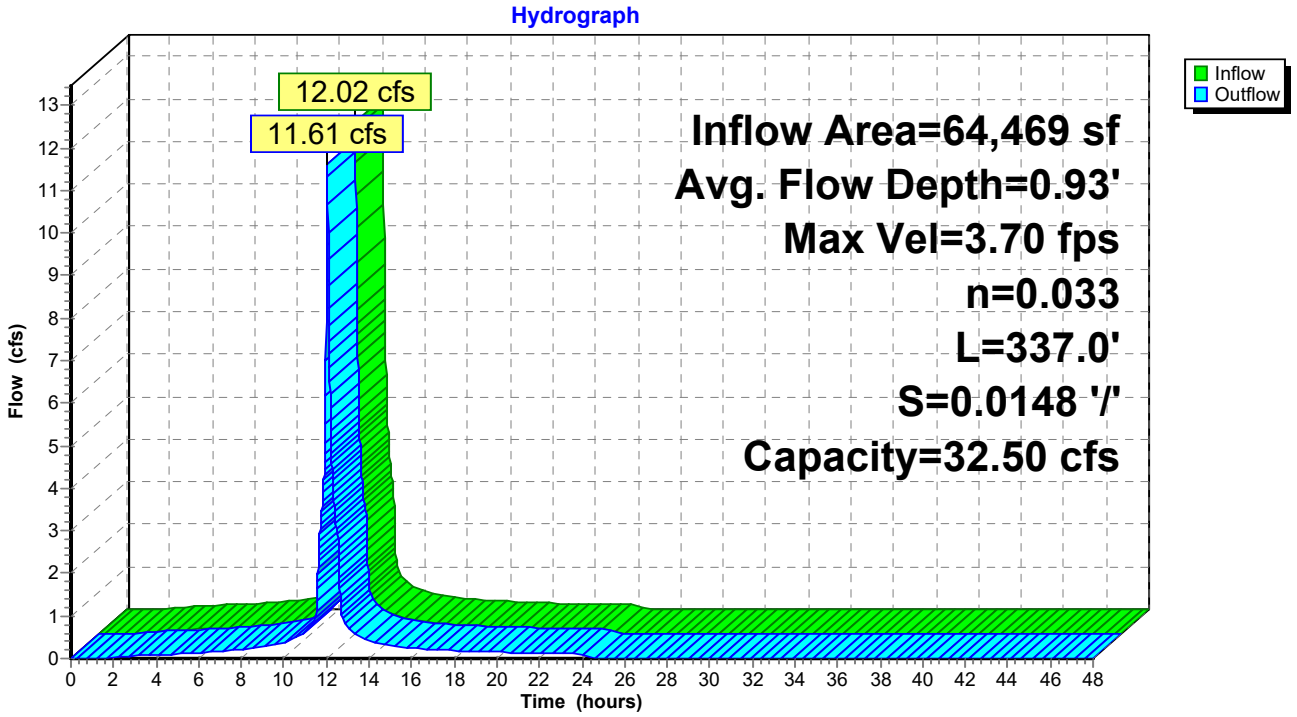
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.70 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.10 fps, Avg. Travel Time= 5.1 min

Peak Storage= 1,058 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.93' , Surface Width= 5.23'
Bank-Full Depth= 1.50' Flow Area= 6.8 sf, Capacity= 32.50 cfs

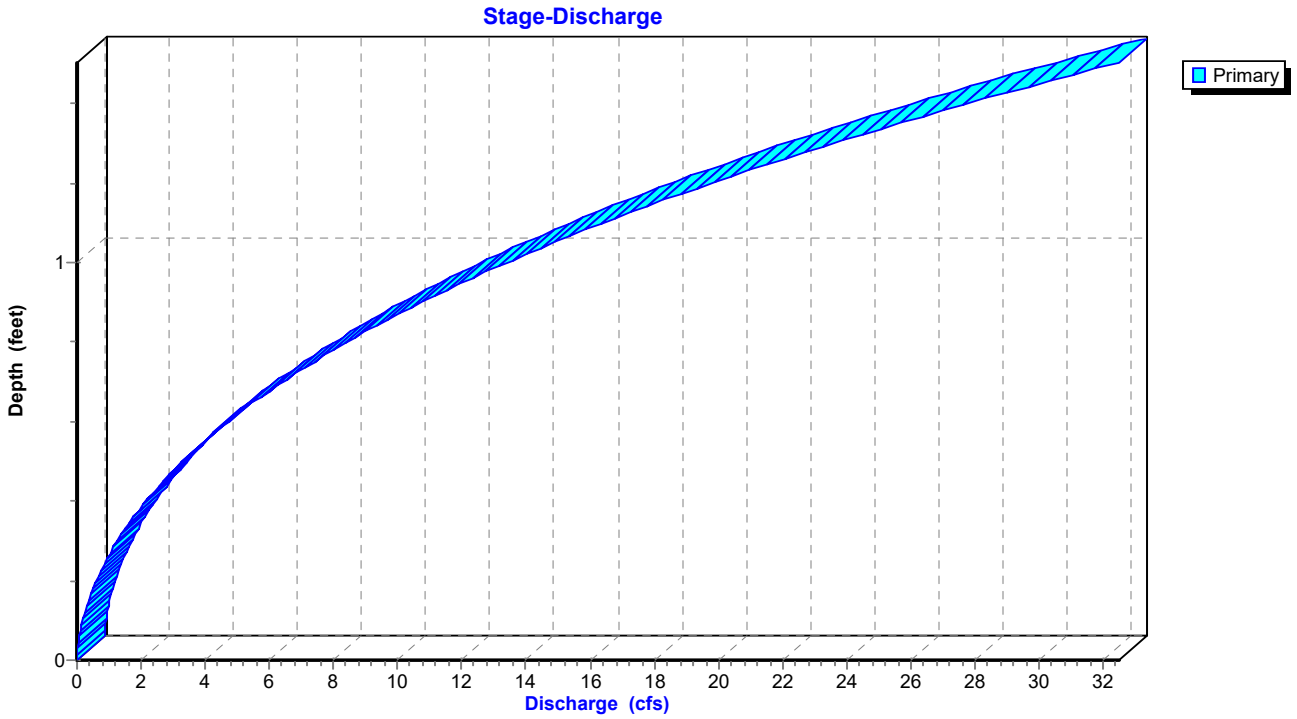
1.50' x 1.50' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 7.50'
Length= 337.0' Slope= 0.0148 '/'
Inlet Invert= 688.00', Outlet Invert= 683.00'



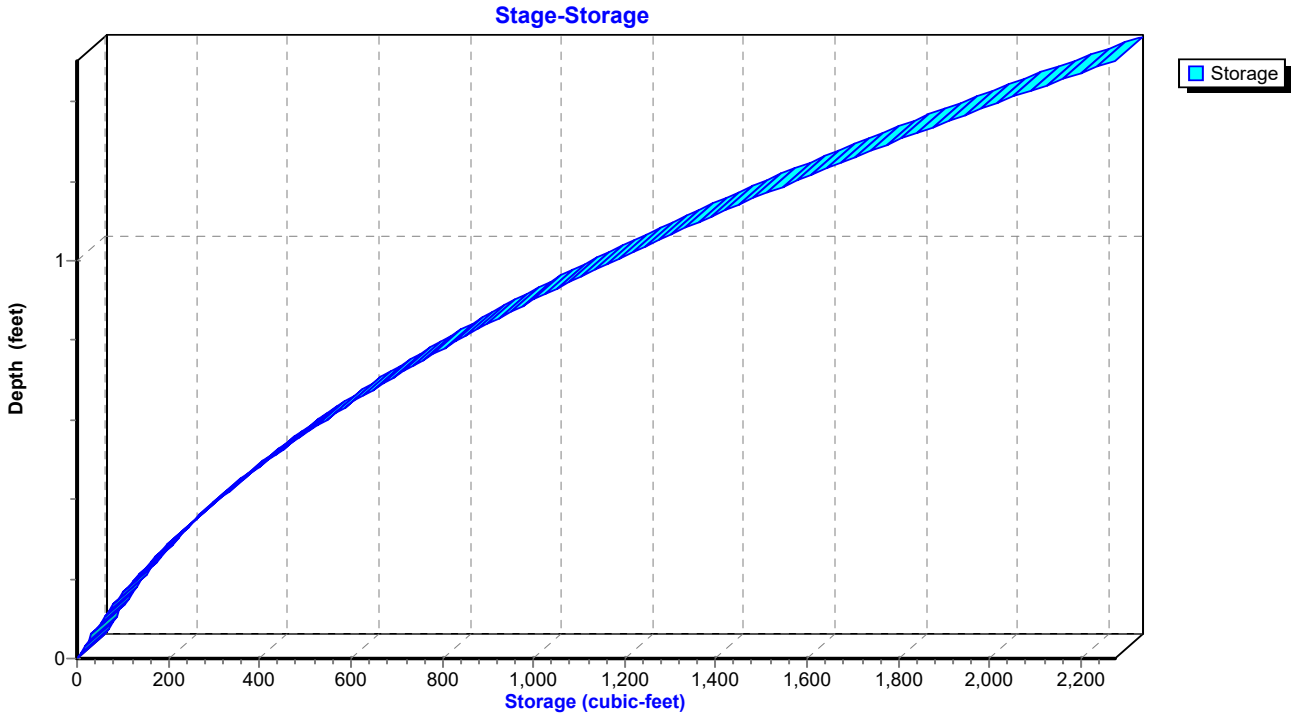
Reach D4D: Ditch 4D



Reach D4D: Ditch 4D



Reach D4D: Ditch 4D



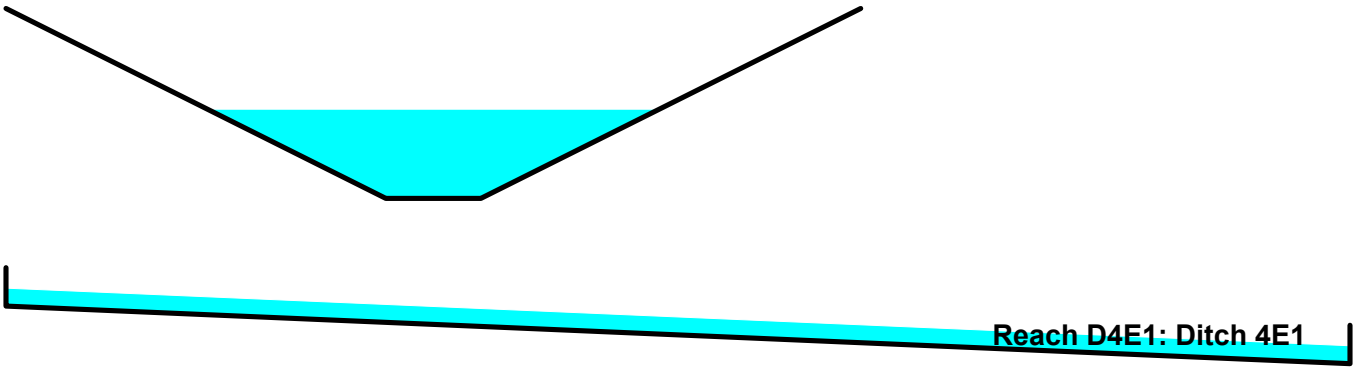
Summary for Reach D4E1: Ditch 4E1

Inflow Area = 364,162 sf, 11.96% Impervious, Inflow Depth = 3.06" for 50-yr event
Inflow = 18.24 cfs @ 12.37 hrs, Volume= 92,933 cf
Outflow = 17.87 cfs @ 12.43 hrs, Volume= 92,933 cf, Atten= 2%, Lag= 3.4 min
Routed to Pond CD4E : Cross Drain 4E

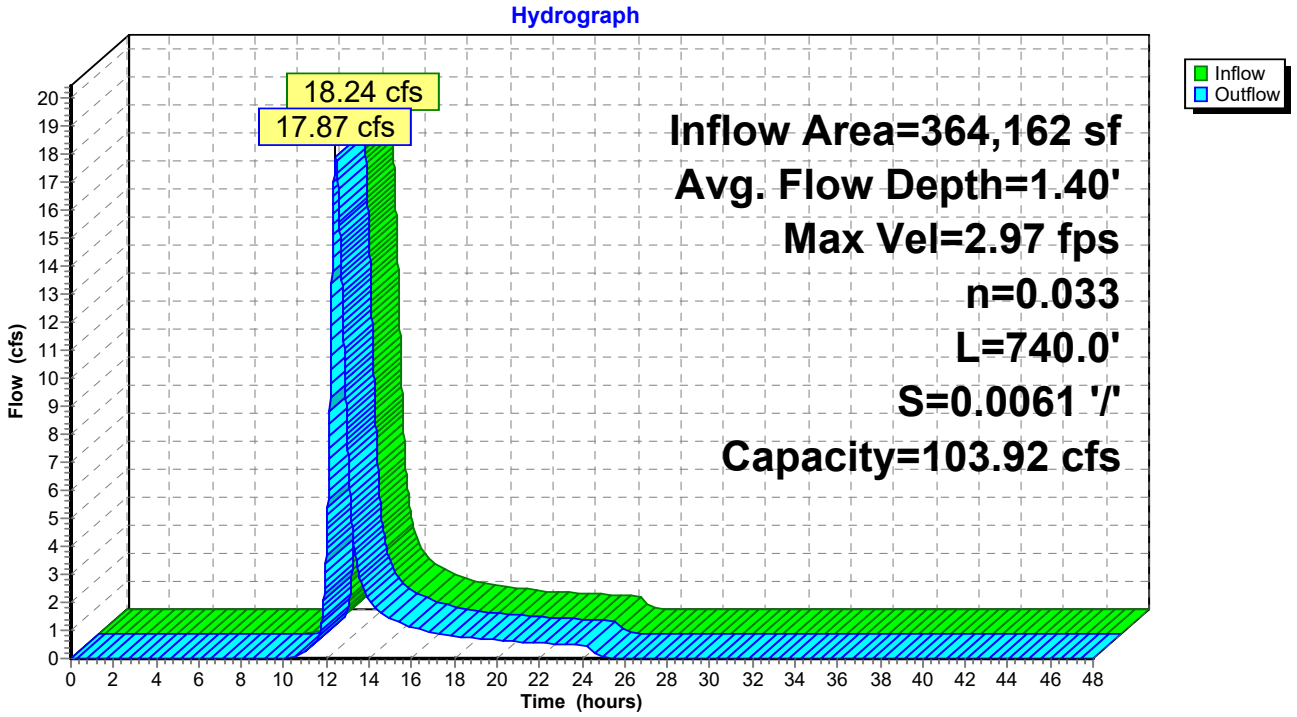
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.97 fps, Min. Travel Time= 4.2 min
Avg. Velocity = 1.11 fps, Avg. Travel Time= 11.2 min

Peak Storage= 4,460 cf @ 12.43 hrs
Average Depth at Peak Storage= 1.40' , Surface Width= 7.10'
Bank-Full Depth= 3.00' Flow Area= 22.5 sf, Capacity= 103.92 cfs

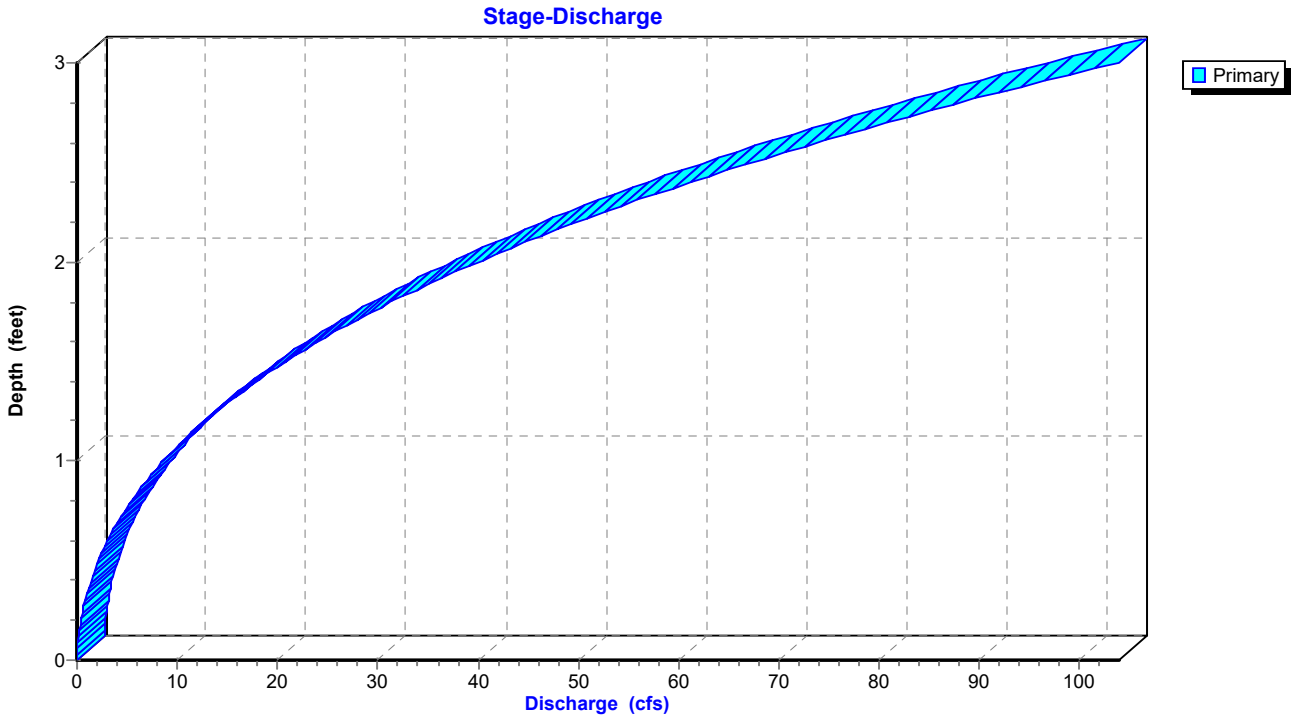
1.50' x 3.00' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 13.50'
Length= 740.0' Slope= 0.0061 '/'
Inlet Invert= 684.00', Outlet Invert= 679.50'



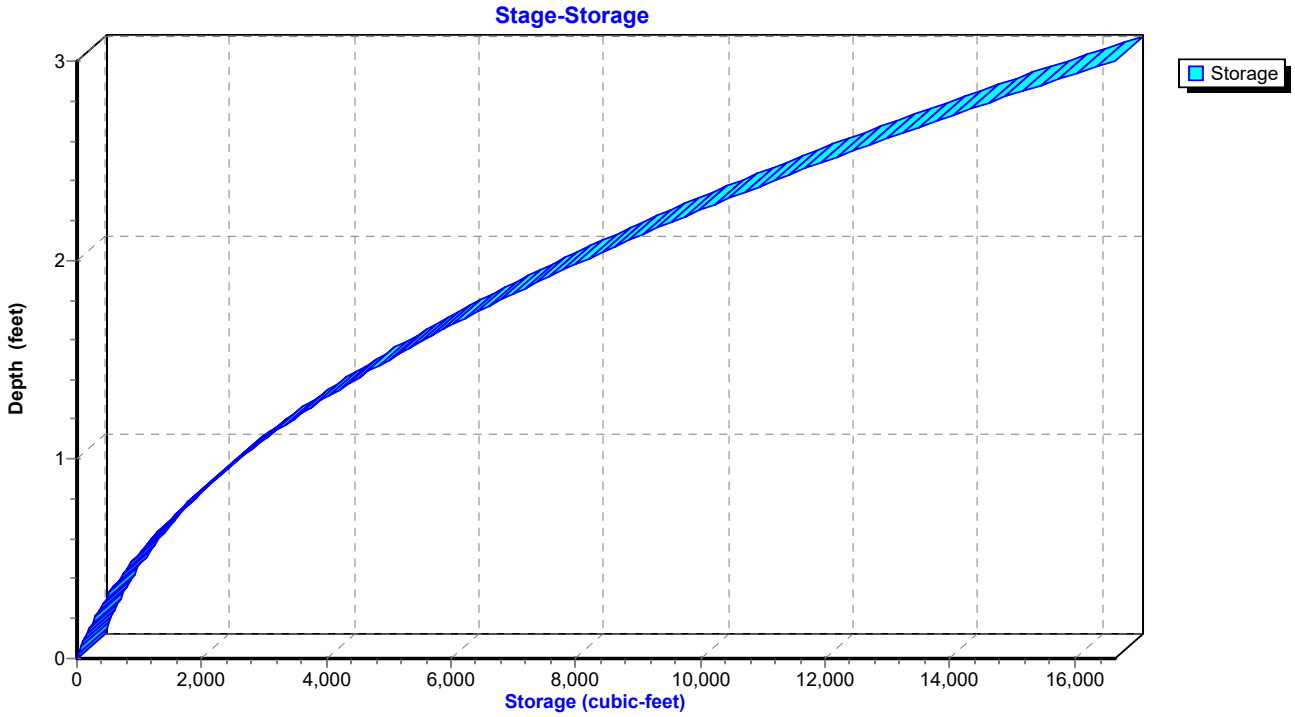
Reach D4E1: Ditch 4E1



Reach D4E1: Ditch 4E1



Reach D4E1: Ditch 4E1



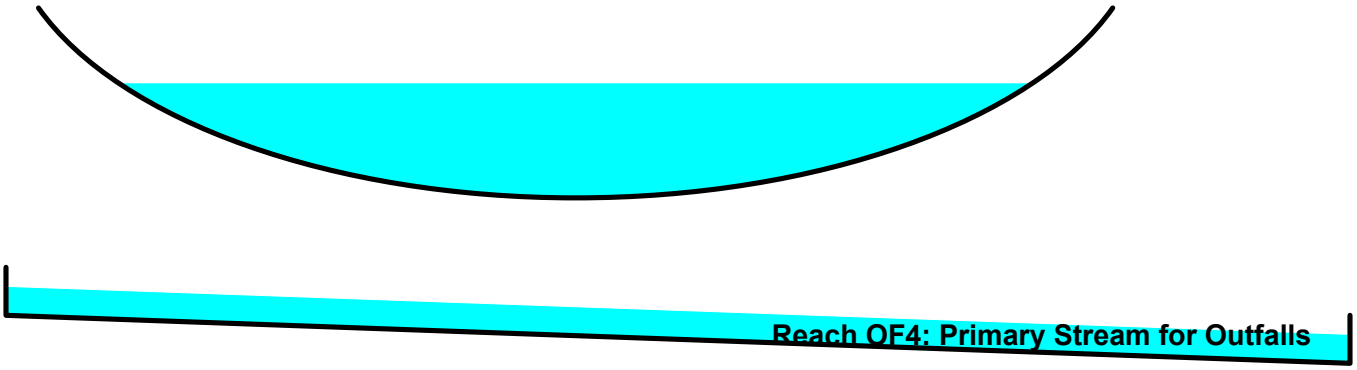
Summary for Reach OF4: Primary Stream for Outfalls

Inflow Area = 9,972,626 sf, 1.09% Impervious, Inflow Depth = 3.90" for 50-yr event
Inflow = 217.29 cfs @ 13.18 hrs, Volume= 3,242,965 cf
Outflow = 217.22 cfs @ 13.20 hrs, Volume= 3,242,965 cf, Atten= 0%, Lag= 1.0 min

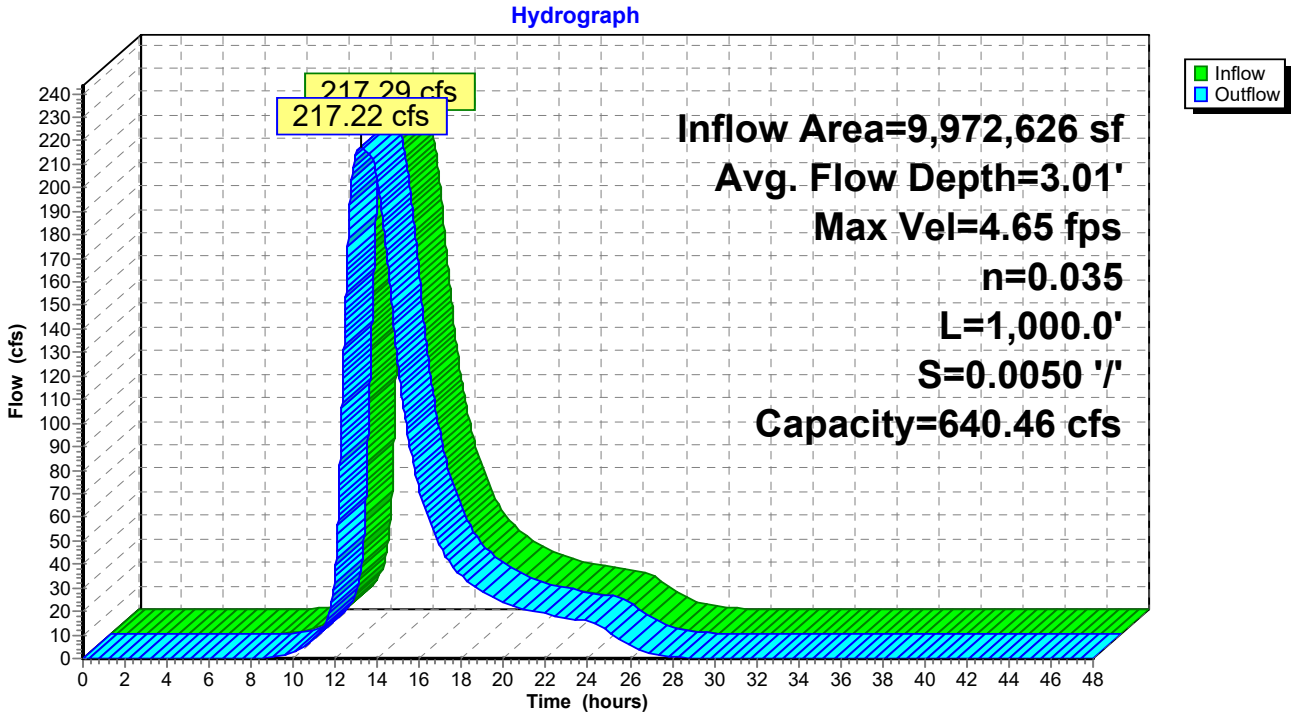
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.65 fps, Min. Travel Time= 3.6 min
Avg. Velocity = 1.70 fps, Avg. Travel Time= 9.8 min

Peak Storage= 46,752 cf @ 13.20 hrs
Average Depth at Peak Storage= 3.01' , Surface Width= 23.28'
Bank-Full Depth= 5.00' Flow Area= 100.0 sf, Capacity= 640.46 cfs

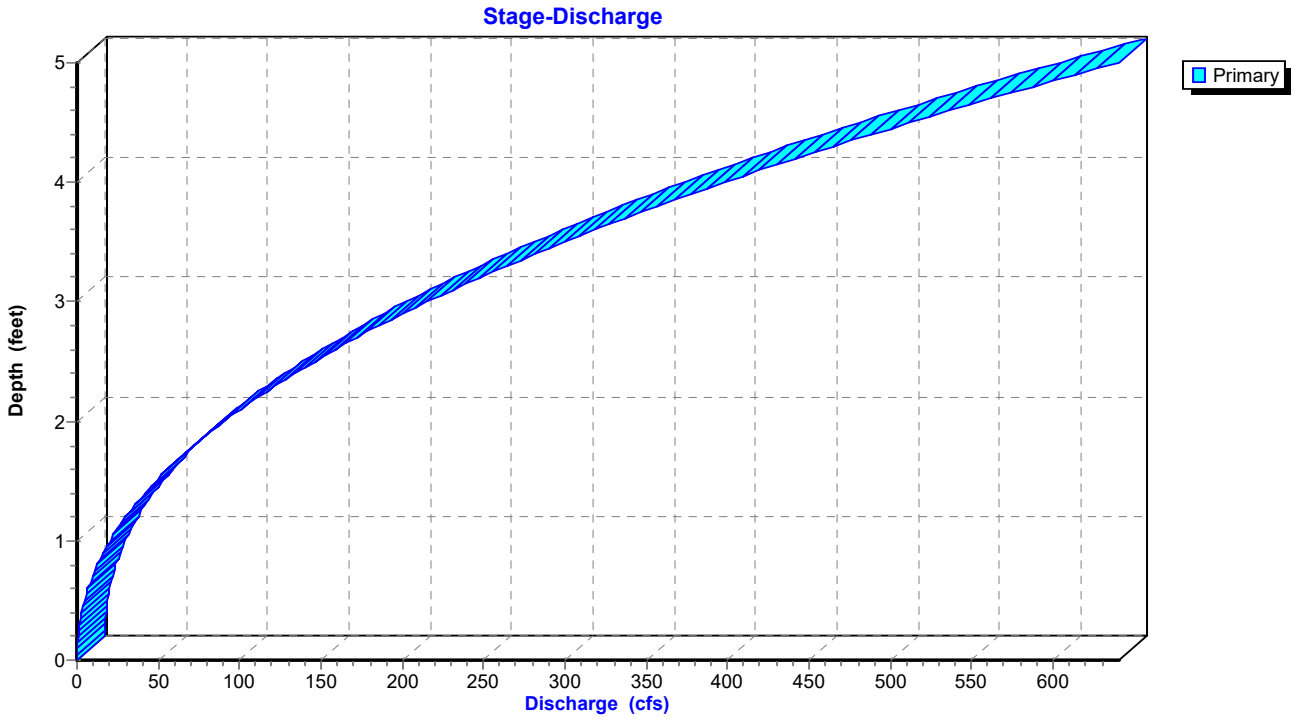
30.00' x 5.00' deep Parabolic Channel, n= 0.035
Length= 1,000.0' Slope= 0.0050 '/'
Inlet Invert= 675.00', Outlet Invert= 670.00'



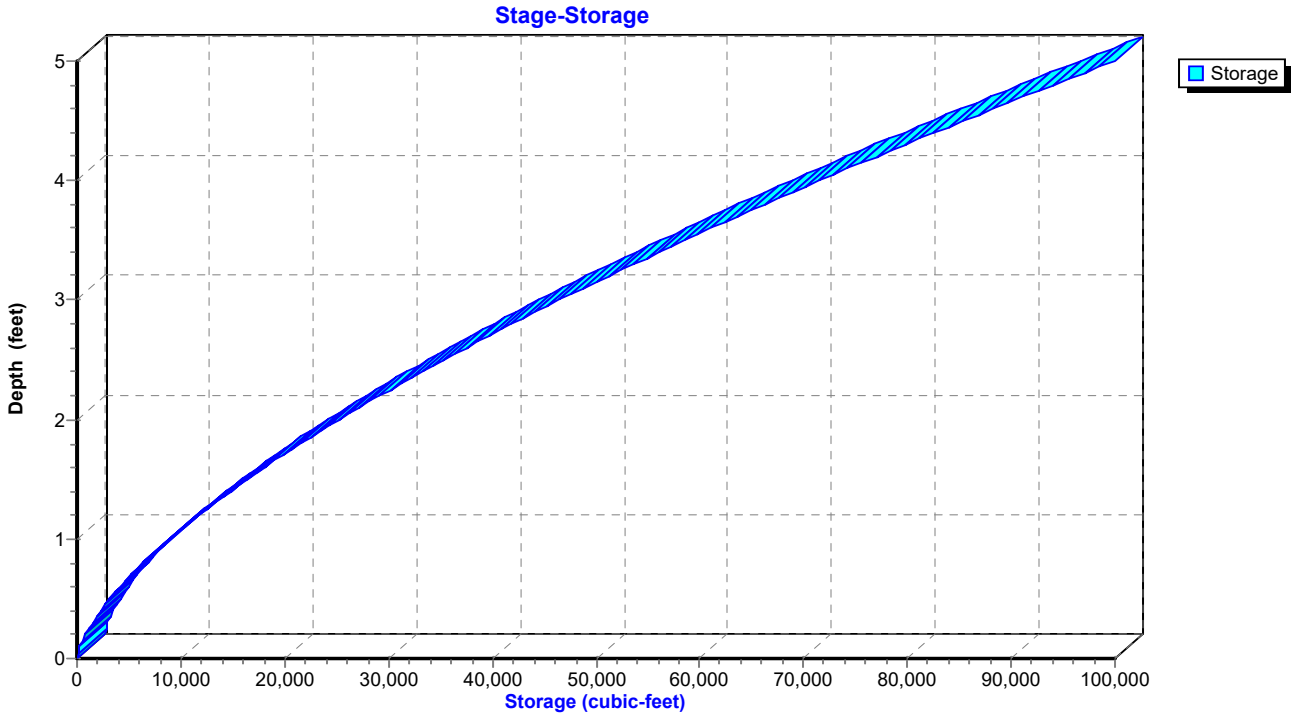
Reach OF4: Primary Stream for Outfalls



Reach OF4: Primary Stream for Outfalls



Reach OF4: Primary Stream for Outfalls



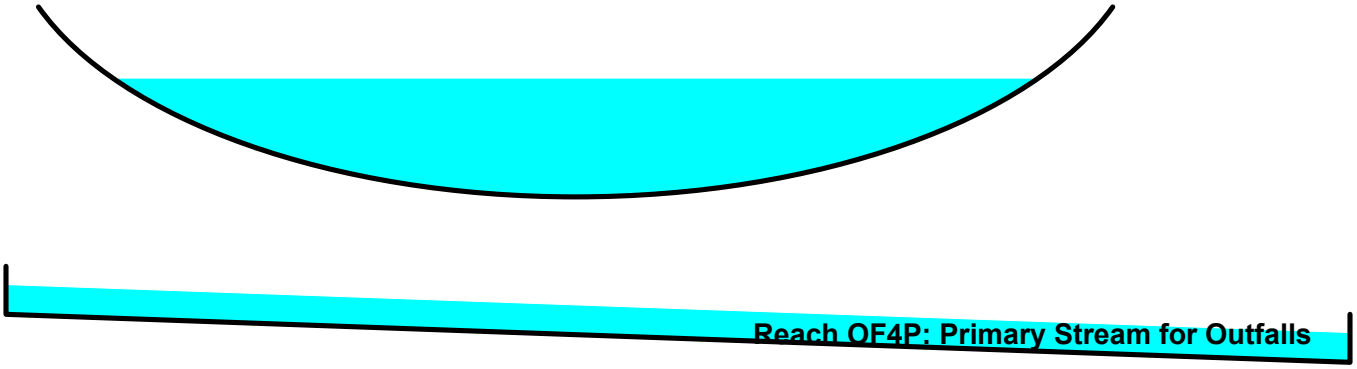
Summary for Reach OF4P: Primary Stream for Outfalls

Inflow Area = 9,824,522 sf, 2.88% Impervious, Inflow Depth = 4.06" for 50-yr event
Inflow = 232.59 cfs @ 13.67 hrs, Volume= 3,324,329 cf
Outflow = 232.28 cfs @ 13.71 hrs, Volume= 3,324,326 cf, Atten= 0%, Lag= 2.5 min

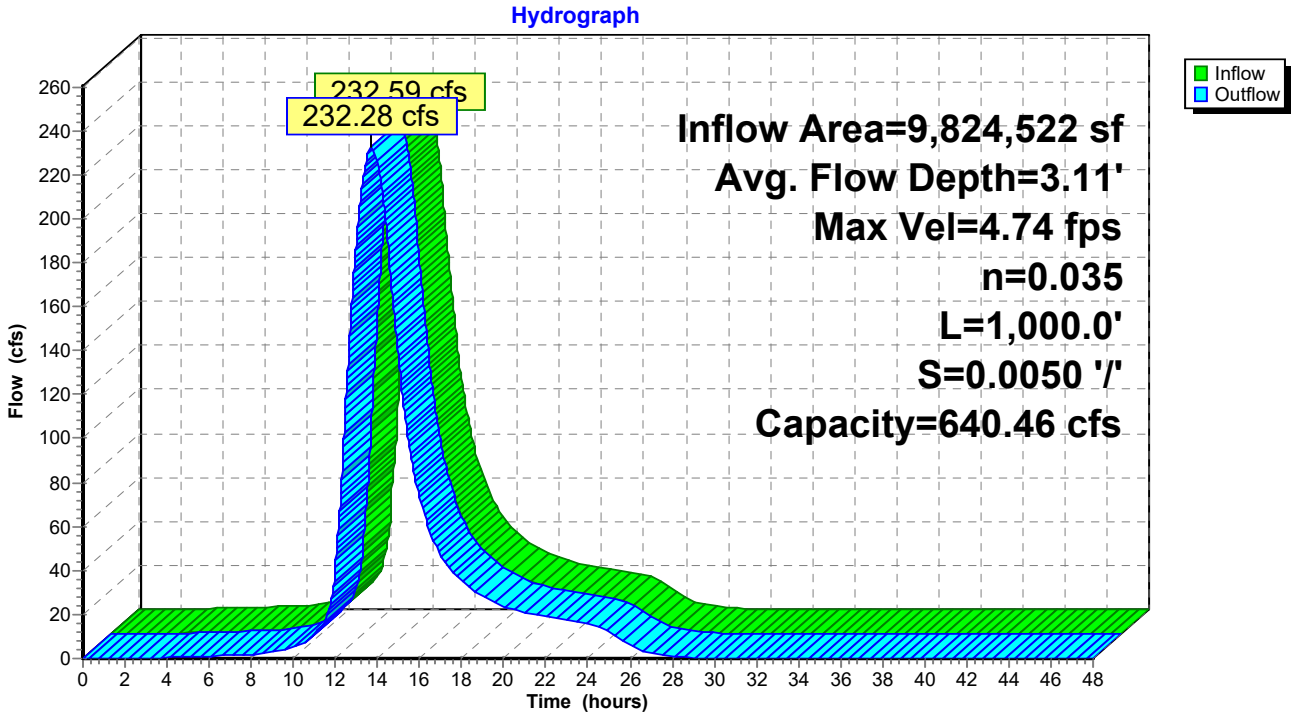
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.74 fps, Min. Travel Time= 3.5 min
Avg. Velocity = 1.33 fps, Avg. Travel Time= 12.6 min

Peak Storage= 49,002 cf @ 13.71 hrs
Average Depth at Peak Storage= 3.11' , Surface Width= 23.65'
Bank-Full Depth= 5.00' Flow Area= 100.0 sf, Capacity= 640.46 cfs

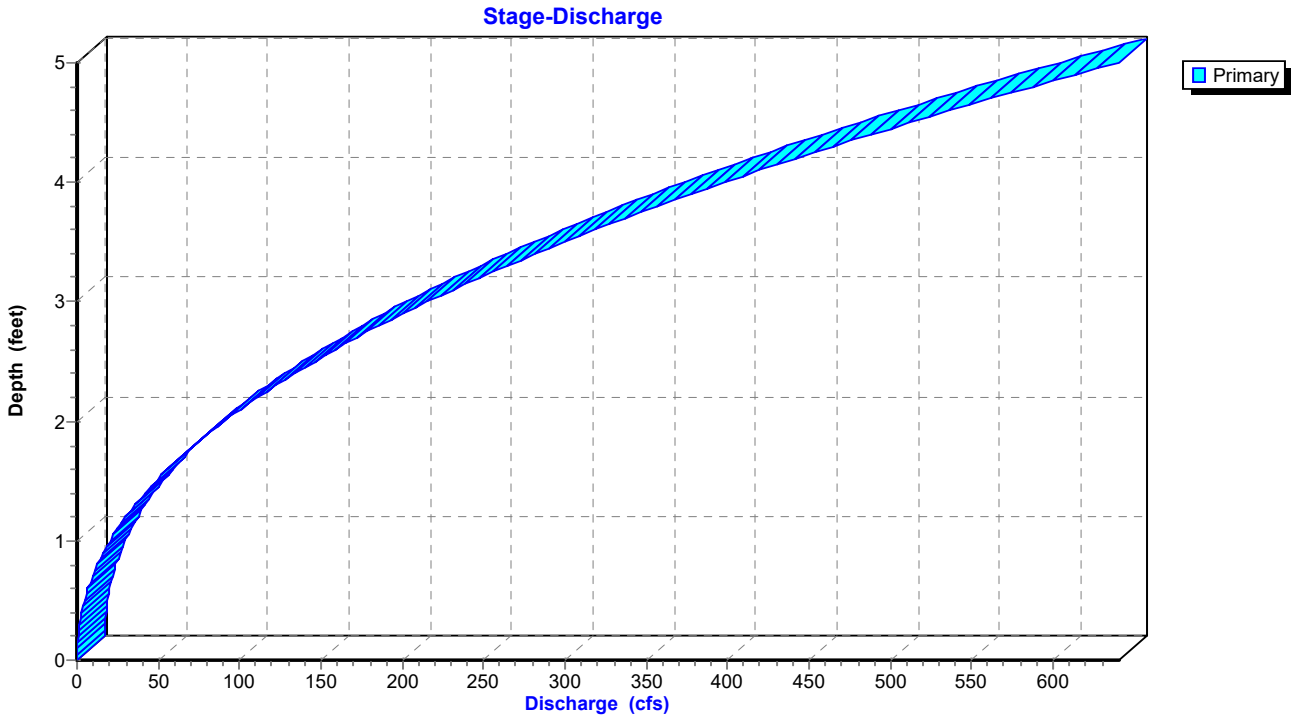
30.00' x 5.00' deep Parabolic Channel, n= 0.035
Length= 1,000.0' Slope= 0.0050 '/'
Inlet Invert= 675.00', Outlet Invert= 670.00'



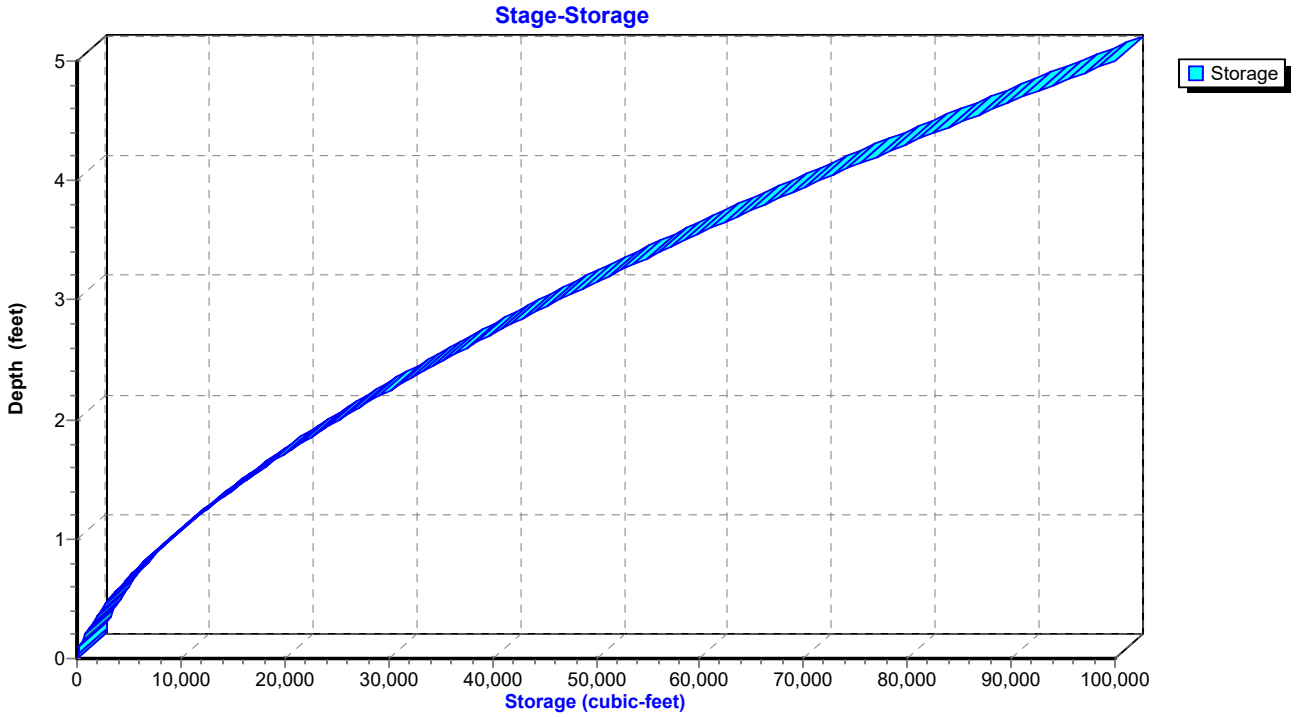
Reach OF4P: Primary Stream for Outfalls



Reach OF4P: Primary Stream for Outfalls



Reach OF4P: Primary Stream for Outfalls



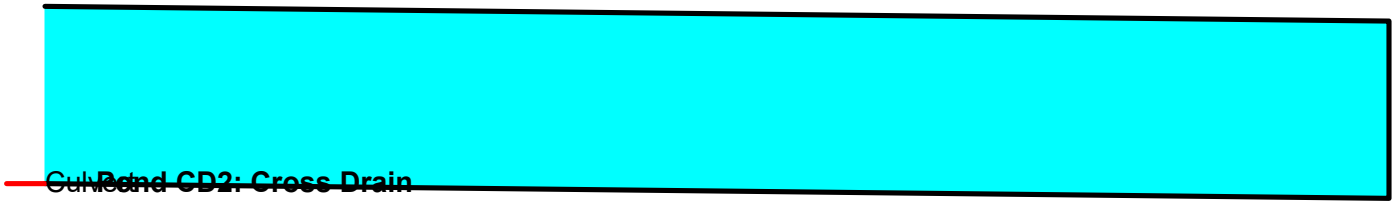
Summary for Pond CD2: Cross Drain

Inflow Area = 1,520,244 sf, 0.00% Impervious, Inflow Depth = 2.86" for 50-yr event
Inflow = 48.09 cfs @ 12.88 hrs, Volume= 362,320 cf
Outflow = 48.09 cfs @ 12.88 hrs, Volume= 362,320 cf, Atten= 0%, Lag= 0.0 min
Primary = 48.09 cfs @ 12.88 hrs, Volume= 362,320 cf
Routed to Reach OF4P : Primary Stream for Outfalls

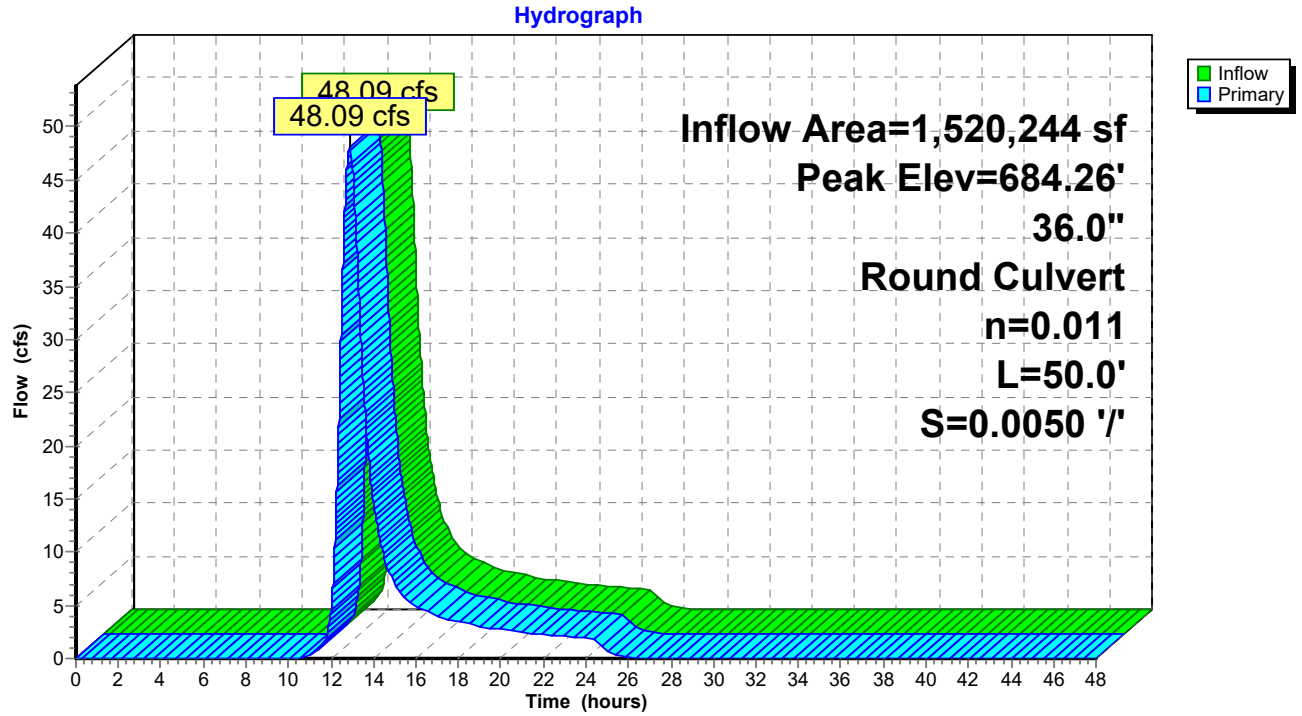
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 684.26' @ 12.88 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	680.25'	**36.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 680.25' / 680.00' S= 0.0050 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

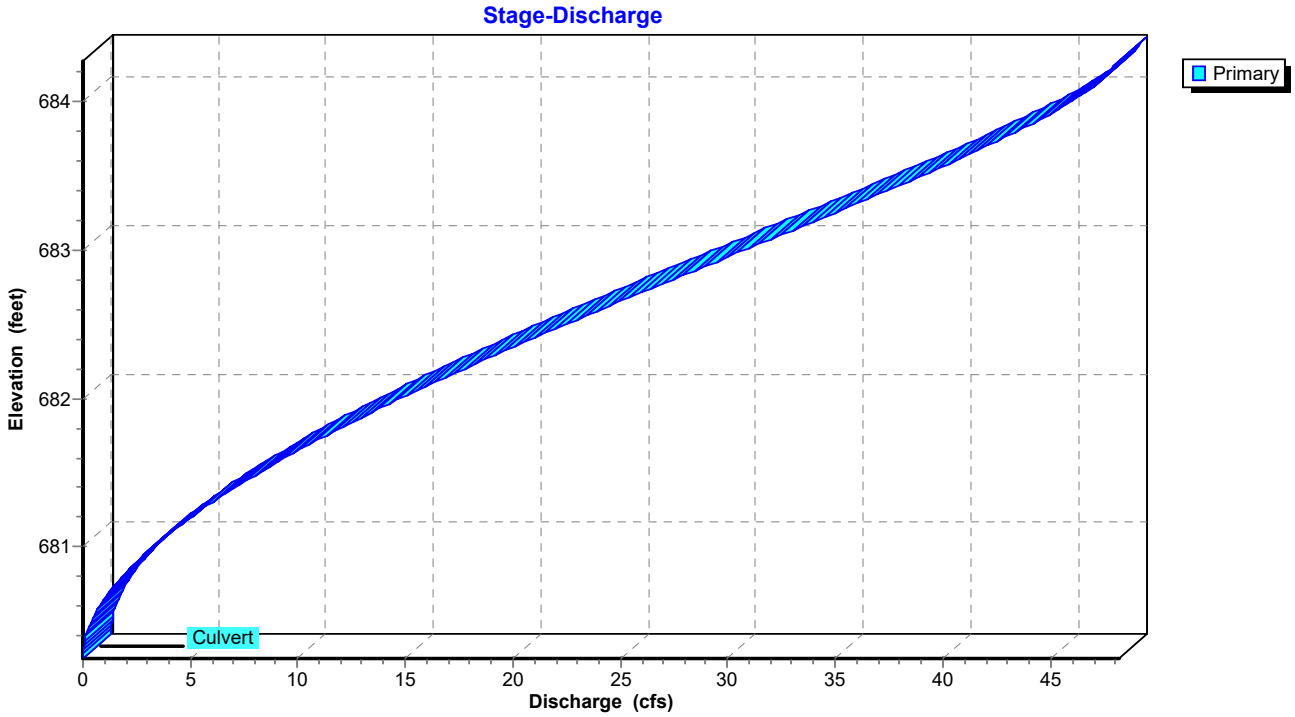
Primary OutFlow Max=47.99 cfs @ 12.88 hrs HW=684.26' (Free Discharge)
1=Culvert (Barrel Controls 47.99 cfs @ 6.79 fps)



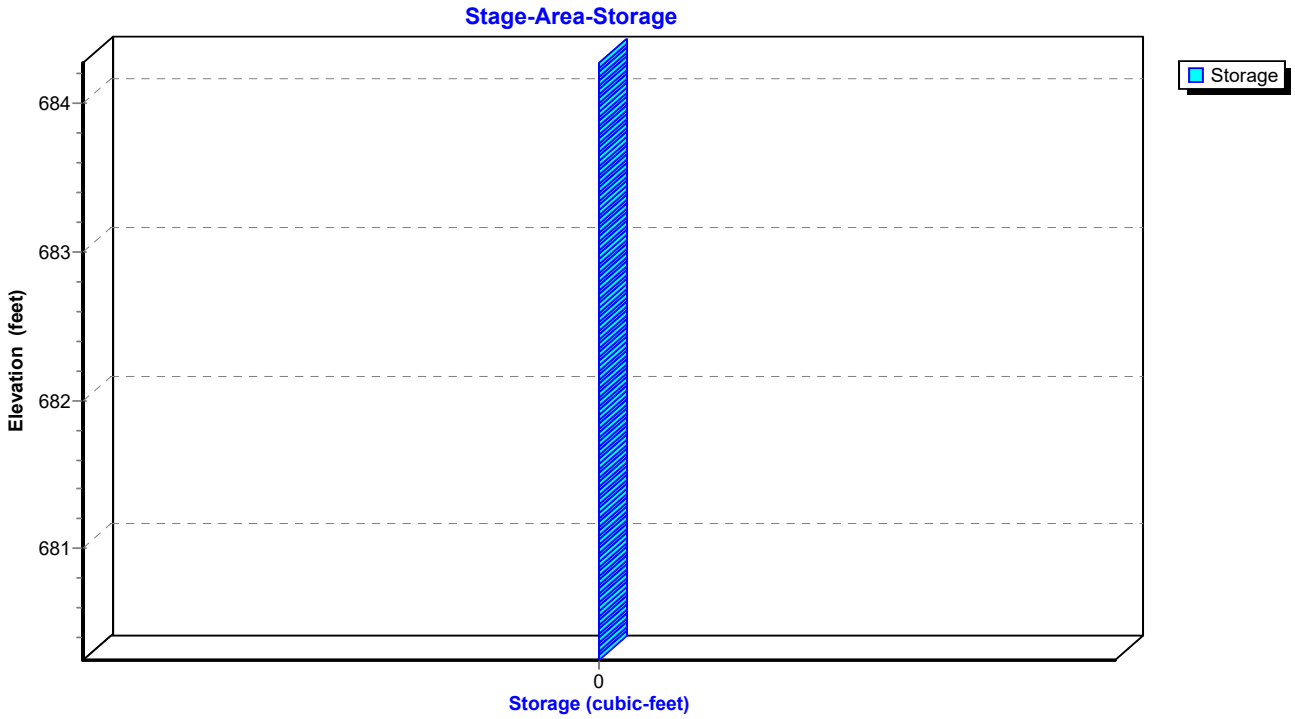
Pond CD2: Cross Drain



Pond CD2: Cross Drain



Pond CD2: Cross Drain



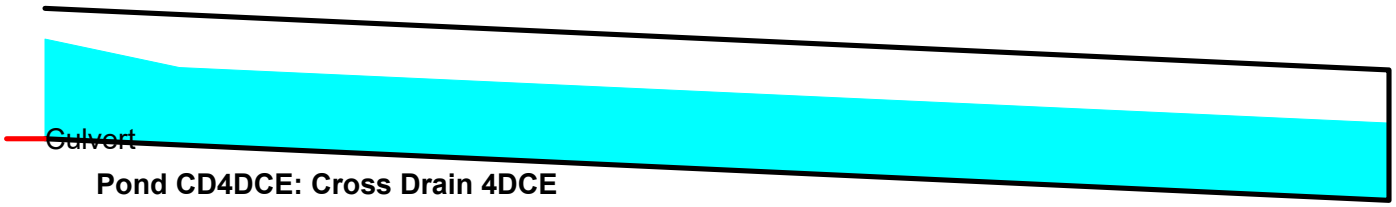
Summary for Pond CD4DCE: Cross Drain 4DCE

Inflow Area = 1,234,055 sf, 3.53% Impervious, Inflow Depth = 3.70" for 50-yr event
Inflow = 59.89 cfs @ 12.50 hrs, Volume= 380,637 cf
Outflow = 59.89 cfs @ 12.50 hrs, Volume= 380,637 cf, Atten= 0%, Lag= 0.0 min
Primary = 59.89 cfs @ 12.50 hrs, Volume= 380,637 cf
Routed to Pond POND1P : PROP POND

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 681.45' @ 12.50 hrs

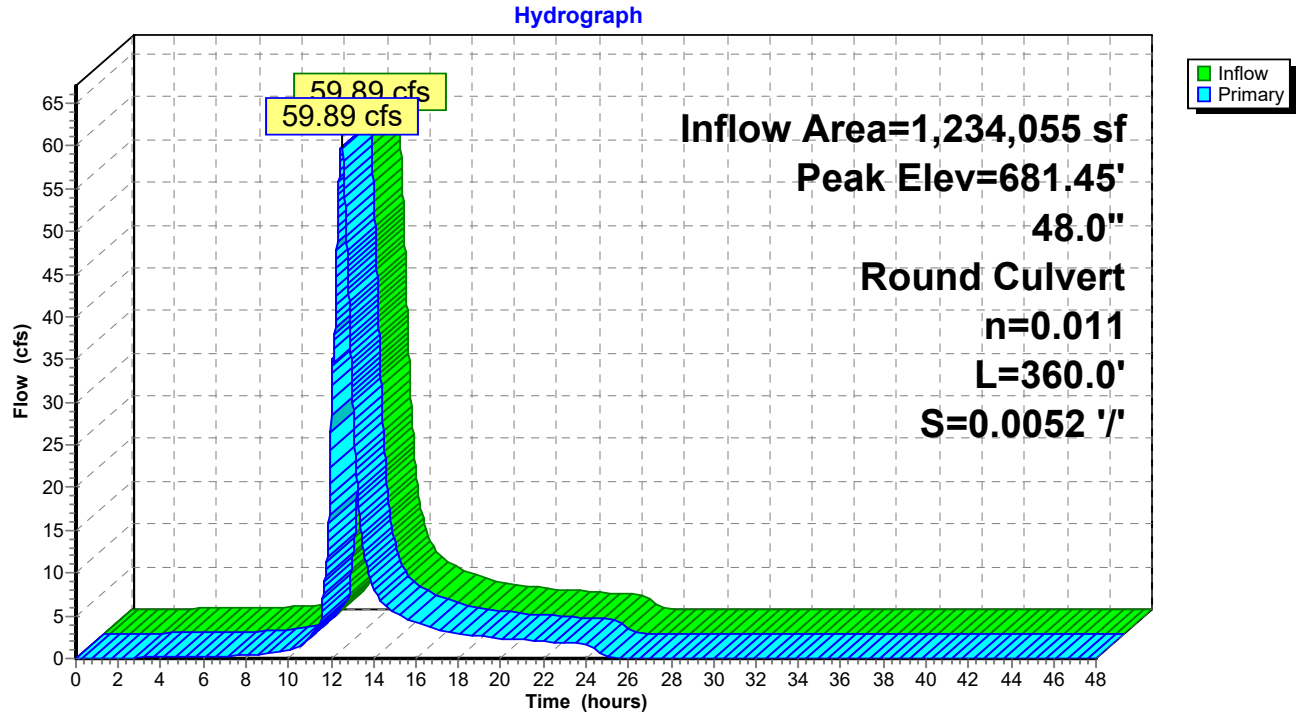
Device	Routing	Invert	Outlet Devices
#1	Primary	678.39'	**48.0" Round Culvert** L= 360.0' Ke= 0.500 Inlet / Outlet Invert= 678.39' / 676.50' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 12.57 sf

Primary OutFlow Max=59.88 cfs @ 12.50 hrs HW=681.45' (Free Discharge)
└**1=Culvert** (Barrel Controls 59.88 cfs @ 8.04 fps)

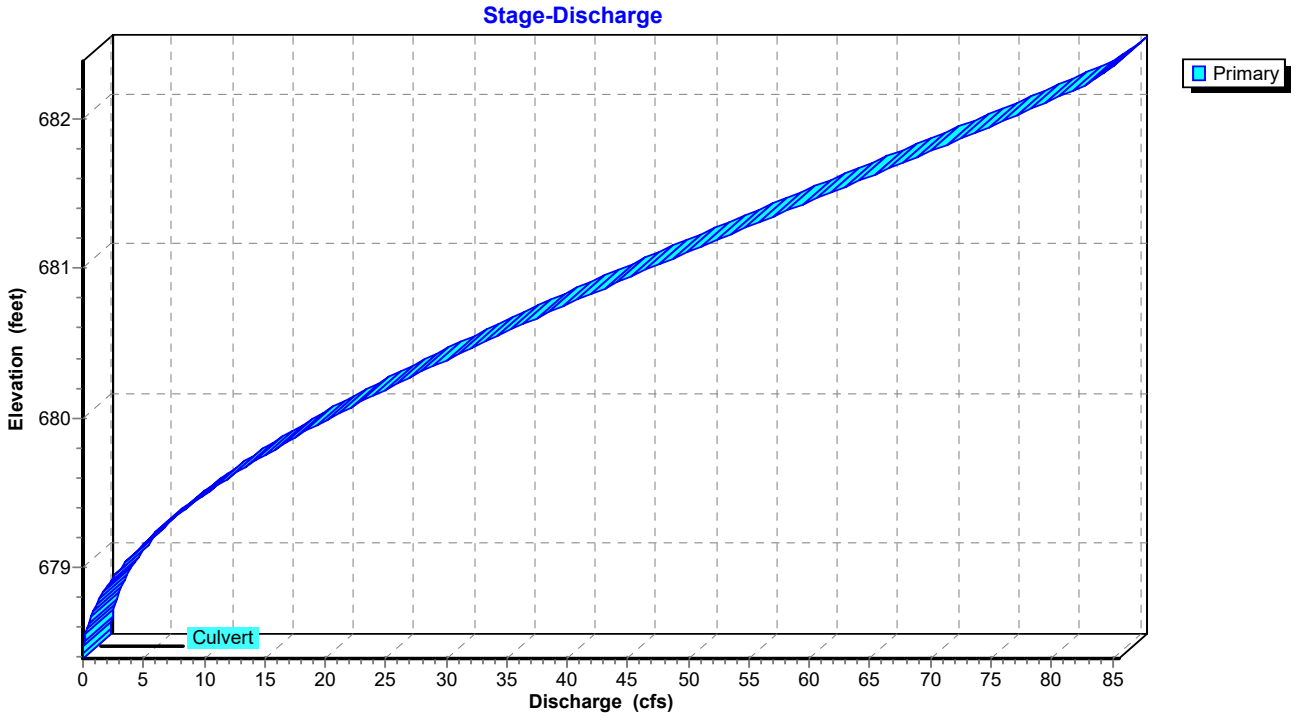


Pond CD4DCE: Cross Drain 4DCE

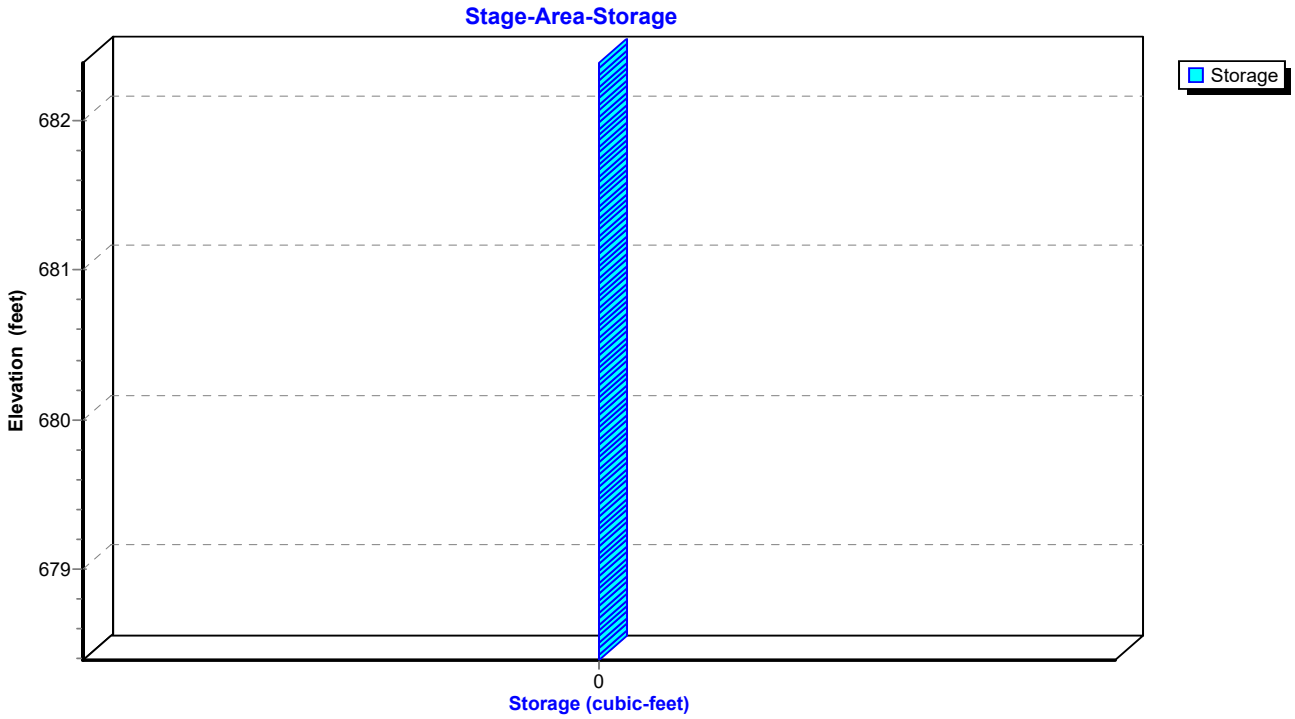
Pond CD4DCE: Cross Drain 4DCE



Pond CD4DCE: Cross Drain 4DCE



Pond CD4DCE: Cross Drain 4DCE



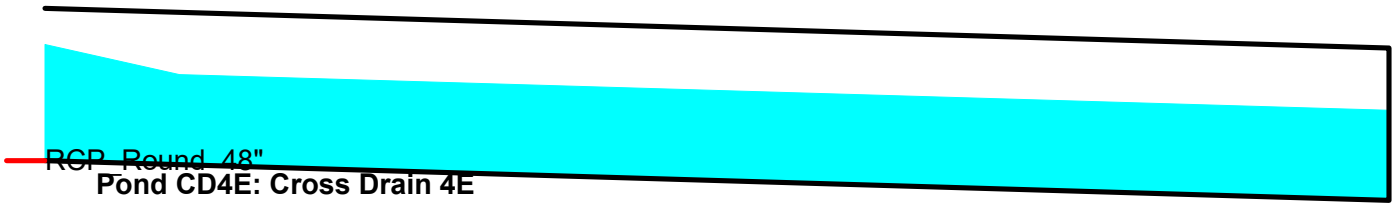
Summary for Pond CD4E: Cross Drain 4E

Inflow Area = 1,122,106 sf, 3.88% Impervious, Inflow Depth = 3.41" for 50-yr event
Inflow = 54.75 cfs @ 12.51 hrs, Volume= 319,033 cf
Outflow = 54.75 cfs @ 12.51 hrs, Volume= 319,033 cf, Atten= 0%, Lag= 0.0 min
Primary = 54.75 cfs @ 12.51 hrs, Volume= 319,033 cf
Routed to Pond CD4DCE : Cross Drain 4DCE

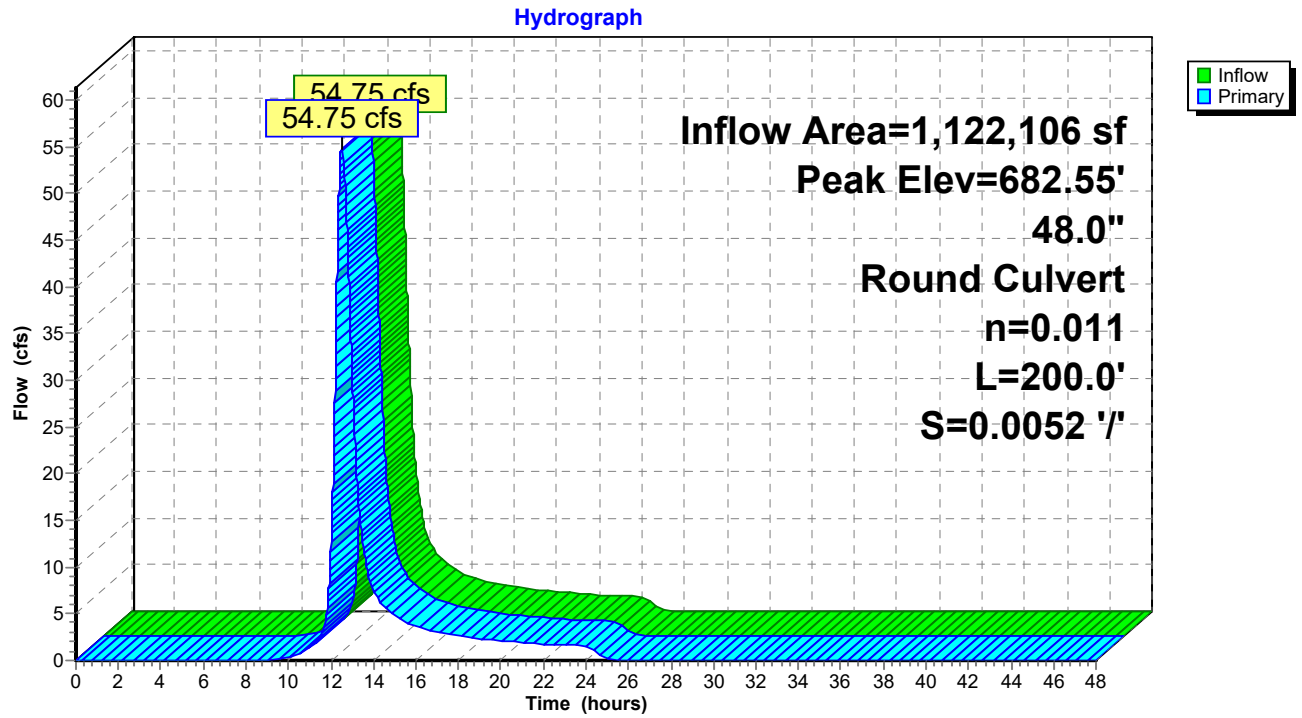
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 682.55' @ 12.51 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	679.50'	**48.0" Round RCP_Round 48"** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 679.50' / 678.46' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 12.57 sf

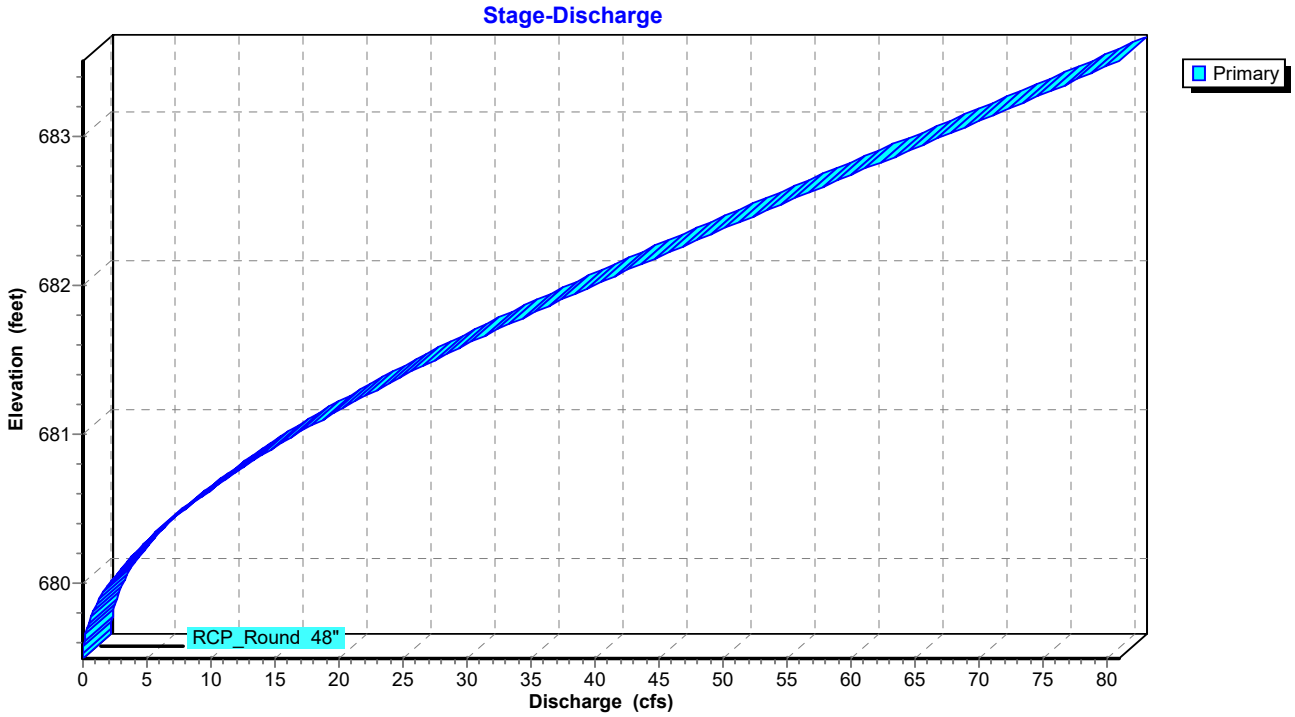
Primary OutFlow Max=54.74 cfs @ 12.51 hrs HW=682.55' (Free Discharge)
└**1=RCP_Round 48"** (Barrel Controls 54.74 cfs @ 7.37 fps)



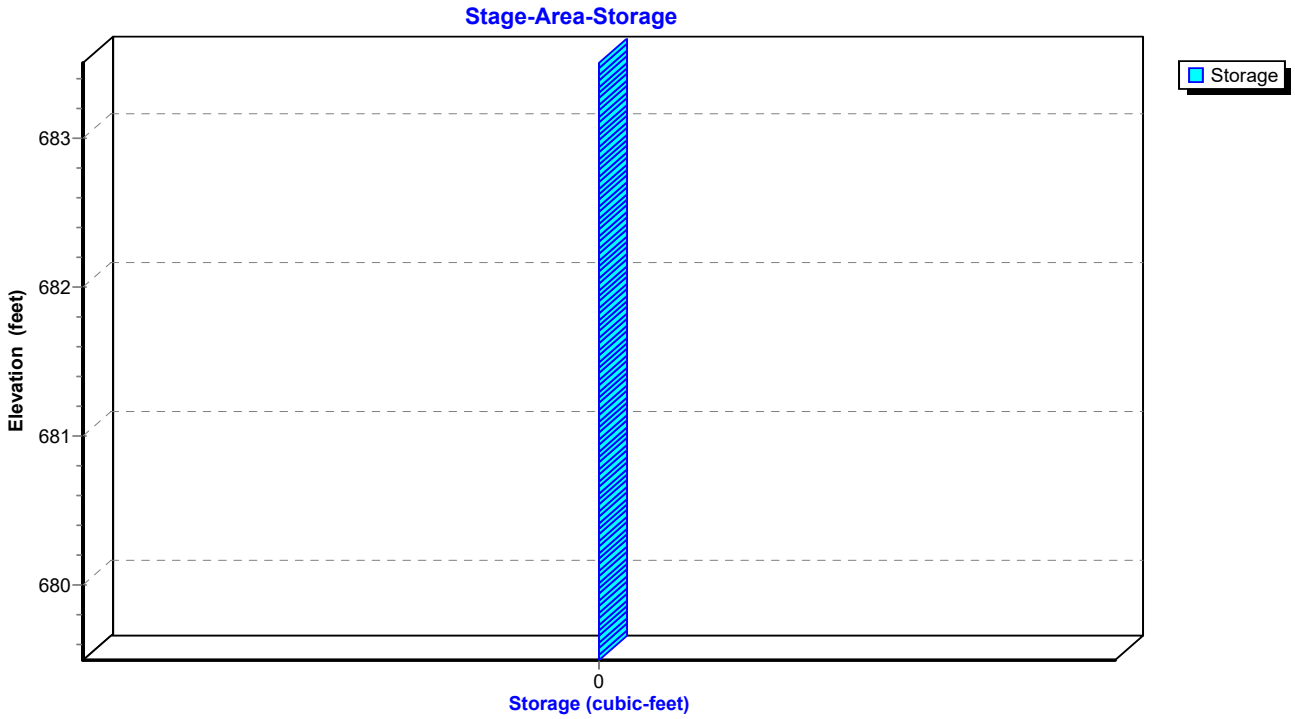
Pond CD4E: Cross Drain 4E



Pond CD4E: Cross Drain 4E



Pond CD4E: Cross Drain 4E



Summary for Pond POND1P: PROP POND

Inflow Area = 1,765,922 sf, 9.87% Impervious, Inflow Depth = 4.58" for 50-yr event
Inflow = 108.19 cfs @ 12.46 hrs, Volume= 673,315 cf
Outflow = 46.31 cfs @ 13.04 hrs, Volume= 672,749 cf, Atten= 57%, Lag= 35.1 min
Primary = 46.31 cfs @ 13.04 hrs, Volume= 672,749 cf
Routed to Reach OF4P : Primary Stream for Outfalls

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 681.87' @ 13.04 hrs Surf.Area= 109,567 sf Storage= 193,726 cf

Plug-Flow detention time= 47.6 min calculated for 672,608 cf (100% of inflow)
Center-of-Mass det. time= 47.2 min (865.8 - 818.6)

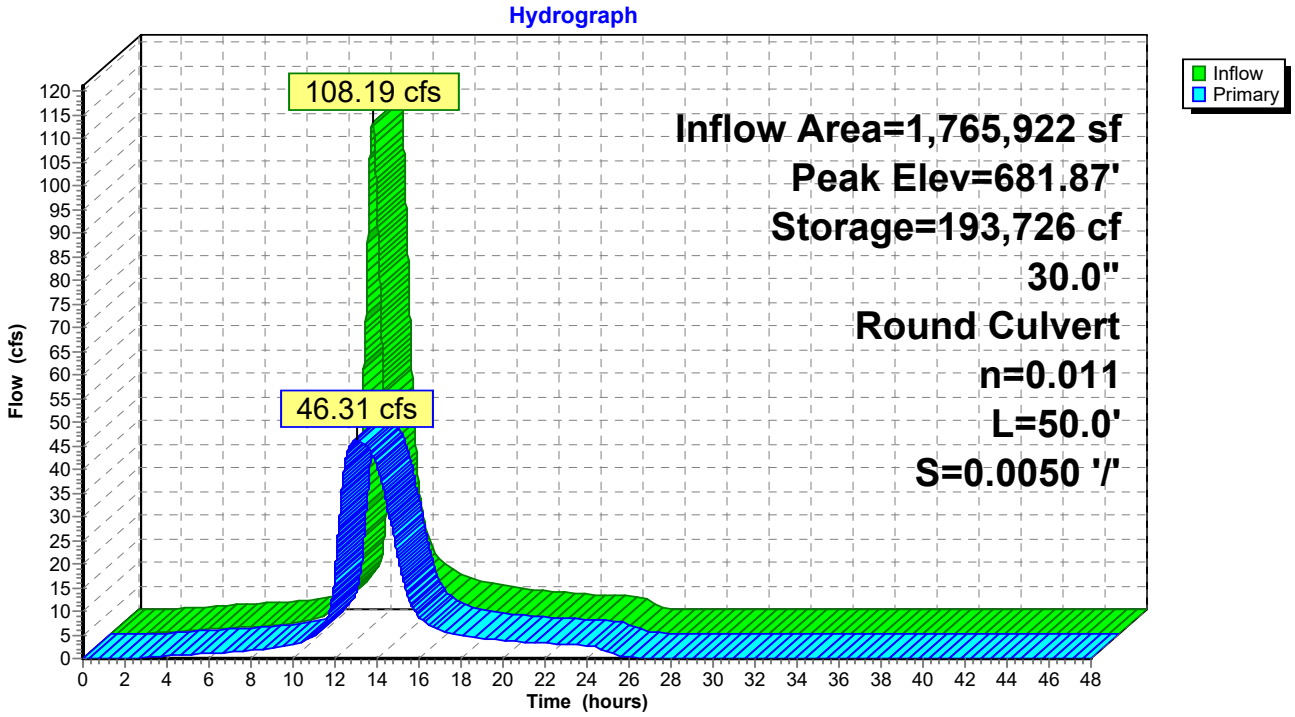
Volume	Invert	Avail.Storage	Storage Description
#1	676.00'	327,838 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
676.00	505	0	0
677.00	14,000	7,253	7,253
678.00	20,000	17,000	24,253
679.00	29,000	24,500	48,753
680.00	39,000	34,000	82,753
681.00	47,000	43,000	125,753
682.00	119,057	83,029	208,781
683.00	119,057	119,057	327,838

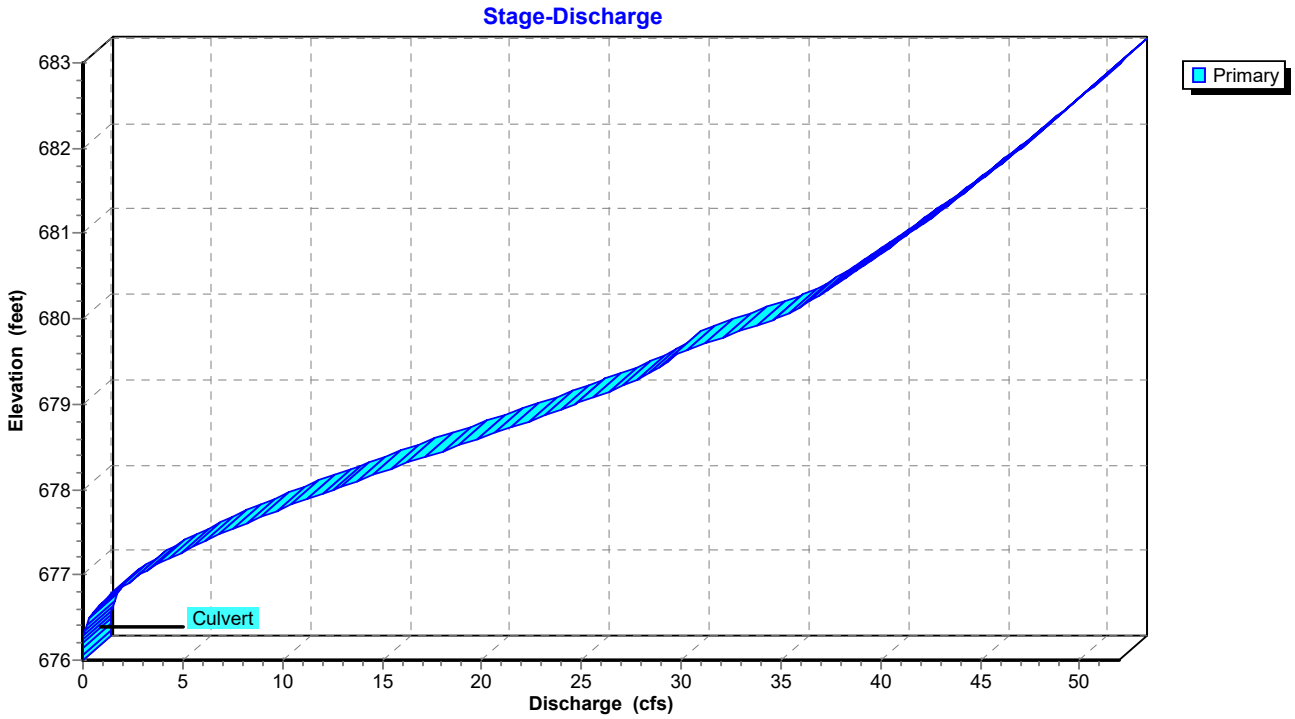
Device	Routing	Invert	Outlet Devices
#1	Primary	676.25'	**30.0" Round Culvert** L= 50.0' Ke= 0.600 Inlet / Outlet Invert= 676.25' / 676.00' S= 0.0050 '/' Cc= 0.900 n= 0.011, Flow Area= 4.91 sf

Primary OutFlow Max=46.31 cfs @ 13.04 hrs HW=681.87' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 46.31 cfs @ 9.43 fps)

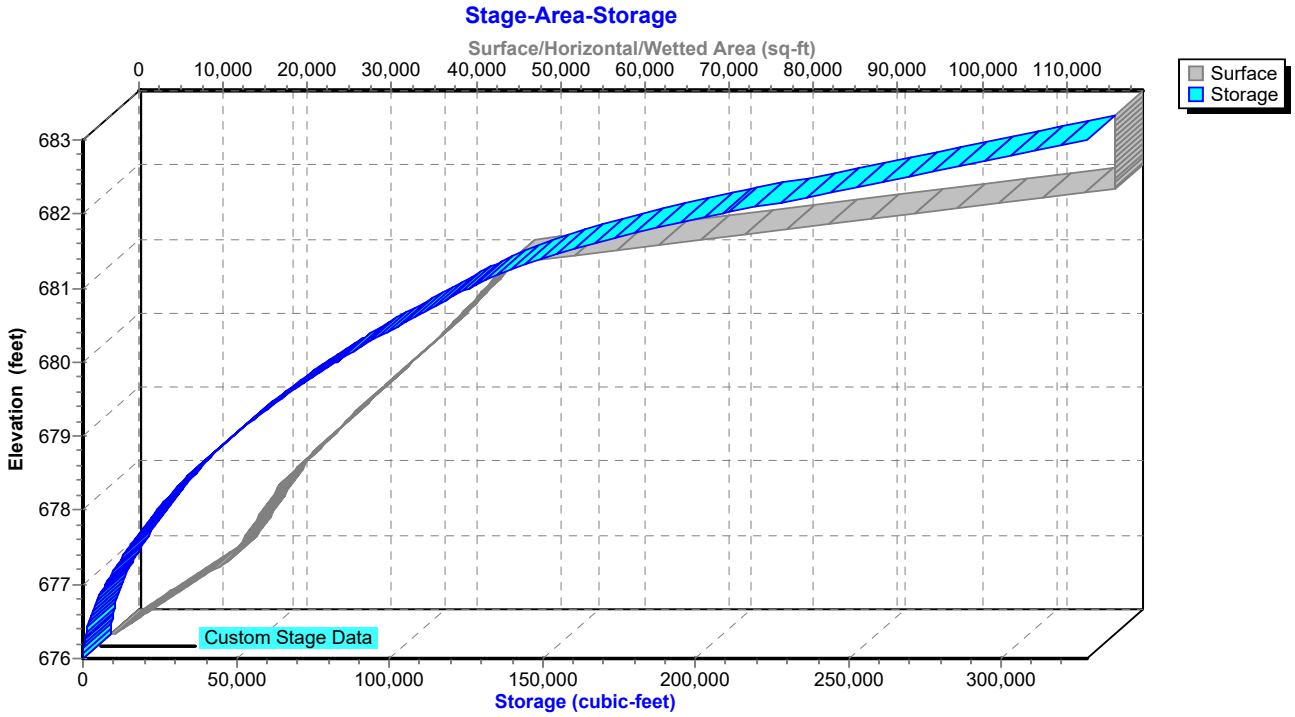
Pond POND1P: PROP POND



Pond POND1P: PROP POND



Pond POND1P: PROP POND



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment DA 1: BASIN 1 PRE Runoff Area=143.000 ac 1.75% Impervious Runoff Depth=4.89"
Flow Length=5,750' Tc=143.0 min CN=75 Runoff=198.72 cfs 2,537,591 cf

Subcatchment DA 2: BASIN 2 PRE Runoff Area=34.900 ac 0.00% Impervious Runoff Depth=3.43"
Flow Length=2,150' Slope=0.0150 '/' Tc=62.3 min CN=62 Runoff=58.90 cfs 433,944 cf

Subcatchment DA 3: BASIN 3 PRE Runoff Area=9.540 ac 0.00% Impervious Runoff Depth=4.55"
Flow Length=500' Slope=0.0200 '/' Tc=20.2 min CN=72 Runoff=36.61 cfs 157,415 cf

Subcatchment DA 4: BASIN 4 PRE Runoff Area=41.500 ac 0.00% Impervious Runoff Depth=4.32"
Flow Length=1,500' Tc=50.3 min CN=70 Runoff=100.52 cfs 650,568 cf

Subcatchment DA1P: BASIN 1 PROPOSED Runoff Area=143.000 ac 1.75% Impervious Runoff Depth=4.89"
Flow Length=5,750' Tc=143.0 min CN=75 Runoff=198.72 cfs 2,537,591 cf

Subcatchment DA2P: BASIN 2 PROPOSED Runoff Area=34.900 ac 0.00% Impervious Runoff Depth=3.43"
Flow Length=2,150' Slope=0.0150 '/' Tc=62.3 min CN=62 Runoff=58.90 cfs 433,944 cf

Subcatchment DA3P: BASIN 3 PRE Runoff Area=2.130 ac 0.00% Impervious Runoff Depth=5.35"
Tc=5.0 min CN=79 Runoff=15.32 cfs 41,364 cf

Subcatchment DA4A: BASIN 4A PROPOSED Runoff Area=4.970 ac 0.00% Impervious Runoff Depth=4.09"
Flow Length=300' Tc=28.4 min CN=68 Runoff=14.78 cfs 73,840 cf

Subcatchment DA4B: BASIN 4B Runoff Area=12.210 ac 24.57% Impervious Runoff Depth=7.35"
Flow Length=1,000' Tc=33.8 min CN=96 Runoff=55.10 cfs 325,825 cf

Subcatchment DA4C: BASIN 4C PROPOSED Runoff Area=1.090 ac 0.00% Impervious Runoff Depth=7.35"
Tc=5.0 min CN=96 Runoff=9.74 cfs 29,087 cf

Subcatchment DA4D: BASIN 4D PROPOSED Runoff Area=1.480 ac 0.00% Impervious Runoff Depth=7.35"
Tc=5.0 min CN=96 Runoff=13.22 cfs 39,494 cf

Subcatchment DA4E1: BASIN 4E1 Runoff Area=8.360 ac 11.96% Impervious Runoff Depth=3.65"
Flow Length=500' Tc=28.1 min CN=64 Runoff=22.04 cfs 110,649 cf

Subcatchment DA4E2: BASIN 4E2 Runoff Area=17.400 ac 0.00% Impervious Runoff Depth=4.21"
Flow Length=1,000' Tc=41.1 min CN=69 Runoff=45.24 cfs 265,631 cf

Reach CD4C: Cross Drain 4C Avg. Flow Depth=0.53' Max Vel=16.73 fps Inflow=9.33 cfs 29,087 cf
18.0" Round Pipe n=0.011 L=60.0' S=0.0792 '/' Capacity=34.93 cfs Outflow=9.33 cfs 29,087 cf

Reach D4C: Ditch 4C Avg. Flow Depth=0.92' Max Vel=3.06 fps Inflow=9.74 cfs 29,087 cf
n=0.033 L=313.0' S=0.0104 '/' Capacity=27.19 cfs Outflow=9.33 cfs 29,087 cf

Reach D4D: Ditch 4D Avg. Flow Depth=0.98' Max Vel=3.79 fps Inflow=13.22 cfs 39,494 cf
n=0.033 L=337.0' S=0.0148 '/' Capacity=32.50 cfs Outflow=12.79 cfs 39,494 cf

Reach D4E1: Ditch 4E1 Avg. Flow Depth=1.53' Max Vel=3.11 fps Inflow=22.04 cfs 110,649 cf
n=0.033 L=740.0' S=0.0061 '/' Capacity=103.92 cfs Outflow=21.65 cfs 110,649 cf

Reach OF4: Primary Stream for Avg. Flow Depth=3.27' Max Vel=4.89 fps Inflow=258.38 cfs 3,779,517 cf
n=0.035 L=1,000.0' S=0.0050 '/' Capacity=640.46 cfs Outflow=258.22 cfs 3,779,517 cf

Reach OF4P: Primary Stream for Avg. Flow Depth=3.33' Max Vel=4.95 fps Inflow=268.87 cfs 3,856,857 cf
n=0.035 L=1,000.0' S=0.0050 '/' Capacity=640.46 cfs Outflow=268.53 cfs 3,856,855 cf

Pond CD2: Cross Drain Peak Elev=684.90' Inflow=58.90 cfs 433,944 cf
36.0" Round Culvert n=0.011 L=50.0' S=0.0050 '/' Outflow=58.90 cfs 433,944 cf

Pond CD4DCE: Cross Drain 4DCE Peak Elev=681.83' Inflow=71.43 cfs 444,860 cf
48.0" Round Culvert n=0.011 L=360.0' S=0.0052 '/' Outflow=71.43 cfs 444,860 cf

Pond CD4E: Cross Drain 4E Peak Elev=682.94' Inflow=65.51 cfs 376,280 cf
48.0" Round Culvert n=0.011 L=200.0' S=0.0052 '/' Outflow=65.51 cfs 376,280 cf

Pond POND1P: PROP POND Peak Elev=682.27' Storage=240,344 cf Inflow=125.53 cfs 770,685 cf
30.0" Round Culvert n=0.011 L=50.0' S=0.0050 '/' Outflow=48.37 cfs 770,118 cf

Total Runoff Area = 19,797,149 sf Runoff Volume = 7,636,942 cf Average Runoff Depth = 4.63"
98.02% Pervious = 19,405,109 sf 1.98% Impervious = 392,040 sf

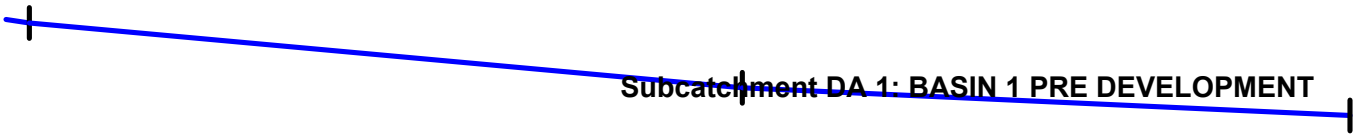
Summary for Subcatchment DA 1: BASIN 1 PRE DEVELOPMENT

Runoff = 198.72 cfs @ 13.82 hrs, Volume= 2,537,591 cf, Depth= 4.89"
Routed to Reach OF4 : Primary Stream for Outfalls

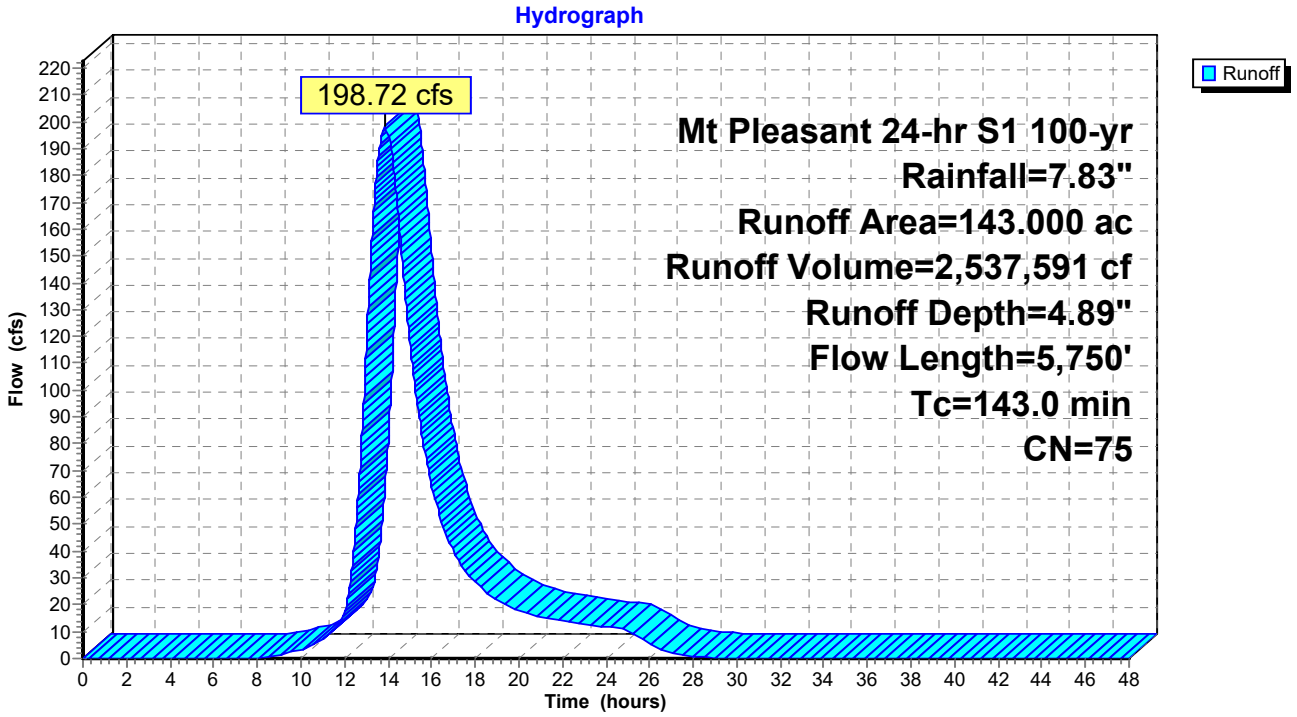
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
69.500	74	>75% Grass cover, Good, HSG C
71.000	76	Woods/grass comb., Fair, HSG C
2.500	98	Paved parking, HSG C
143.000	75	Weighted Average
140.500		98.25% Pervious Area
2.500		1.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.4	100	0.0200	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
92.8	3,050	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	2,600	0.0060	2.93	11.71	**Channel Flow,** Area= 4.0 sf Perim= 6.0' r= 0.67' n= 0.030
143.0	5,750	Total			



Subcatchment DA 1: BASIN 1 PRE DEVELOPMENT



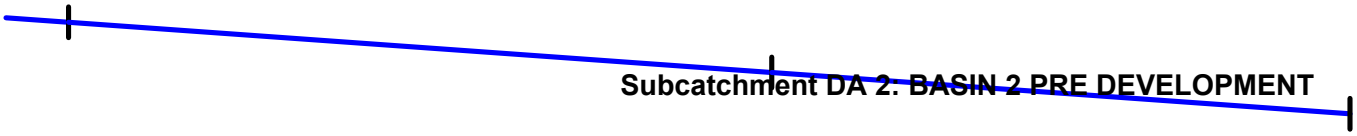
Summary for Subcatchment DA 2: BASIN 2 PRE DEVELOPMENT

Runoff = 58.90 cfs @ 12.88 hrs, Volume= 433,944 cf, Depth= 3.43"
Routed to Reach OF4 : Primary Stream for Outfalls

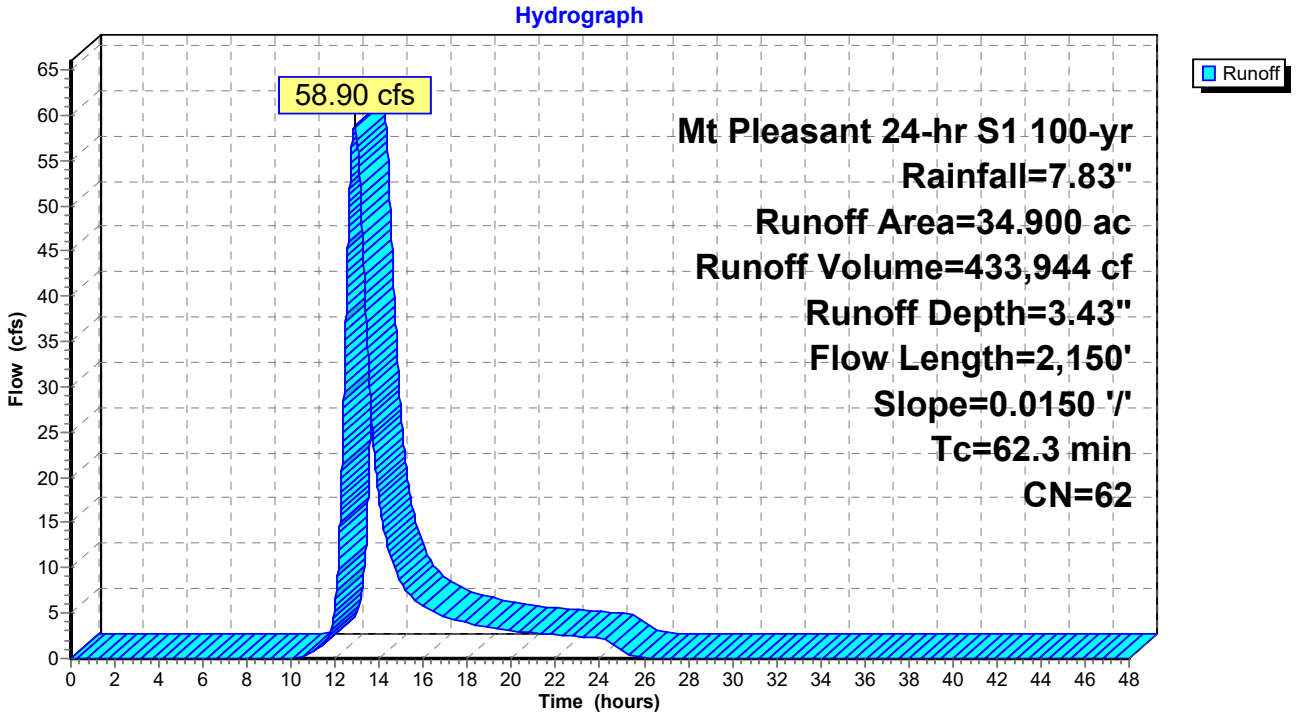
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
17.450	58	Meadow, non-grazed, HSG B
14.450	60	Woods, Fair, HSG B
3.000	96	Gravel surface, HSG C
34.900	62	Weighted Average
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0150	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
21.9	1,125	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	925	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.3	2,150	Total			



Subcatchment DA 2: BASIN 2 PRE DEVELOPMENT



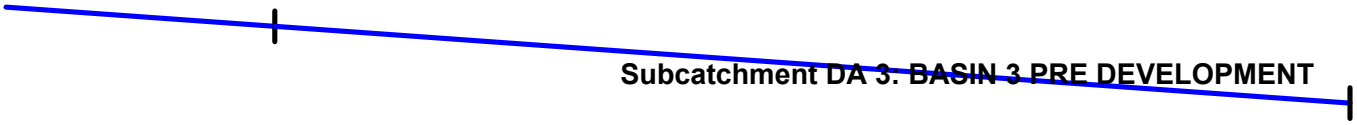
Summary for Subcatchment DA 3: BASIN 3 PRE DEVELOPMENT

Runoff = 36.61 cfs @ 12.24 hrs, Volume= 157,415 cf, Depth= 4.55"
Routed to Reach OF4 : Primary Stream for Outfalls

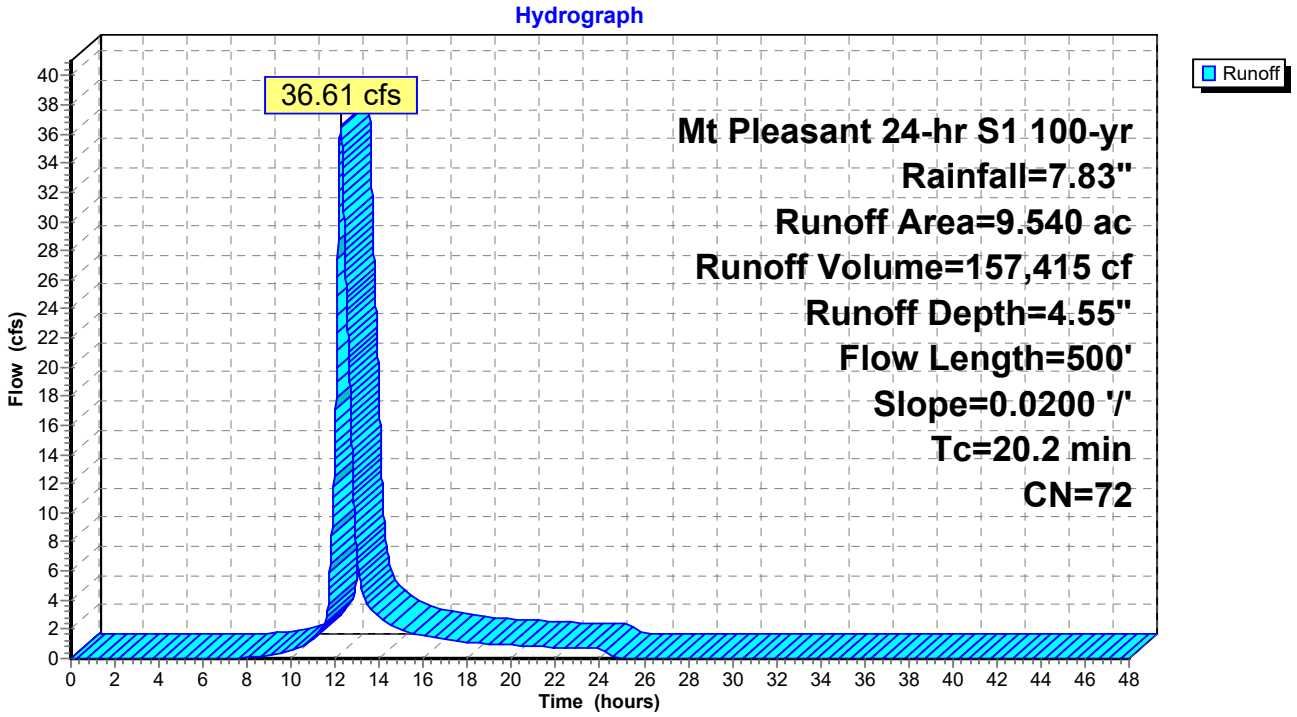
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
3.340	78	Meadow, non-grazed, HSG D
3.340	79	Woods, Fair, HSG D
2.290	58	Meadow, non-grazed, HSG B
0.570	60	Woods, Fair, HSG B
9.540	72	Weighted Average
9.540		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0200	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
6.7	400	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.2	500	Total			



Subcatchment DA 3: BASIN 3 PRE DEVELOPMENT



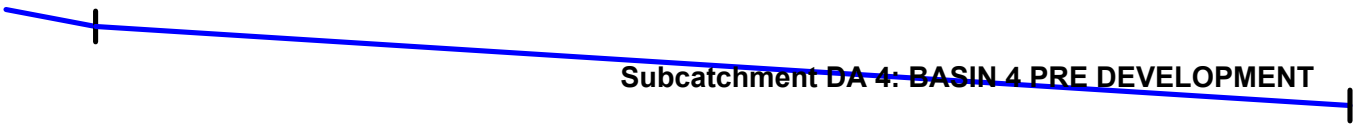
Summary for Subcatchment DA 4: BASIN 4 PRE DEVELOPMENT

Runoff = 100.52 cfs @ 12.69 hrs, Volume= 650,568 cf, Depth= 4.32"
Routed to Reach OF4 : Primary Stream for Outfalls

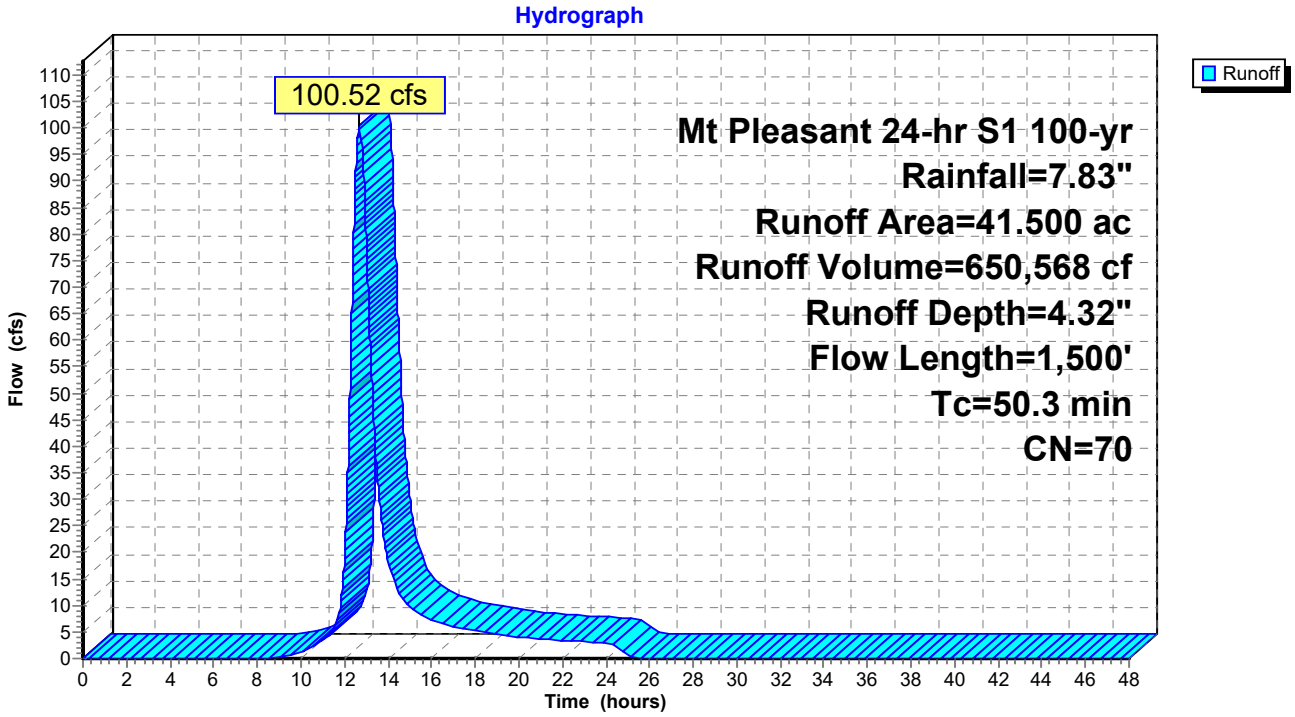
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
7.300	78	Meadow, non-grazed, HSG D
1.830	79	Woods, Fair, HSG D
7.640	58	Meadow, non-grazed, HSG B
1.910	60	Woods, Fair, HSG B
4.150	73	Woods, Fair, HSG C
9.960	71	Meadow, non-grazed, HSG C
2.490	73	Woods, Fair, HSG C
4.970	71	Meadow, non-grazed, HSG C
1.250	73	Woods, Fair, HSG C
41.500	70	Weighted Average
41.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
25.8	1,400	0.0167	0.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
50.3	1,500	Total			



Subcatchment DA 4: BASIN 4 PRE DEVELOPMENT



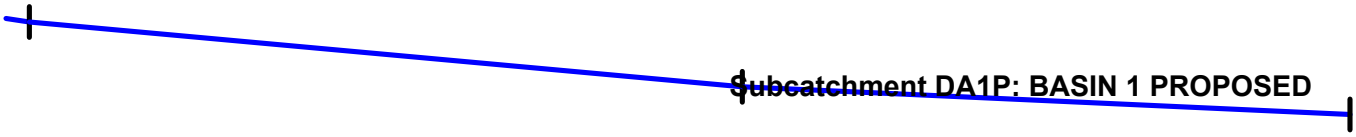
Summary for Subcatchment DA1P: BASIN 1 PROPOSED

Runoff = 198.72 cfs @ 13.82 hrs, Volume= 2,537,591 cf, Depth= 4.89"
Routed to Reach OF4P : Primary Stream for Outfalls

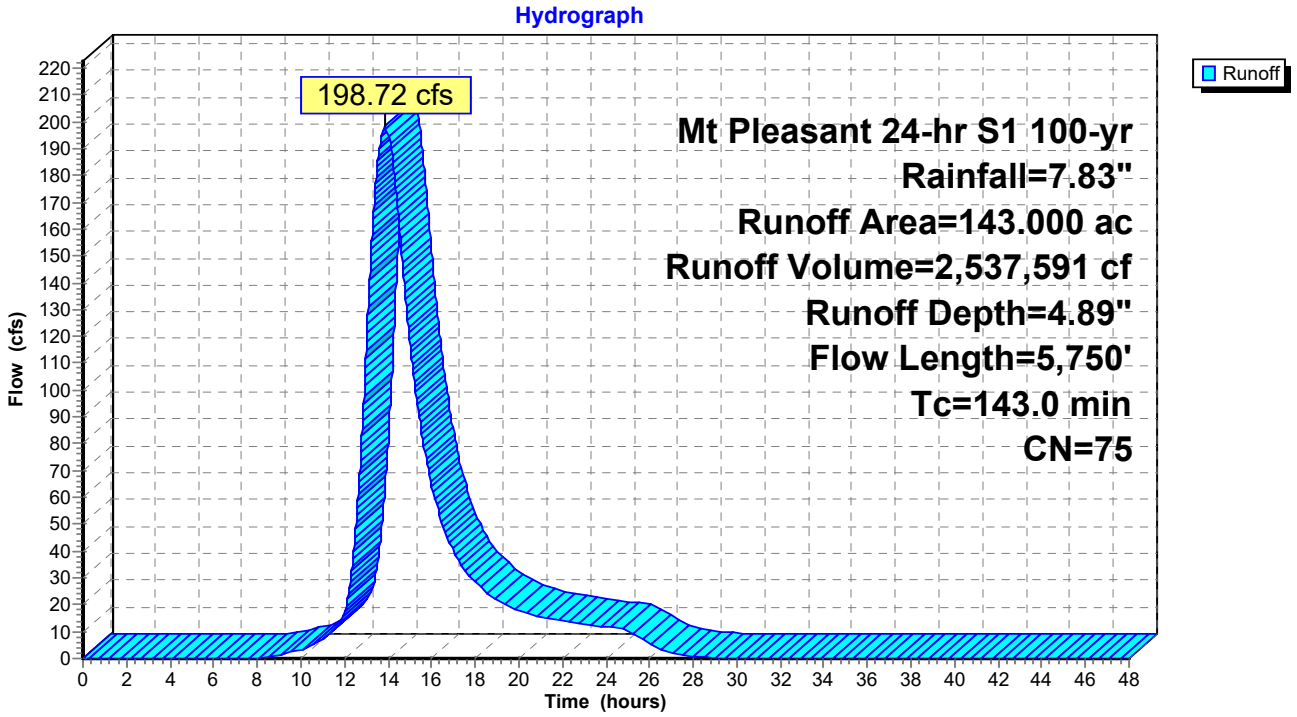
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
69.500	74	>75% Grass cover, Good, HSG C
71.000	76	Woods/grass comb., Fair, HSG C
2.500	98	Paved parking, HSG C
143.000	75	Weighted Average
140.500		98.25% Pervious Area
2.500		1.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.4	100	0.0200	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
92.8	3,050	0.0120	0.55		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.8	2,600	0.0060	2.93	11.71	**Channel Flow,** Area= 4.0 sf Perim= 6.0' r= 0.67' n= 0.030
143.0	5,750	Total			



Subcatchment DA1P: BASIN 1 PROPOSED



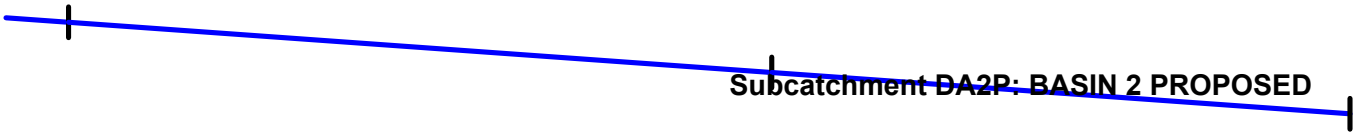
Summary for Subcatchment DA2P: BASIN 2 PROPOSED

Runoff = 58.90 cfs @ 12.88 hrs, Volume= 433,944 cf, Depth= 3.43"
Routed to Pond CD2 : Cross Drain

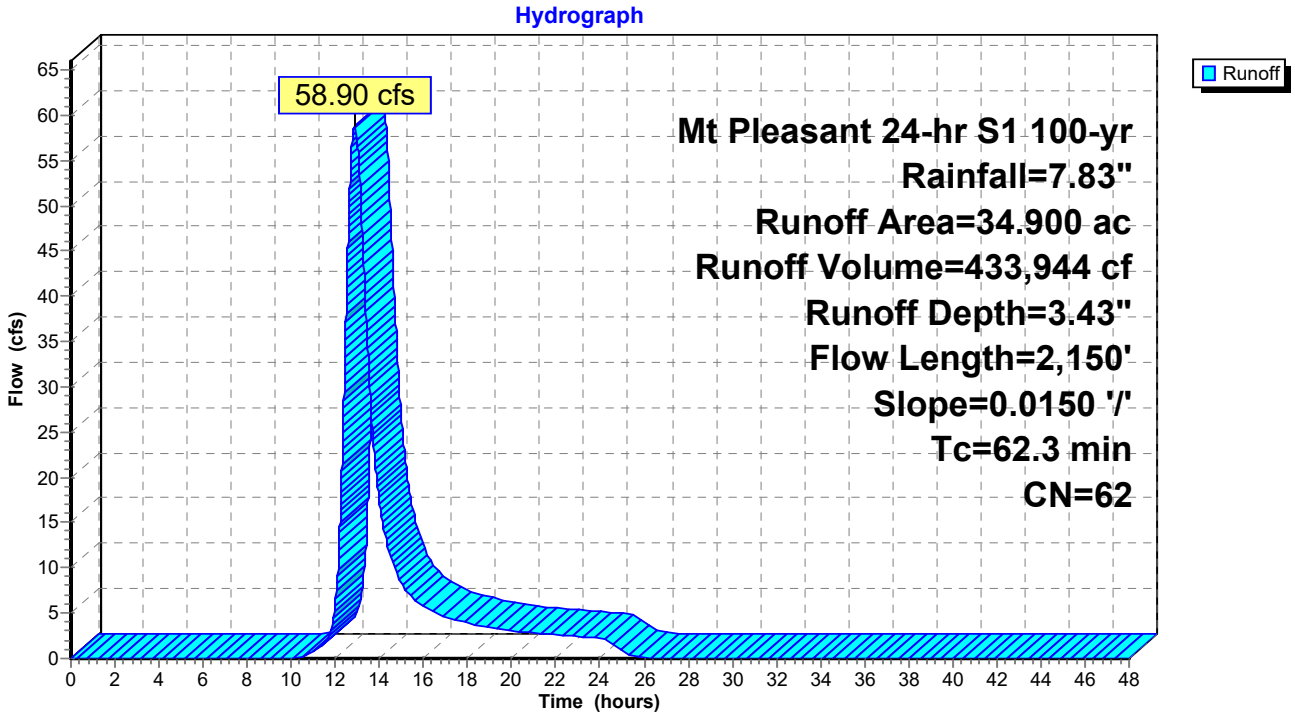
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
17.450	58	Meadow, non-grazed, HSG B
14.450	60	Woods, Fair, HSG B
3.000	96	Gravel surface, HSG C
34.900	62	Weighted Average
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0150	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.57"
21.9	1,125	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	925	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
62.3	2,150	Total			



Subcatchment DA2P: BASIN 2 PROPOSED



Summary for Subcatchment DA3P: BASIN 3 PRE DEVELOPMENT

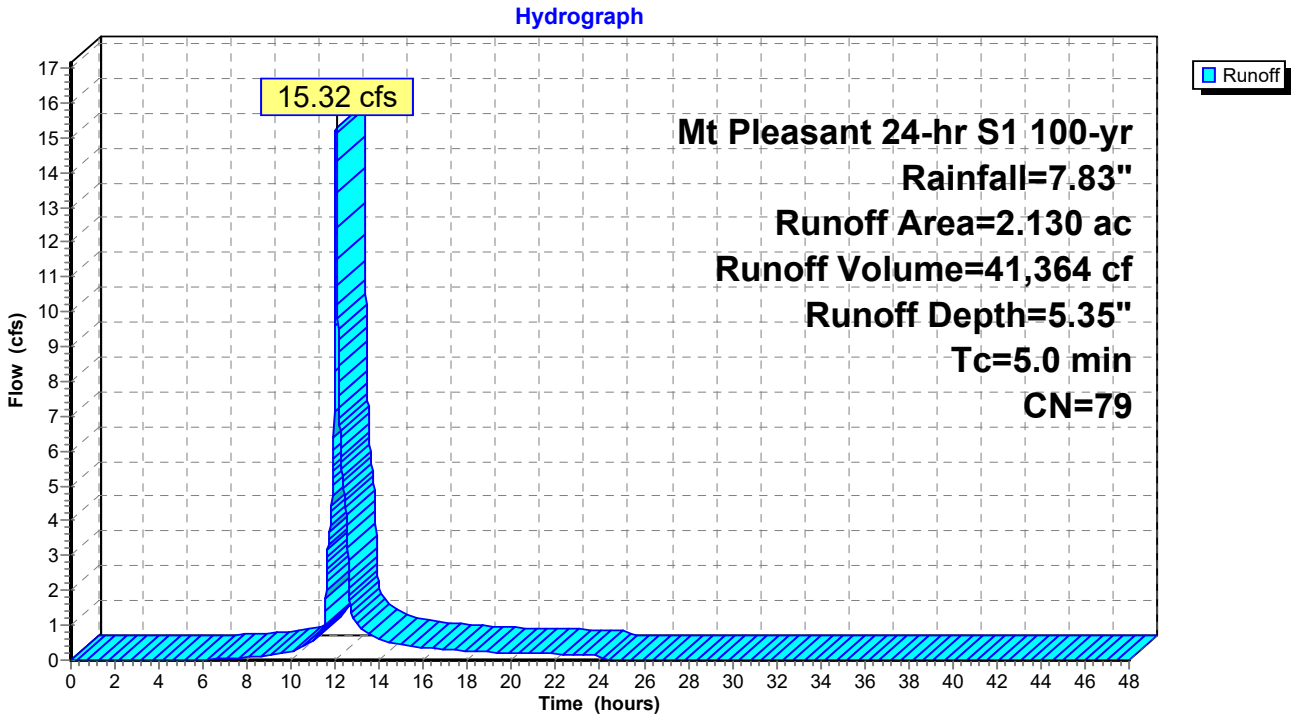
Runoff = 15.32 cfs @ 12.03 hrs, Volume= 41,364 cf, Depth= 5.35"
Routed to Reach OF4P : Primary Stream for Outfalls

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
2.130	79	Woods, Fair, HSG D
2.130		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA3P: BASIN 3 PRE DEVELOPMENT



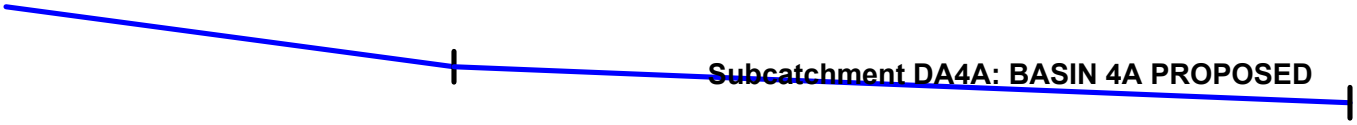
Summary for Subcatchment DA4A: BASIN 4A PROPOSED

Runoff = 14.78 cfs @ 12.37 hrs, Volume= 73,840 cf, Depth= 4.09"
Routed to Reach OF4P : Primary Stream for Outfalls

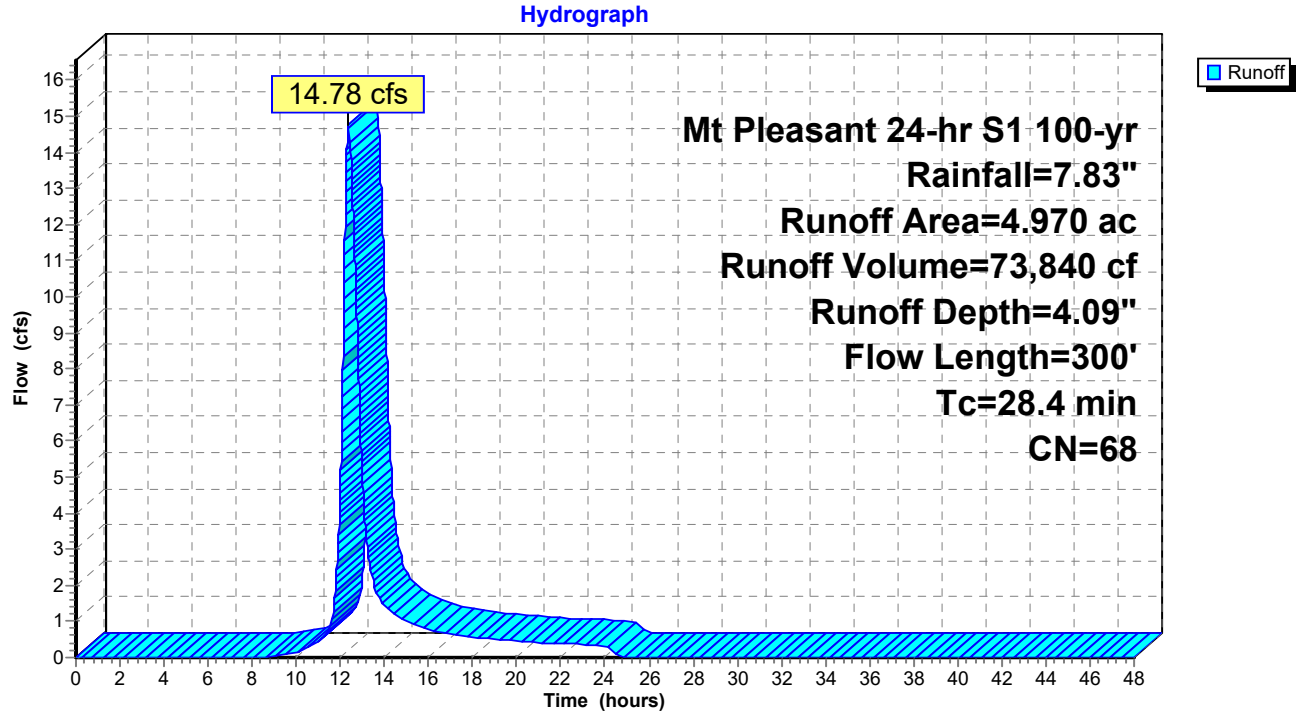
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
1.910	60	Woods, Fair, HSG B
3.060	73	Woods, Fair, HSG C
4.970	68	Weighted Average
4.970		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
3.9	200	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
28.4	300	Total			



Subcatchment DA4A: BASIN 4A PROPOSED



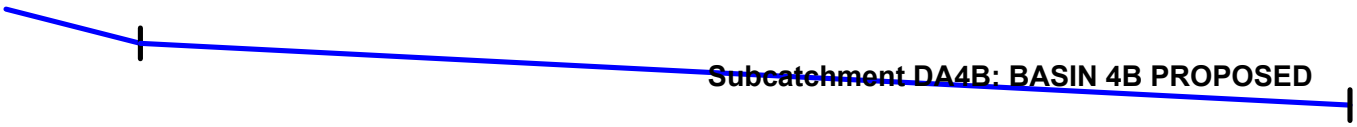
Summary for Subcatchment DA4B: BASIN 4B PROPOSED

Runoff = 55.10 cfs @ 12.42 hrs, Volume= 325,825 cf, Depth= 7.35"
Routed to Pond POND1P : PROP POND

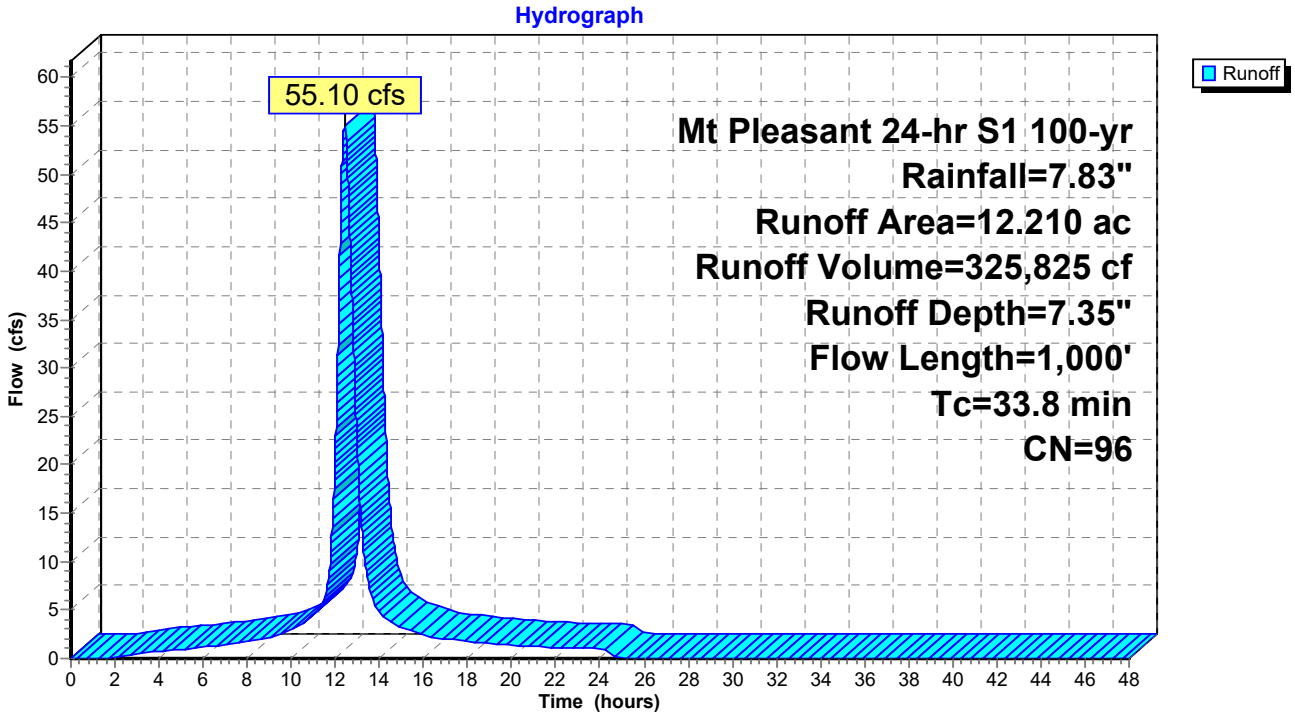
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
9.210	96	Gravel surface, HSG C
1.000	98	Paved parking, HSG D
2.000	98	Roofs, HSG D
12.210	96	Weighted Average
9.210		75.43% Pervious Area
3.000		24.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** n= 0.800 P2= 3.57"
9.3	900	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
33.8	1,000	Total			



Subcatchment DA4B: BASIN 4B PROPOSED



Summary for Subcatchment DA4C: BASIN 4C PROPOSED

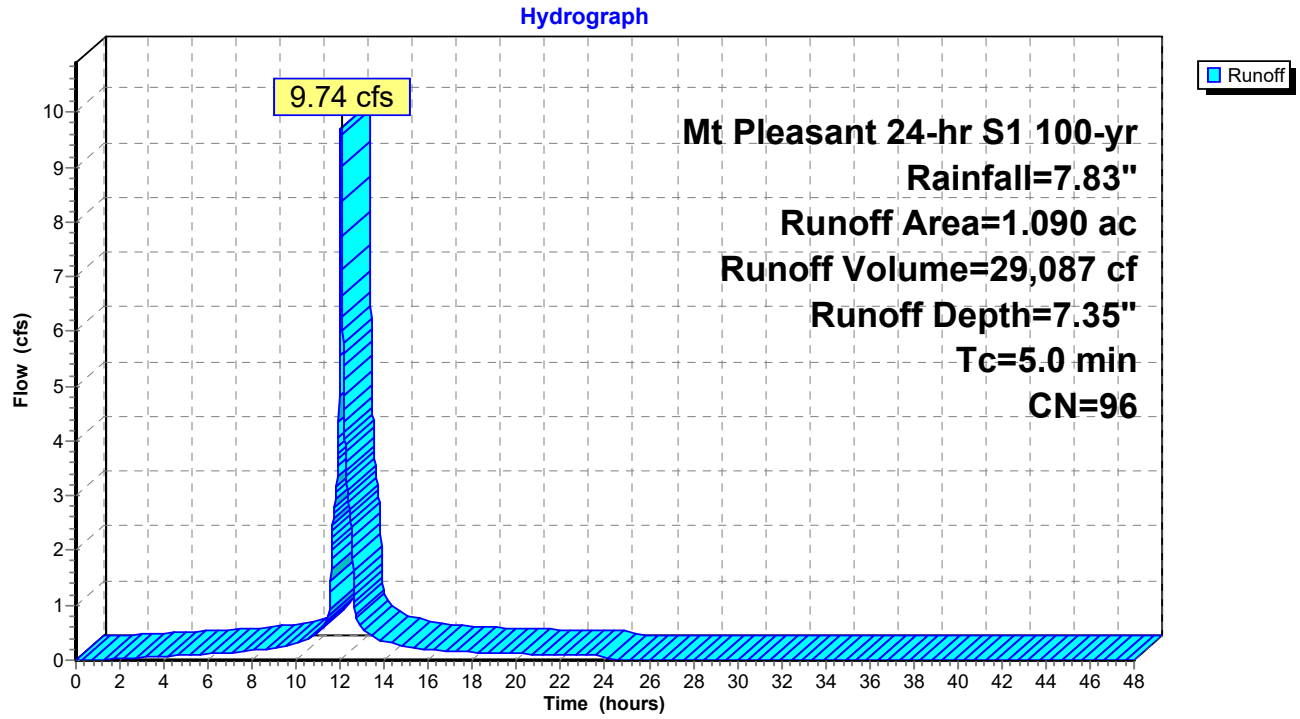
Runoff = 9.74 cfs @ 12.03 hrs, Volume= 29,087 cf, Depth= 7.35"
Routed to Reach D4C : Ditch 4C

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
1.090	96	Gravel surface, HSG C
1.090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA4C: BASIN 4C PROPOSED



Summary for Subcatchment DA4D: BASIN 4D PROPOSED

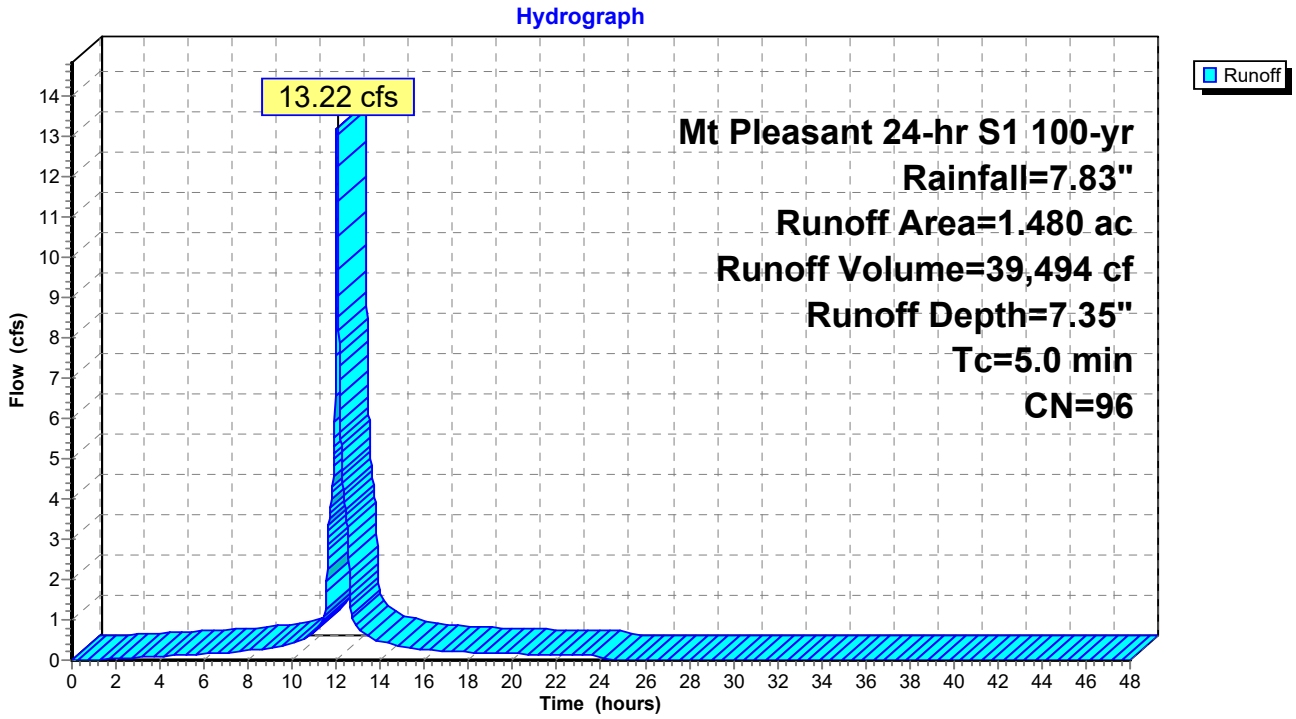
Runoff = 13.22 cfs @ 12.03 hrs, Volume= 39,494 cf, Depth= 7.35"
Routed to Reach D4D : Ditch 4D

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
1.480	96	Gravel surface, HSG C
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment DA4D: BASIN 4D PROPOSED



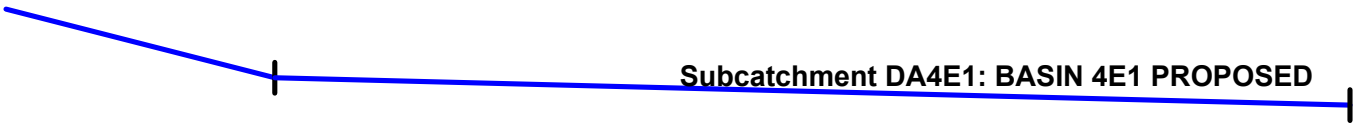
Summary for Subcatchment DA4E1: BASIN 4E1 PROPOSED

Runoff = 22.04 cfs @ 12.37 hrs, Volume= 110,649 cf, Depth= 3.65"
Routed to Reach D4E1 : Ditch 4E1

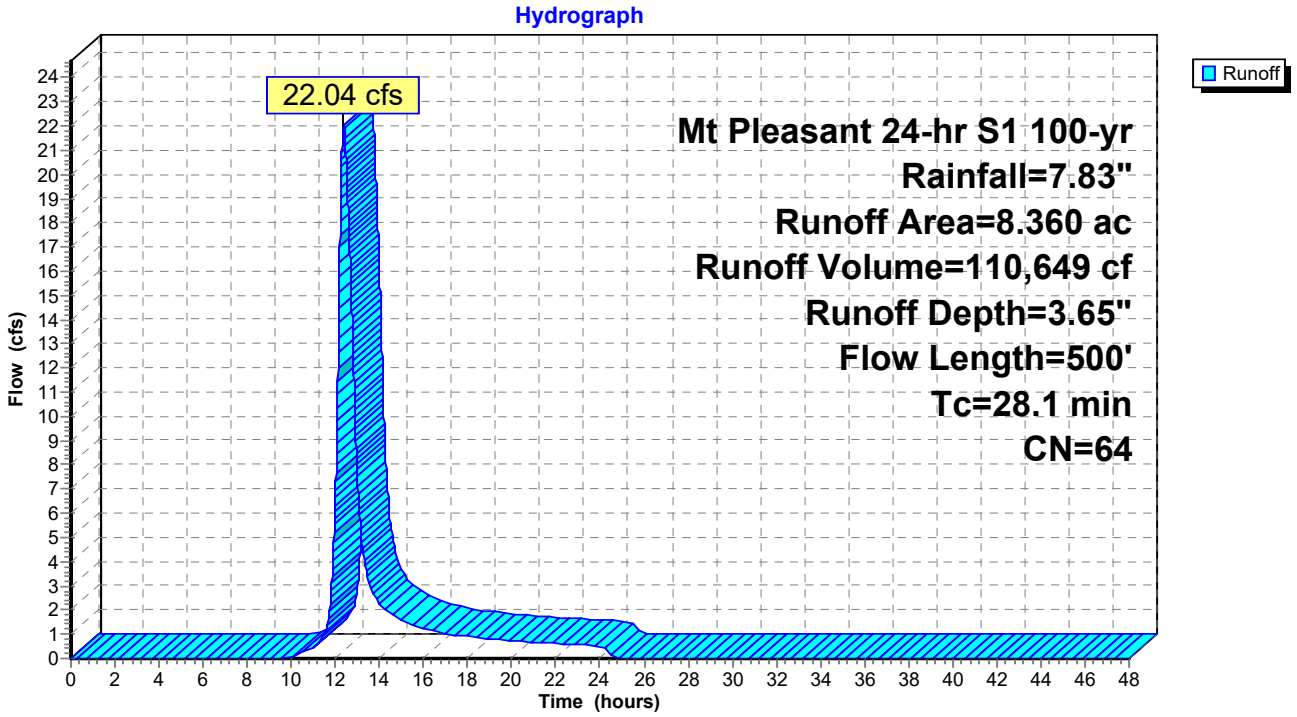
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
3.680	58	Meadow, non-grazed, HSG B
3.680	60	Woods, Fair, HSG B
1.000	98	Paved roads w/curbs & sewers, HSG B
8.360	64	Weighted Average
7.360		88.04% Pervious Area
1.000		11.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.6	100	0.1000	0.09		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
9.5	400	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
28.1	500	Total			



Subcatchment DA4E1: BASIN 4E1 PROPOSED



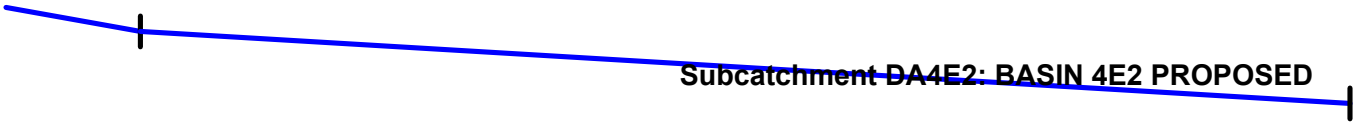
Summary for Subcatchment DA4E2: BASIN 4E2 PROPOSED

Runoff = 45.24 cfs @ 12.56 hrs, Volume= 265,631 cf, Depth= 4.21"
Routed to Pond CD4E : Cross Drain 4E

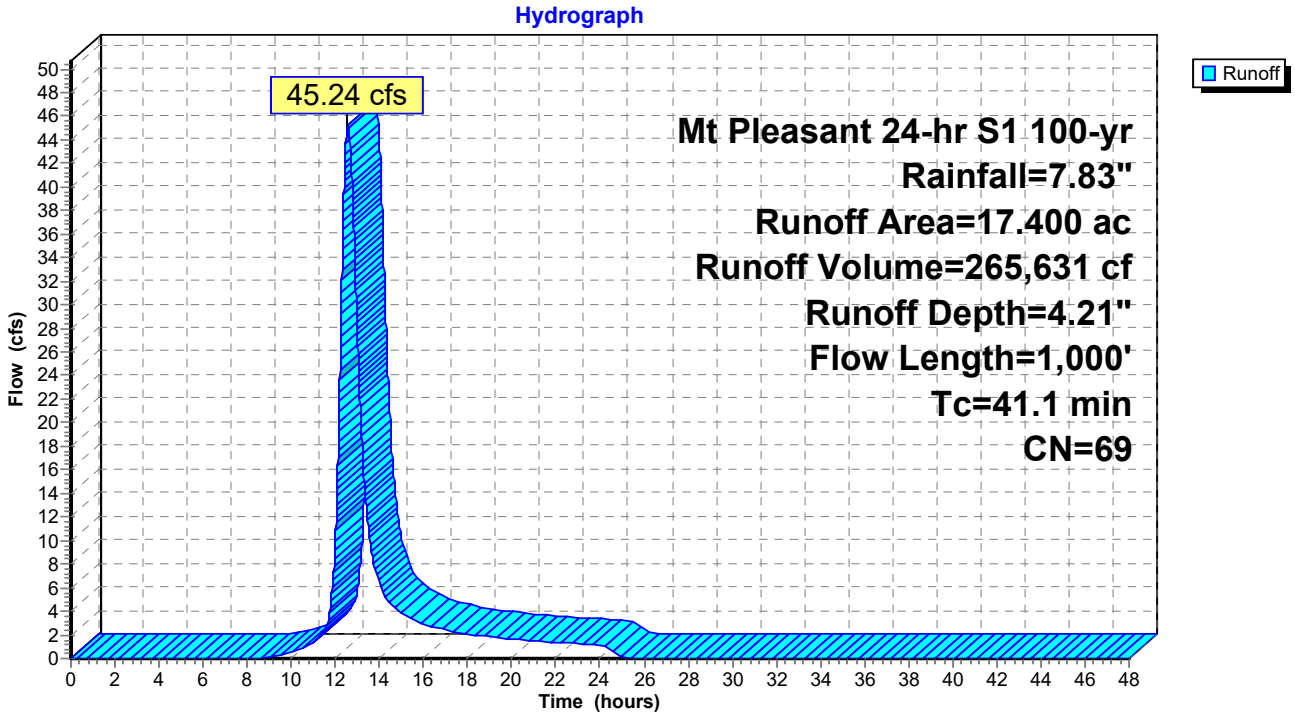
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Mt Pleasant 24-hr S1 100-yr Rainfall=7.83"

Area (ac)	CN	Description
8.700	79	Woods, Fair, HSG D
4.350	58	Meadow, non-grazed, HSG B
4.350	60	Woods, Fair, HSG B
17.400	69	Weighted Average
17.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	100	0.0500	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.57"
16.6	900	0.0167	0.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
41.1	1,000	Total			



Subcatchment DA4E2: BASIN 4E2 PROPOSED



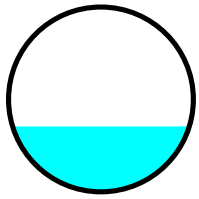
Summary for Reach CD4C: Cross Drain 4C

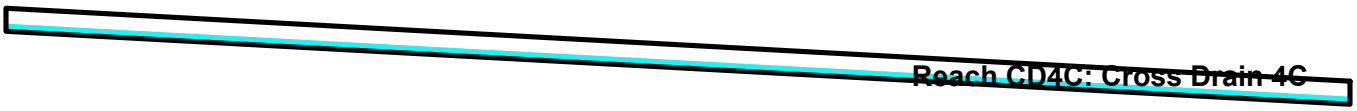
Inflow Area = 47,480 sf, 0.00% Impervious, Inflow Depth = 7.35" for 100-yr event
Inflow = 9.33 cfs @ 12.04 hrs, Volume= 29,087 cf
Outflow = 9.33 cfs @ 12.04 hrs, Volume= 29,087 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond CD4DCE : Cross Drain 4DCE

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 16.73 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 5.09 fps, Avg. Travel Time= 0.2 min

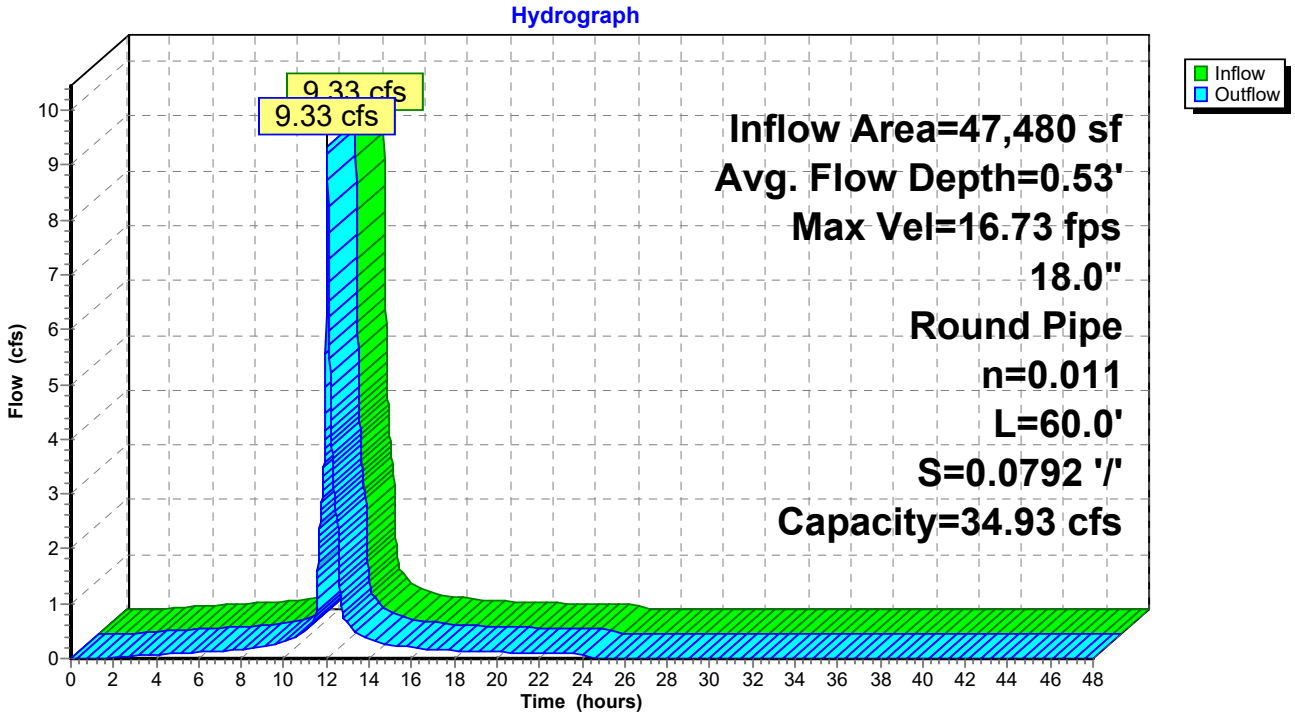
Peak Storage= 33 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.53' , Surface Width= 1.43'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 34.93 cfs

18.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 60.0' Slope= 0.0792 '/'
Inlet Invert= 683.75', Outlet Invert= 679.00'

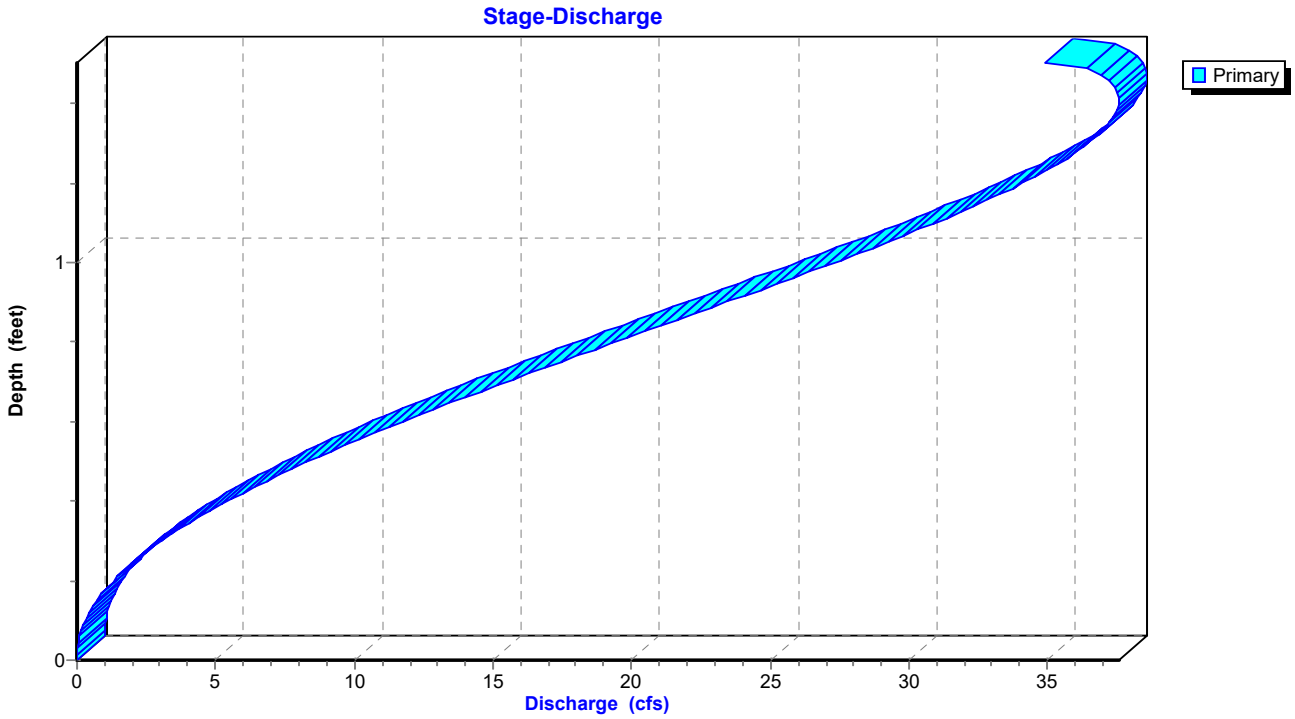




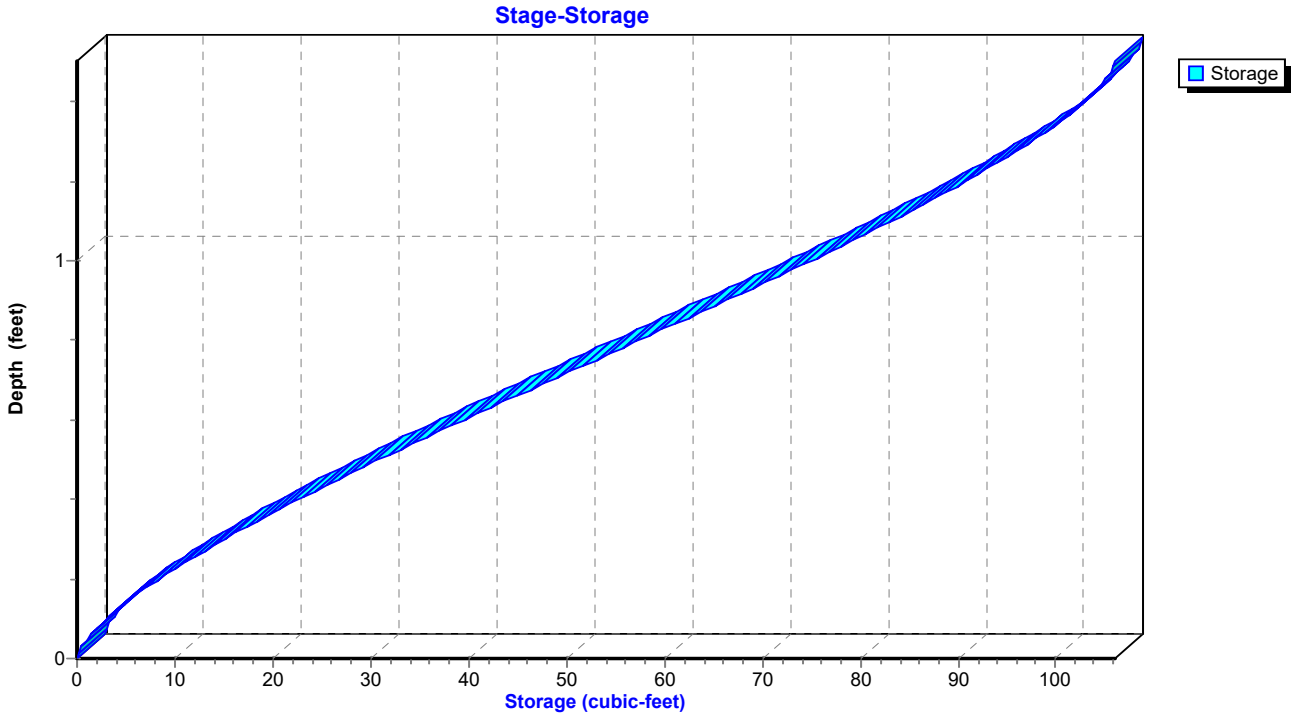
Reach CD4C: Cross Drain 4C



Reach CD4C: Cross Drain 4C



Reach CD4C: Cross Drain 4C



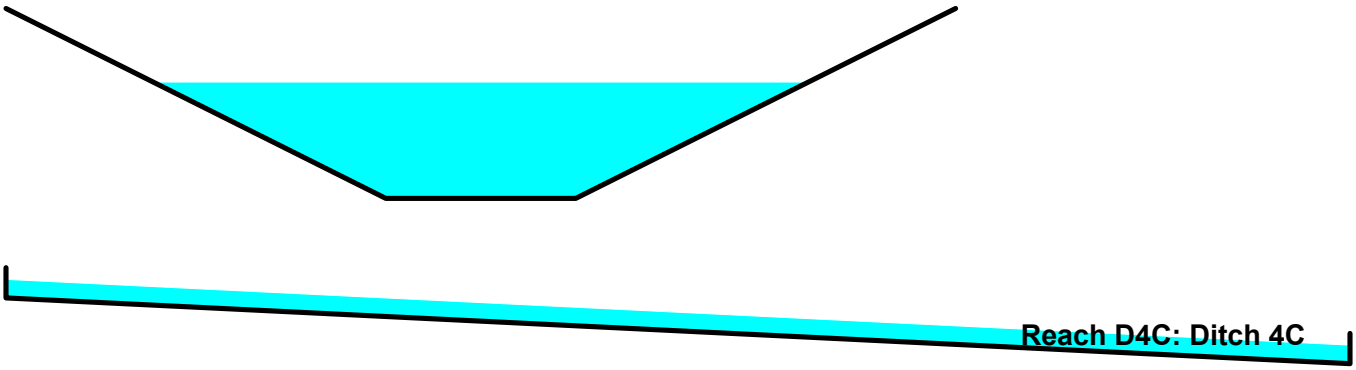
Summary for Reach D4C: Ditch 4C

Inflow Area = 47,480 sf, 0.00% Impervious, Inflow Depth = 7.35" for 100-yr event
Inflow = 9.74 cfs @ 12.03 hrs, Volume= 29,087 cf
Outflow = 9.33 cfs @ 12.04 hrs, Volume= 29,087 cf, Atten= 4%, Lag= 1.1 min
Routed to Reach CD4C : Cross Drain 4C

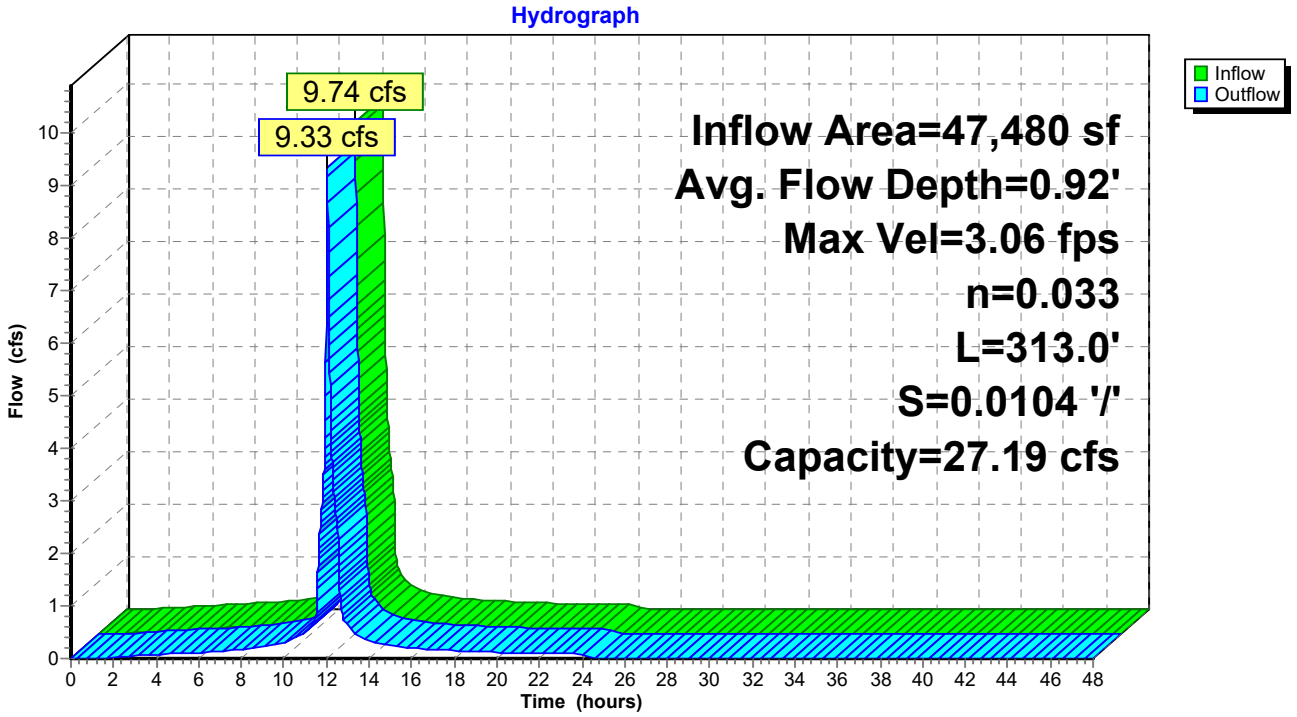
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.06 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.91 fps, Avg. Travel Time= 5.7 min

Peak Storage= 954 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.92' , Surface Width= 5.16'
Bank-Full Depth= 1.50' Flow Area= 6.8 sf, Capacity= 27.19 cfs

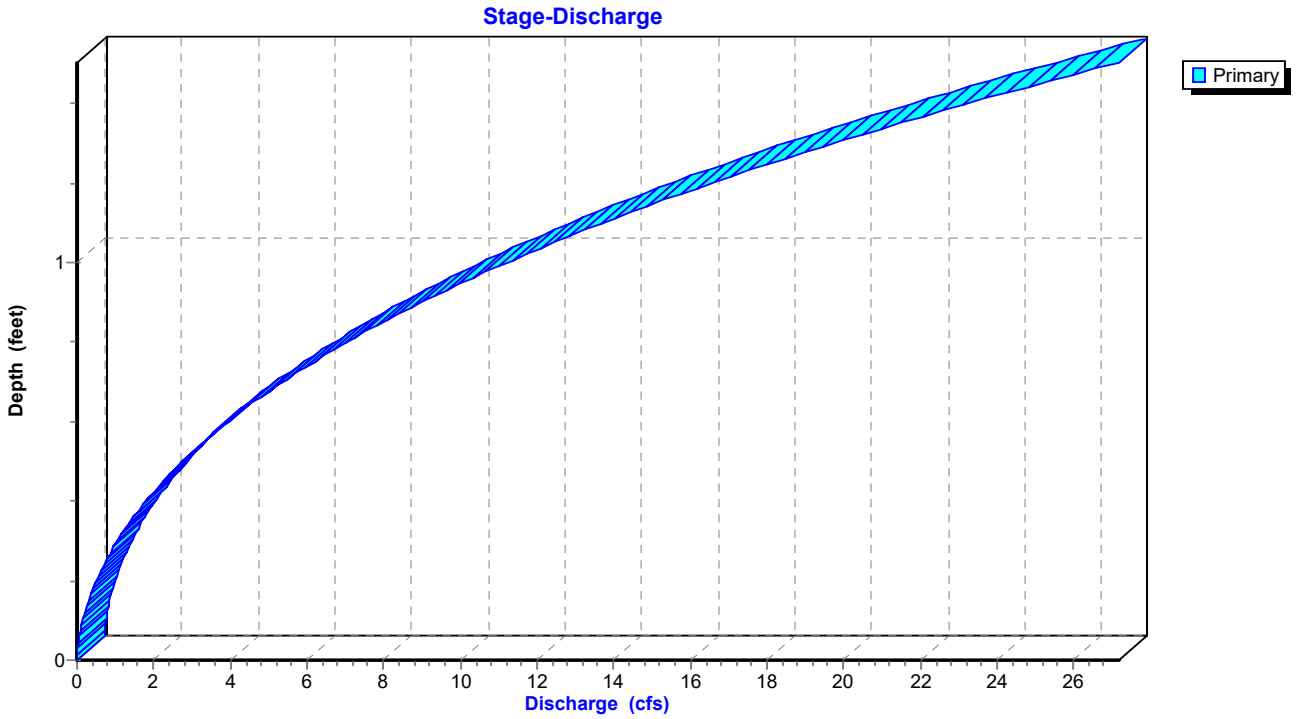
1.50' x 1.50' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 7.50'
Length= 313.0' Slope= 0.0104 '/'
Inlet Invert= 687.00', Outlet Invert= 683.75'



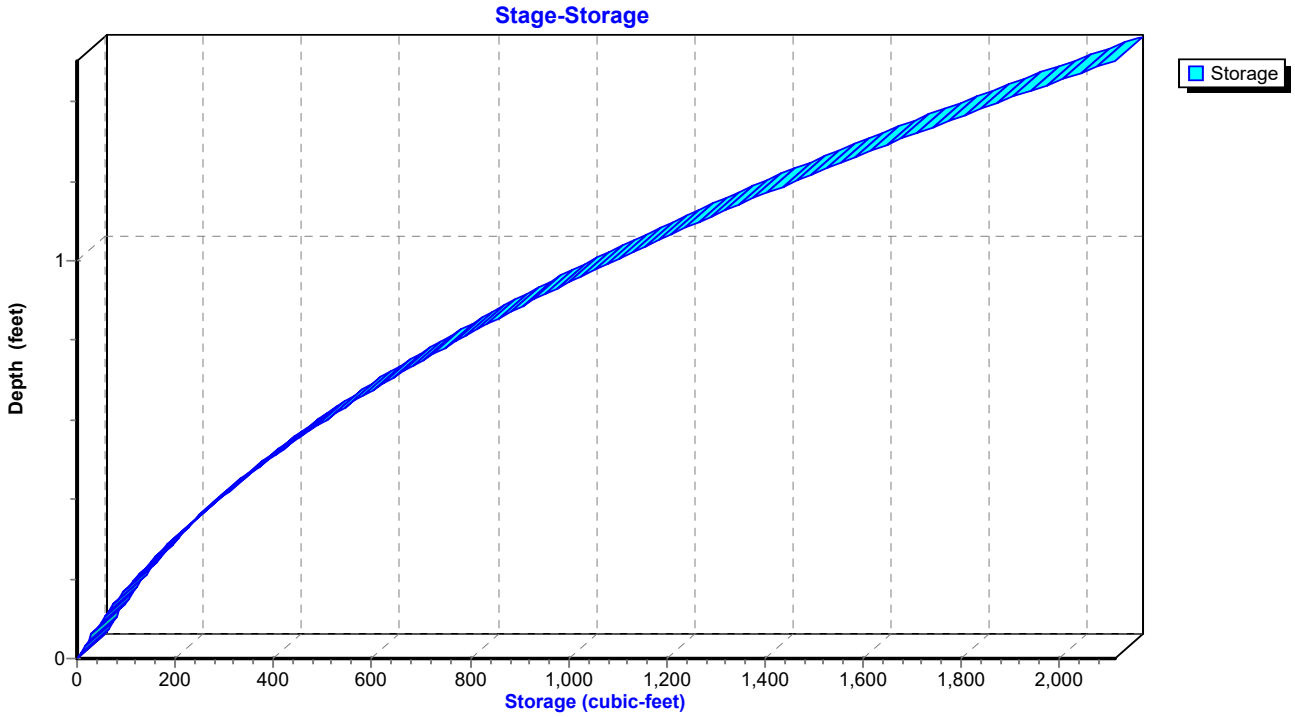
Reach D4C: Ditch 4C



Reach D4C: Ditch 4C



Reach D4C: Ditch 4C



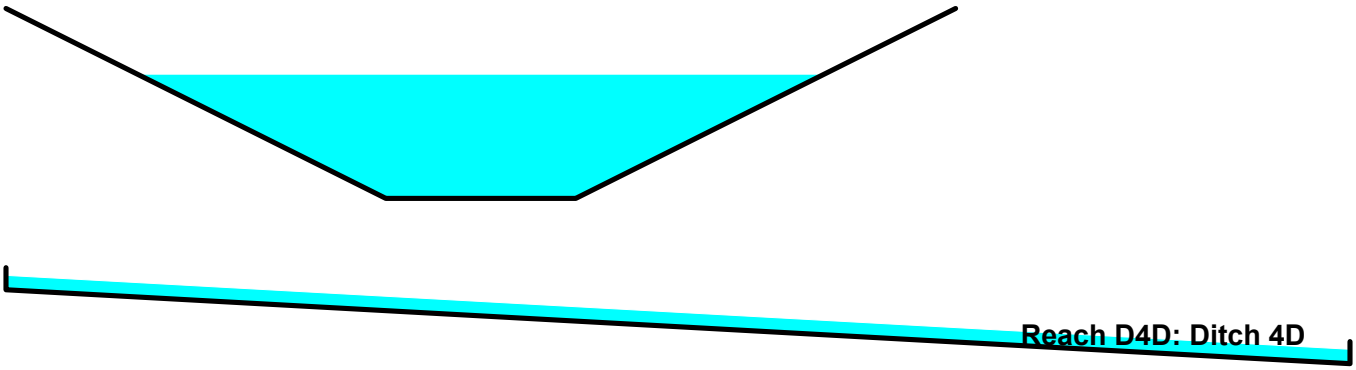
Summary for Reach D4D: Ditch 4D

Inflow Area = 64,469 sf, 0.00% Impervious, Inflow Depth = 7.35" for 100-yr event
Inflow = 13.22 cfs @ 12.03 hrs, Volume= 39,494 cf
Outflow = 12.79 cfs @ 12.04 hrs, Volume= 39,494 cf, Atten= 3%, Lag= 0.9 min
Routed to Pond CD4DCE : Cross Drain 4DCE

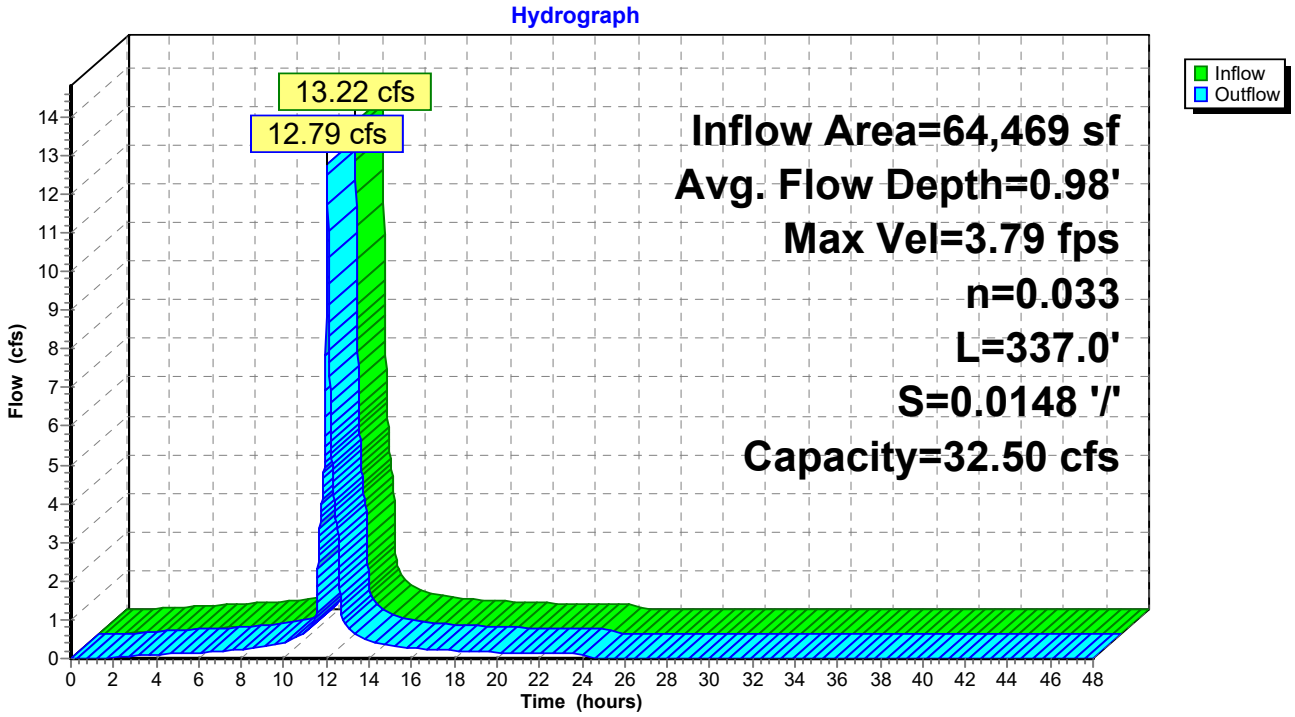
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.79 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.14 fps, Avg. Travel Time= 4.9 min

Peak Storage= 1,137 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.98' , Surface Width= 5.41'
Bank-Full Depth= 1.50' Flow Area= 6.8 sf, Capacity= 32.50 cfs

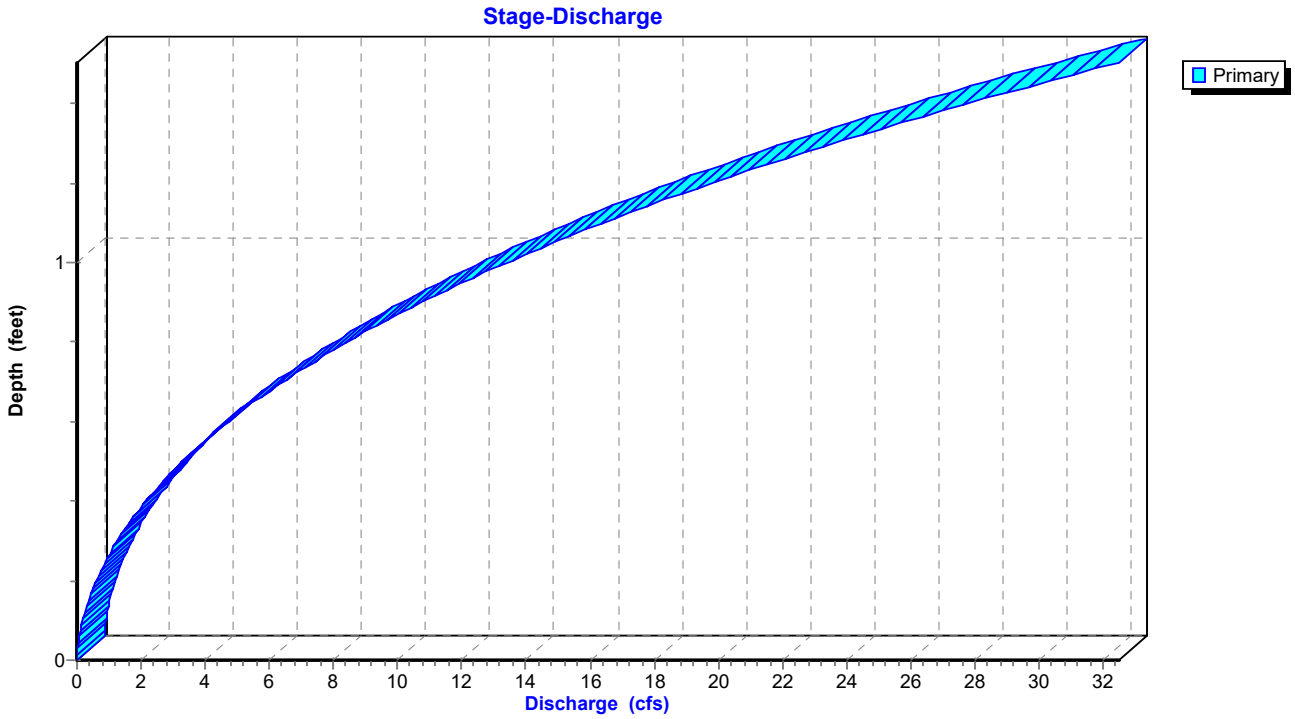
1.50' x 1.50' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 7.50'
Length= 337.0' Slope= 0.0148 '/'
Inlet Invert= 688.00', Outlet Invert= 683.00'



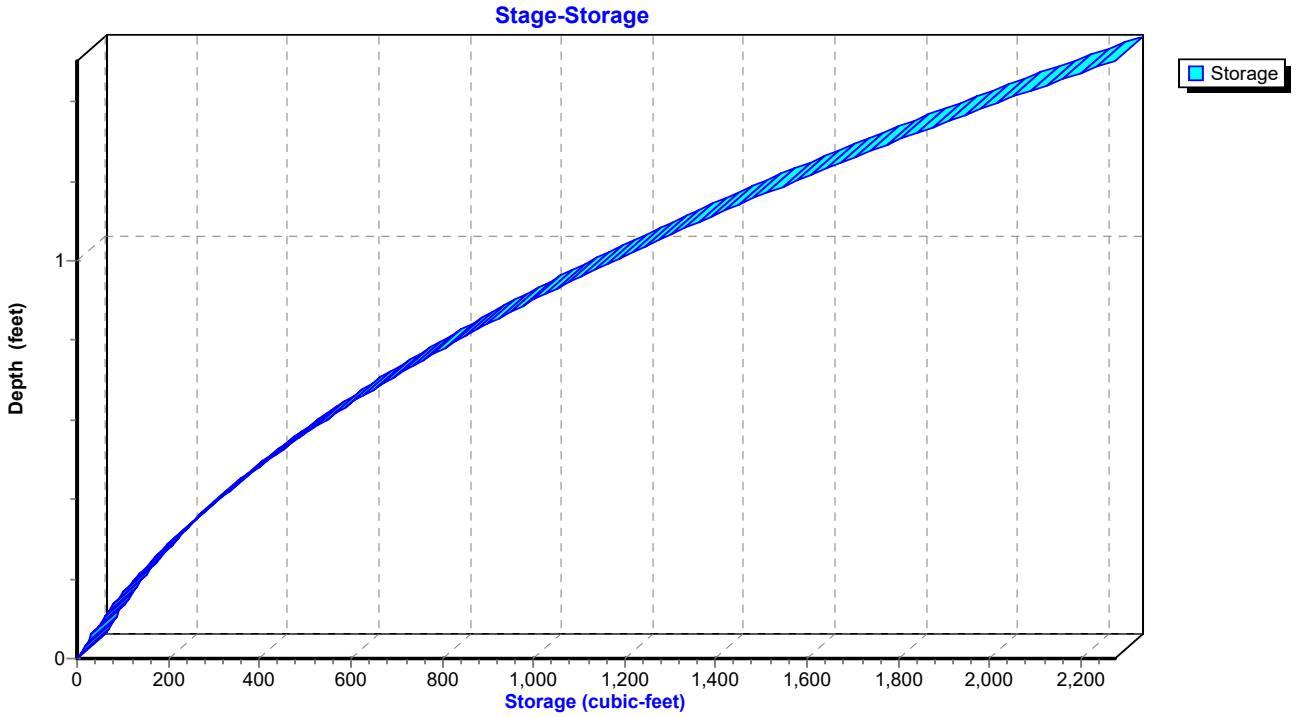
Reach D4D: Ditch 4D



Reach D4D: Ditch 4D



Reach D4D: Ditch 4D



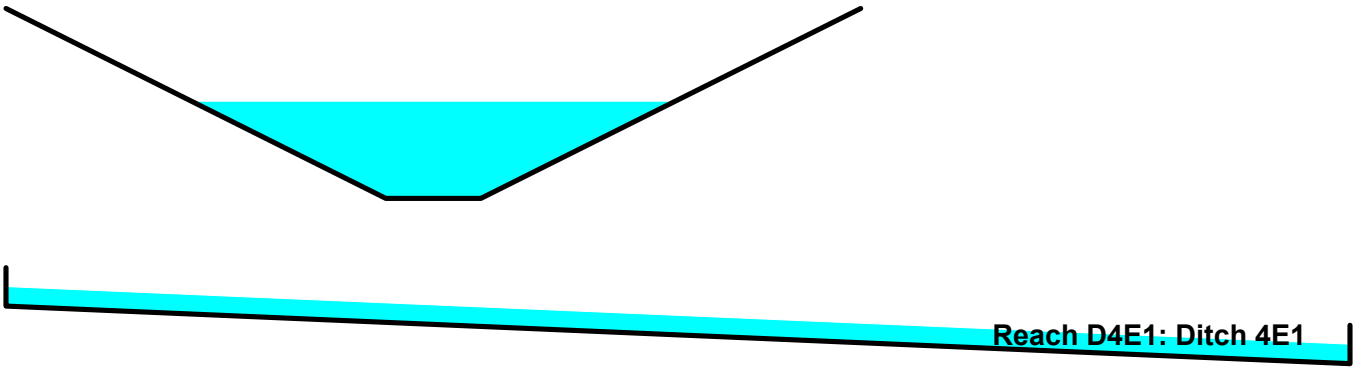
Summary for Reach D4E1: Ditch 4E1

Inflow Area = 364,162 sf, 11.96% Impervious, Inflow Depth = 3.65" for 100-yr event
Inflow = 22.04 cfs @ 12.37 hrs, Volume= 110,649 cf
Outflow = 21.65 cfs @ 12.43 hrs, Volume= 110,649 cf, Atten= 2%, Lag= 3.3 min
Routed to Pond CD4E : Cross Drain 4E

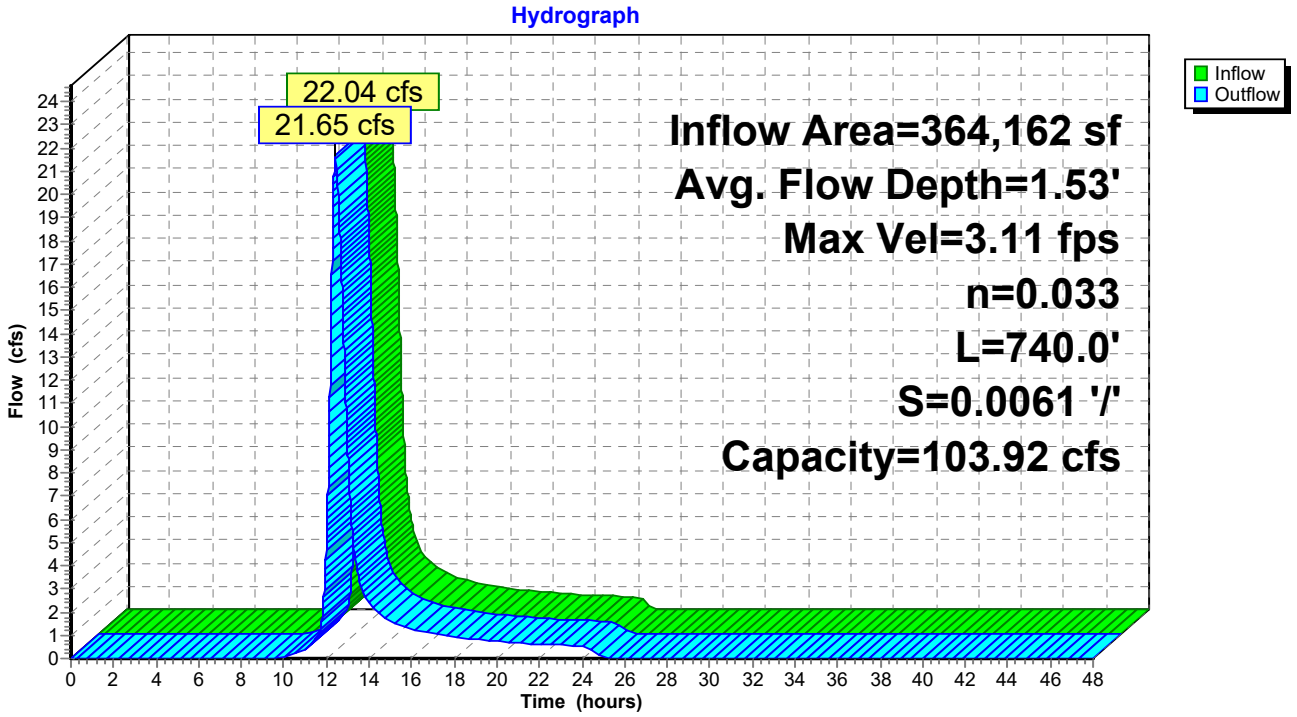
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.11 fps, Min. Travel Time= 4.0 min
Avg. Velocity = 1.14 fps, Avg. Travel Time= 10.8 min

Peak Storage= 5,146 cf @ 12.43 hrs
Average Depth at Peak Storage= 1.53' , Surface Width= 7.61'
Bank-Full Depth= 3.00' Flow Area= 22.5 sf, Capacity= 103.92 cfs

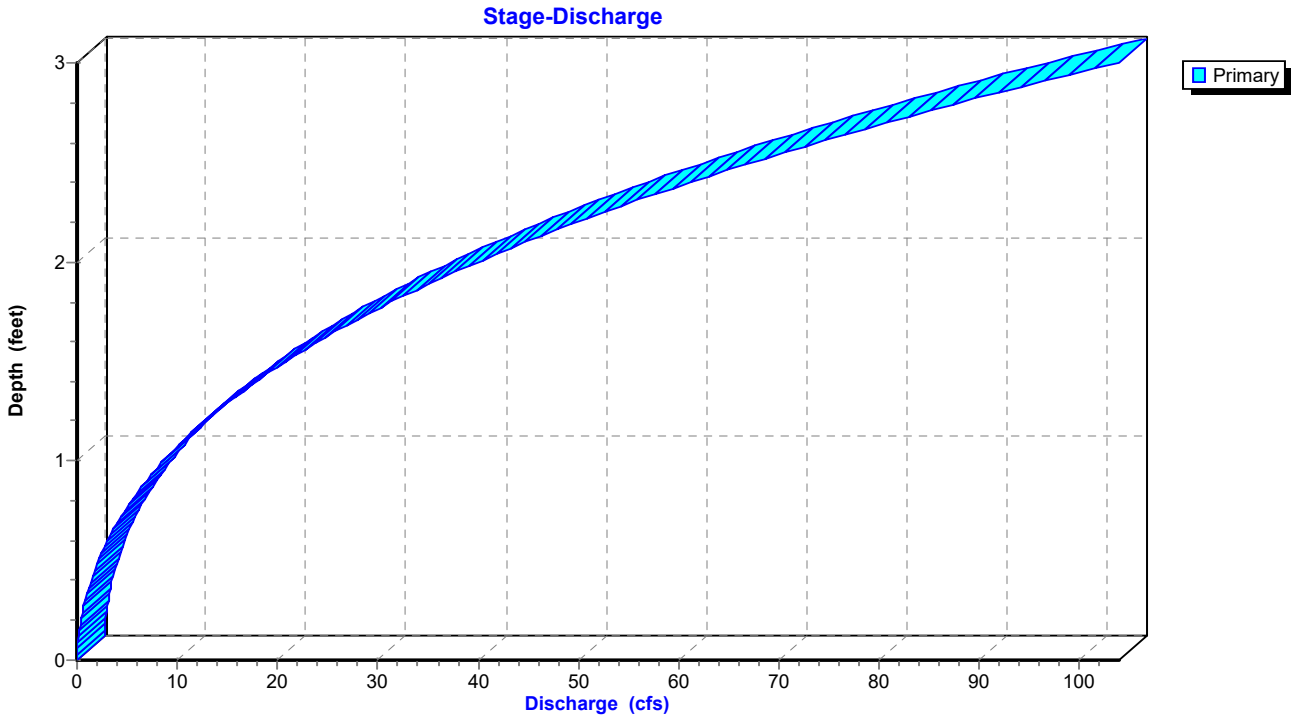
1.50' x 3.00' deep channel, n= 0.033 Riprap, 1-inch
Side Slope Z-value= 2.0 '/' Top Width= 13.50'
Length= 740.0' Slope= 0.0061 '/'
Inlet Invert= 684.00', Outlet Invert= 679.50'



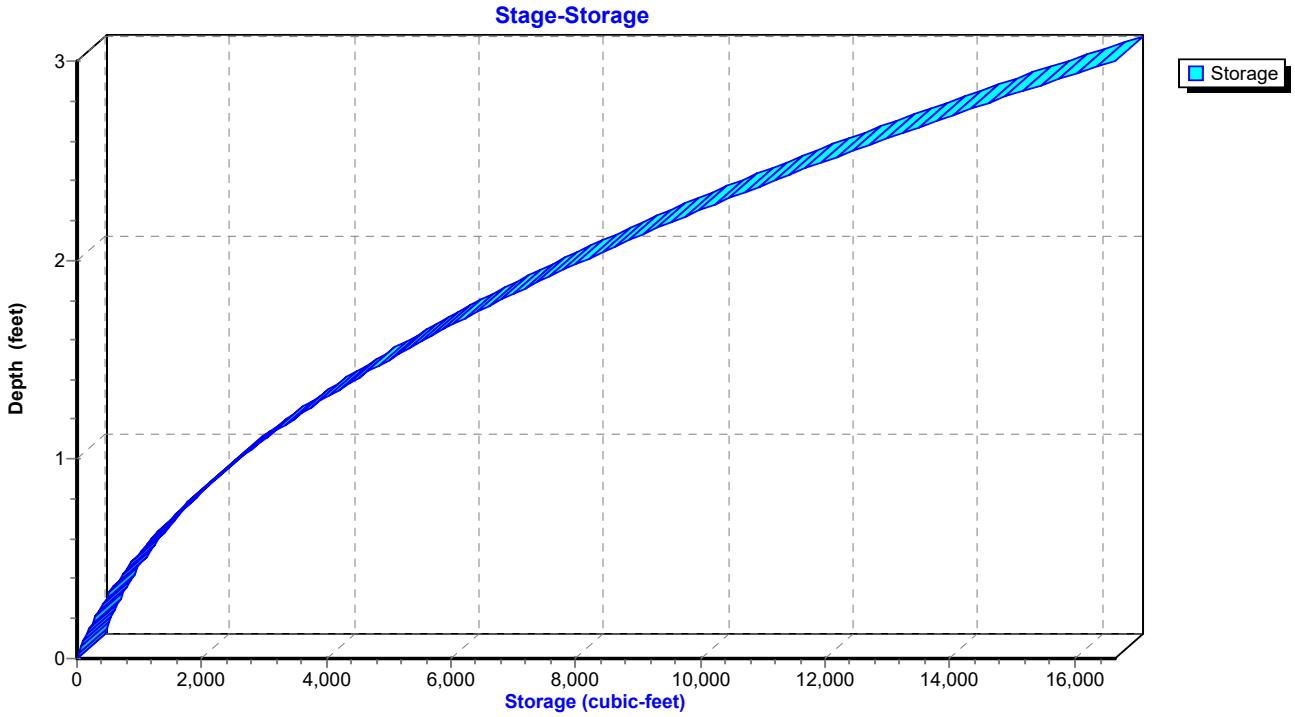
Reach D4E1: Ditch 4E1



Reach D4E1: Ditch 4E1



Reach D4E1: Ditch 4E1



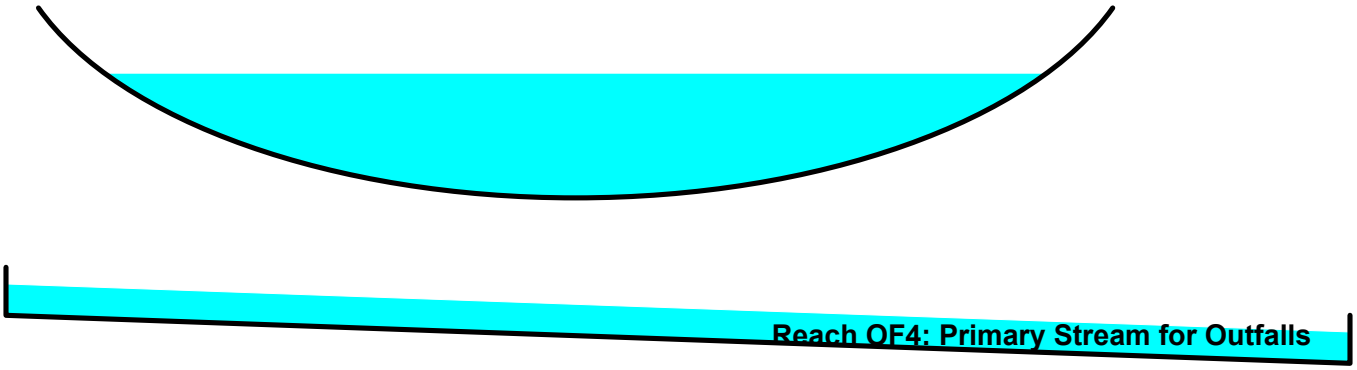
Summary for Reach OF4: Primary Stream for Outfalls

Inflow Area = 9,972,626 sf, 1.09% Impervious, Inflow Depth = 4.55" for 100-yr event
Inflow = 258.38 cfs @ 13.03 hrs, Volume= 3,779,517 cf
Outflow = 258.22 cfs @ 13.10 hrs, Volume= 3,779,517 cf, Atten= 0%, Lag= 4.2 min

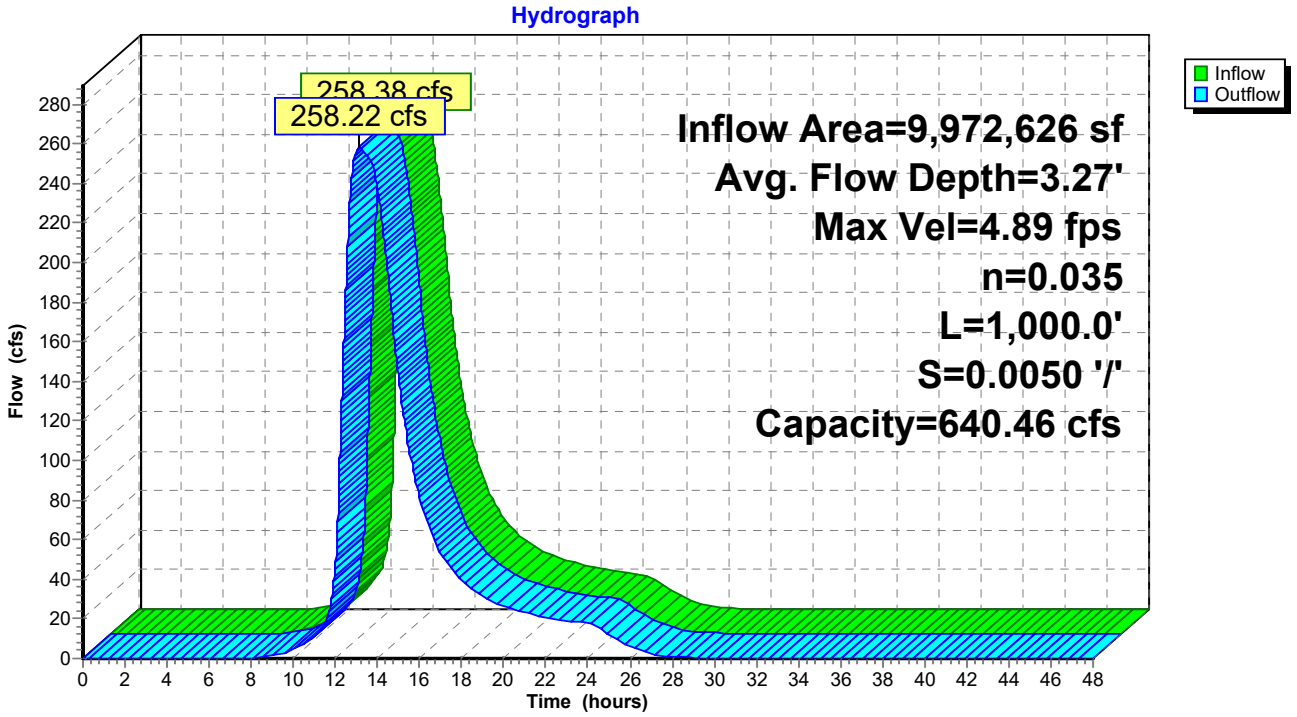
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.89 fps, Min. Travel Time= 3.4 min
Avg. Velocity = 1.76 fps, Avg. Travel Time= 9.5 min

Peak Storage= 52,779 cf @ 13.10 hrs
Average Depth at Peak Storage= 3.27' , Surface Width= 24.24'
Bank-Full Depth= 5.00' Flow Area= 100.0 sf, Capacity= 640.46 cfs

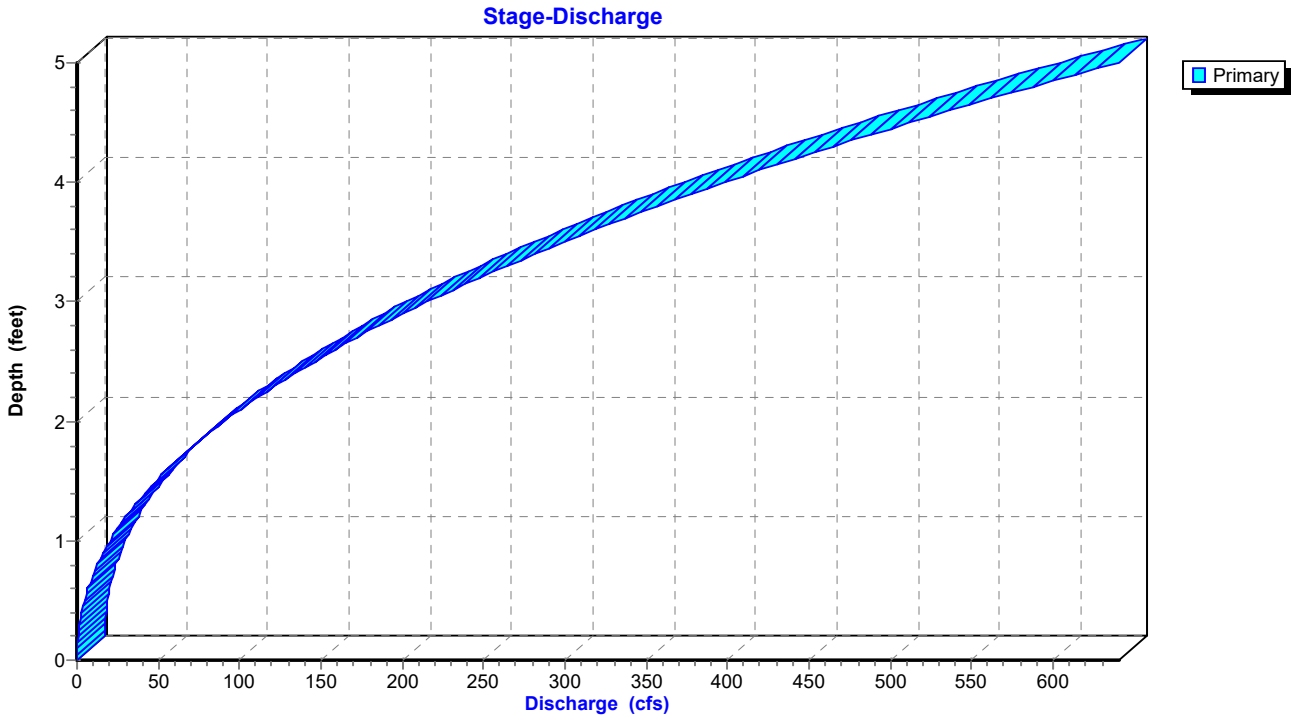
30.00' x 5.00' deep Parabolic Channel, n= 0.035
Length= 1,000.0' Slope= 0.0050 '/'
Inlet Invert= 675.00', Outlet Invert= 670.00'



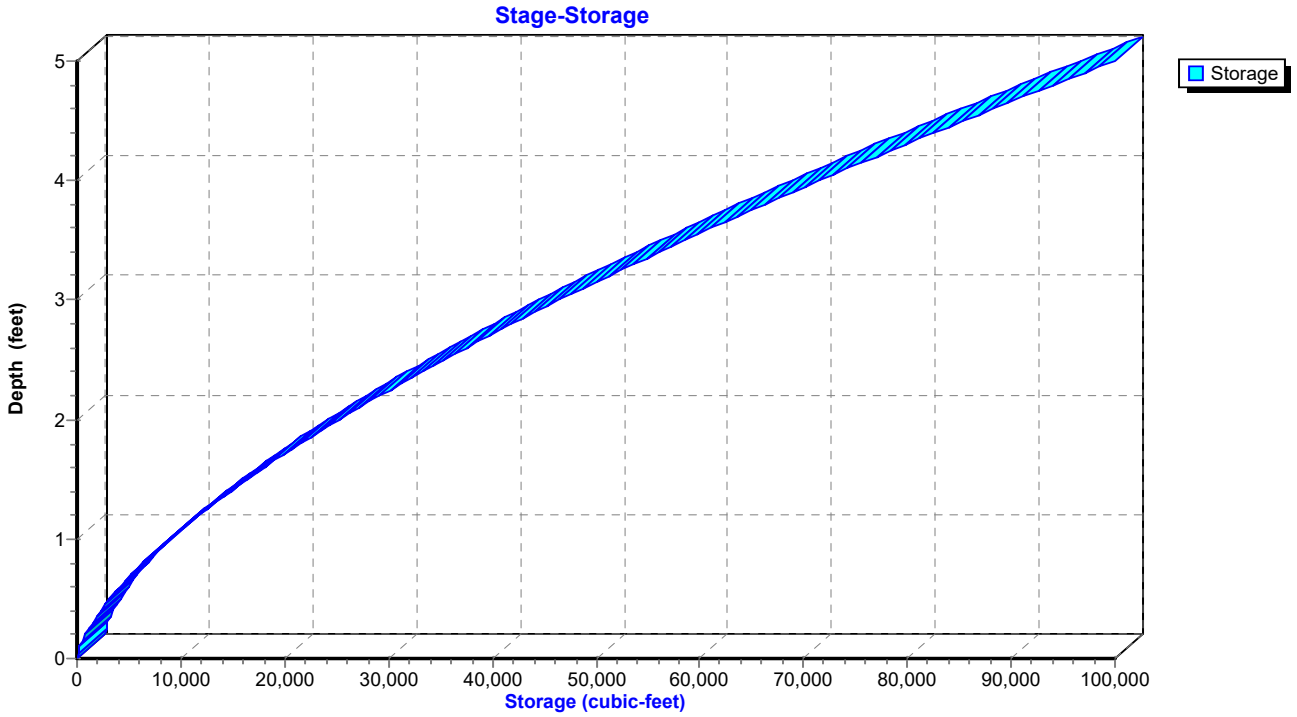
Reach OF4: Primary Stream for Outfalls



Reach OF4: Primary Stream for Outfalls



Reach OF4: Primary Stream for Outfalls



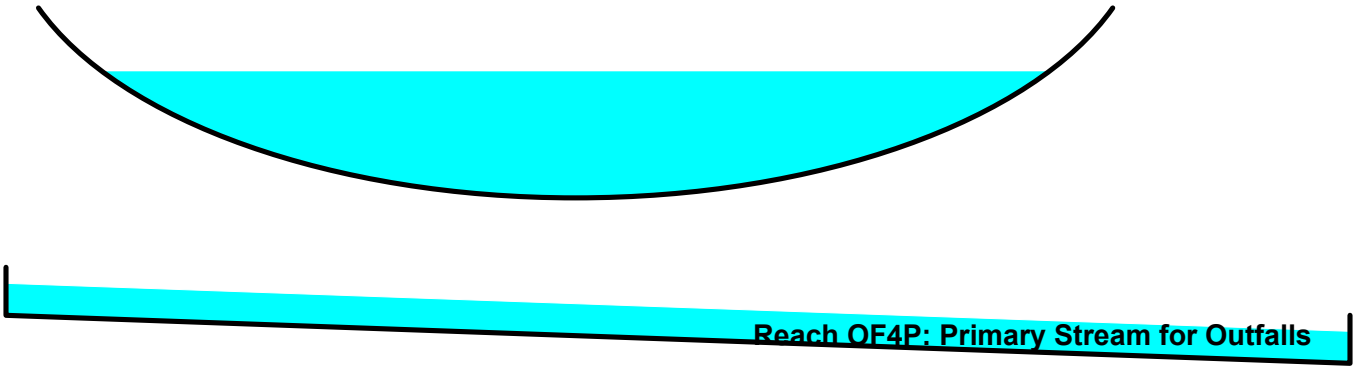
Summary for Reach OF4P: Primary Stream for Outfalls

Inflow Area = 9,824,522 sf, 2.88% Impervious, Inflow Depth = 4.71" for 100-yr event
Inflow = 268.87 cfs @ 13.67 hrs, Volume= 3,856,857 cf
Outflow = 268.53 cfs @ 13.71 hrs, Volume= 3,856,855 cf, Atten= 0%, Lag= 2.5 min

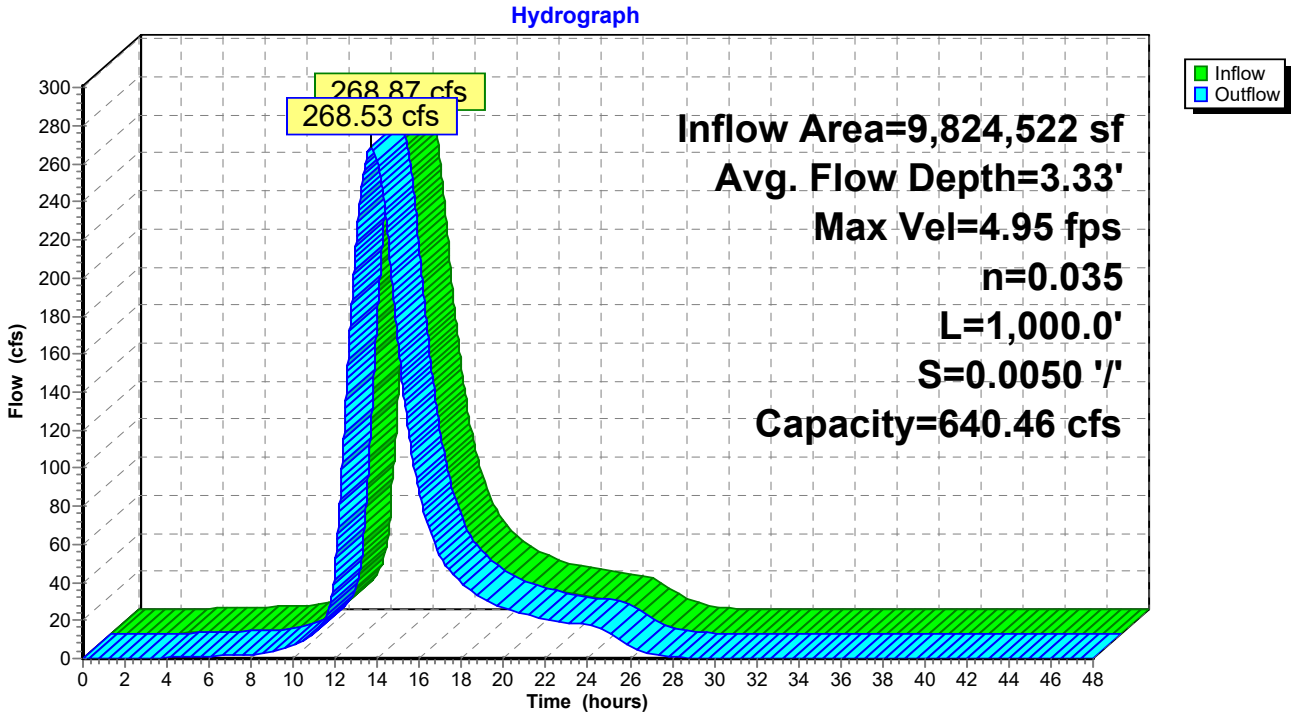
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.95 fps, Min. Travel Time= 3.4 min
Avg. Velocity = 1.38 fps, Avg. Travel Time= 12.1 min

Peak Storage= 54,247 cf @ 13.71 hrs
Average Depth at Peak Storage= 3.33' , Surface Width= 24.47'
Bank-Full Depth= 5.00' Flow Area= 100.0 sf, Capacity= 640.46 cfs

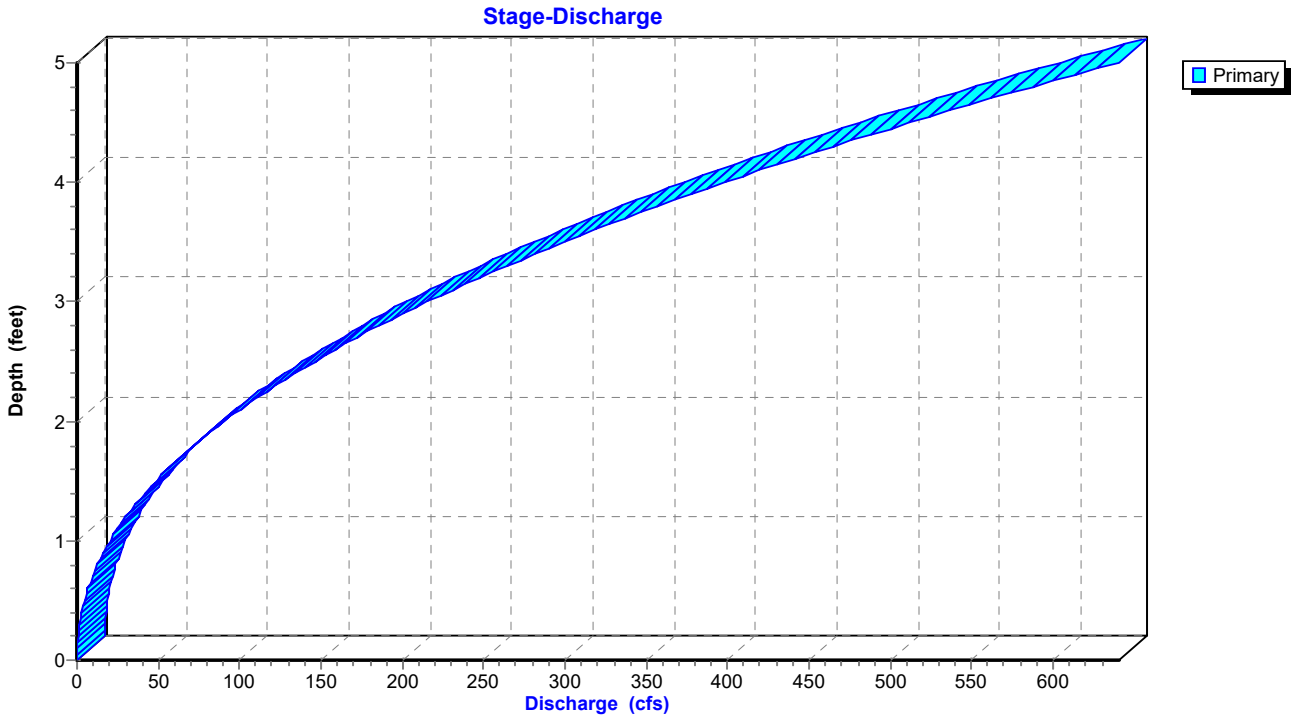
30.00' x 5.00' deep Parabolic Channel, n= 0.035
Length= 1,000.0' Slope= 0.0050 '/'
Inlet Invert= 675.00', Outlet Invert= 670.00'



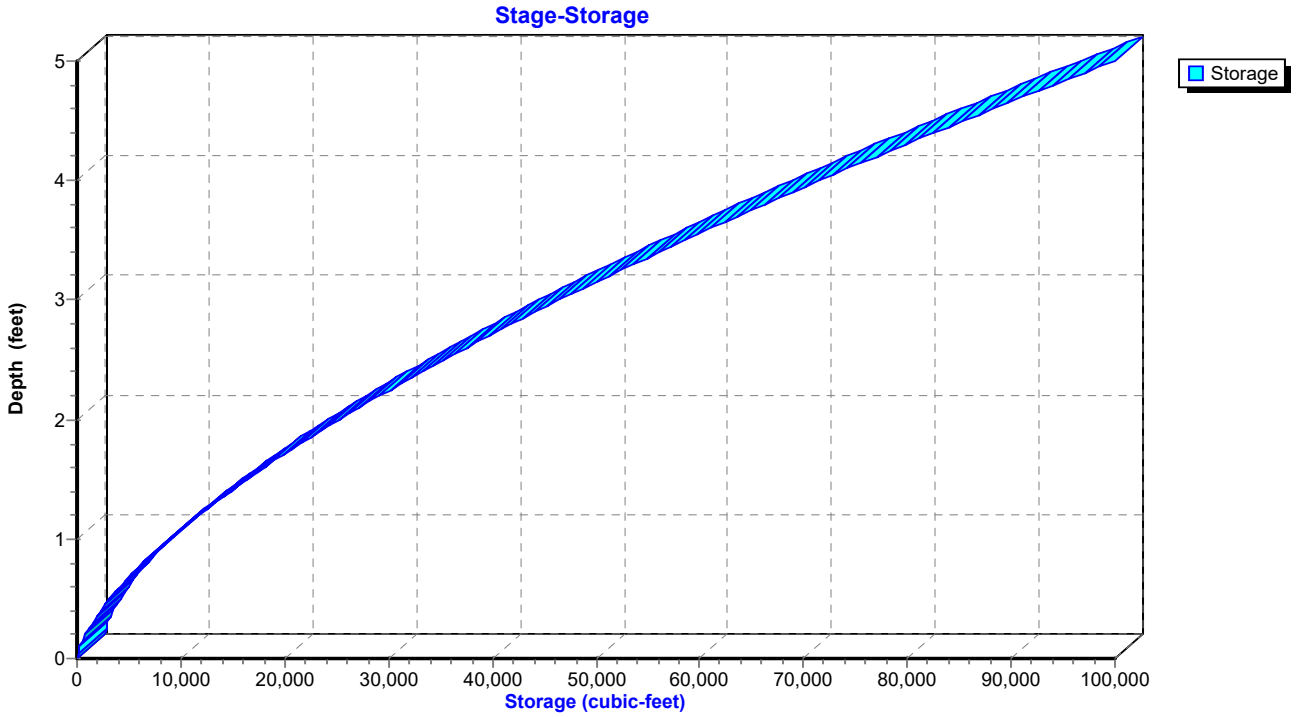
Reach OF4P: Primary Stream for Outfalls



Reach OF4P: Primary Stream for Outfalls



Reach OF4P: Primary Stream for Outfalls



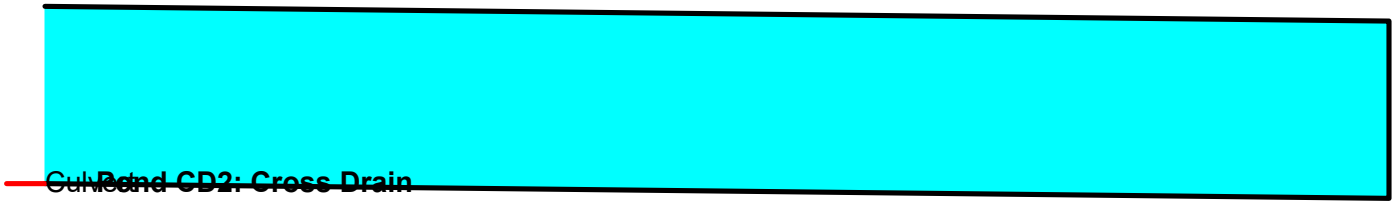
Summary for Pond CD2: Cross Drain

Inflow Area = 1,520,244 sf, 0.00% Impervious, Inflow Depth = 3.43" for 100-yr event
Inflow = 58.90 cfs @ 12.88 hrs, Volume= 433,944 cf
Outflow = 58.90 cfs @ 12.88 hrs, Volume= 433,944 cf, Atten= 0%, Lag= 0.0 min
Primary = 58.90 cfs @ 12.88 hrs, Volume= 433,944 cf
Routed to Reach OF4P : Primary Stream for Outfalls

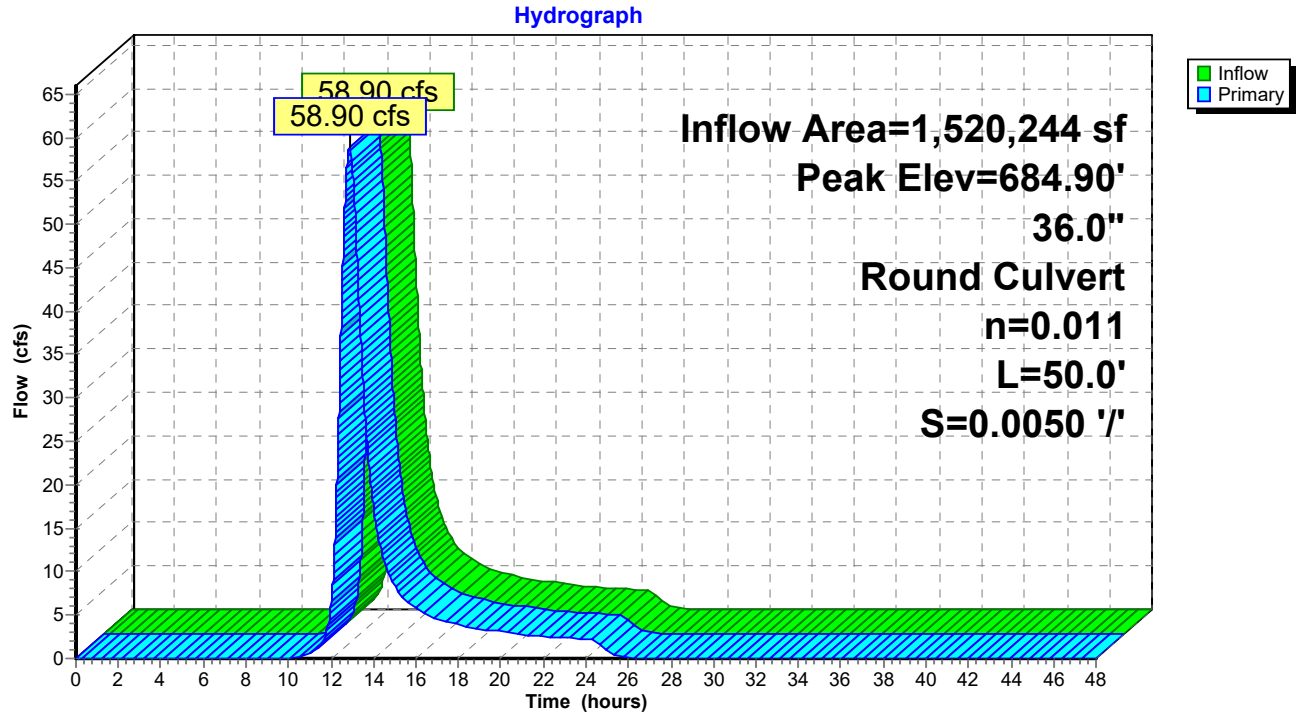
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 684.90' @ 12.88 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	680.25'	**36.0" Round Culvert** L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 680.25' / 680.00' S= 0.0050 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

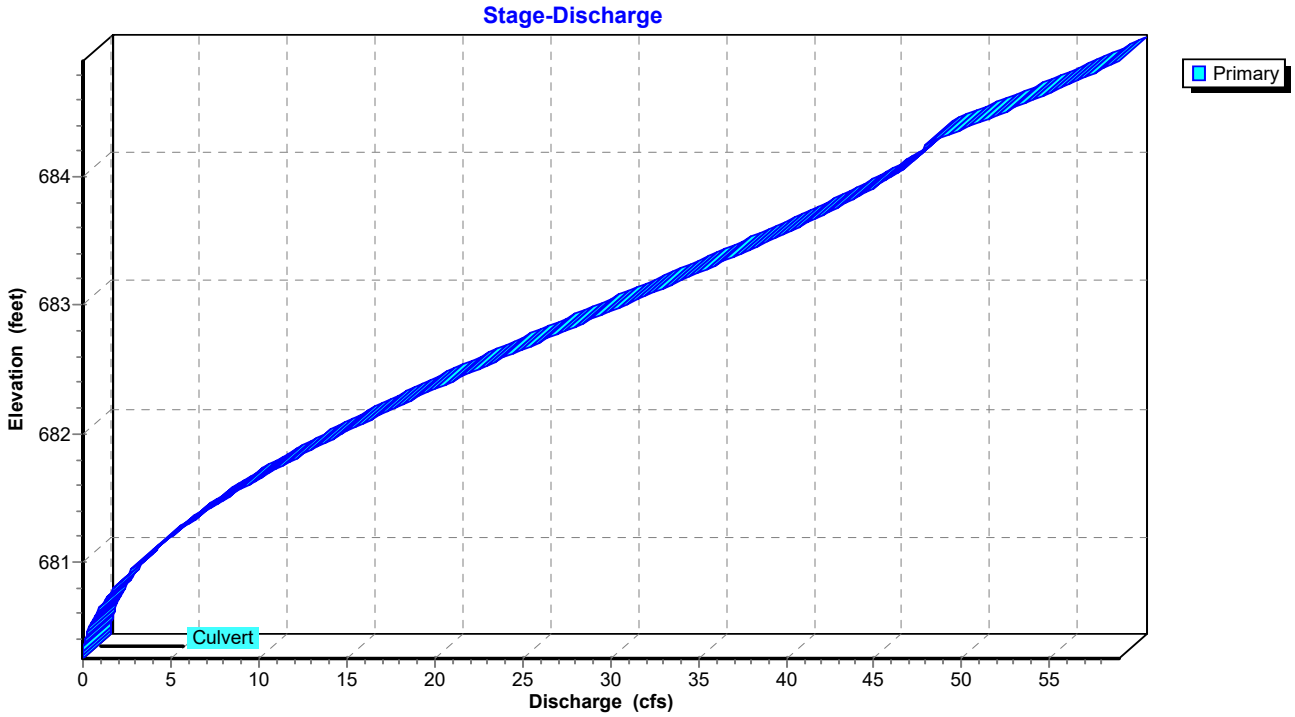
Primary OutFlow Max=58.89 cfs @ 12.88 hrs HW=684.90' (Free Discharge)
└**1=Culvert** (Barrel Controls 58.89 cfs @ 8.33 fps)



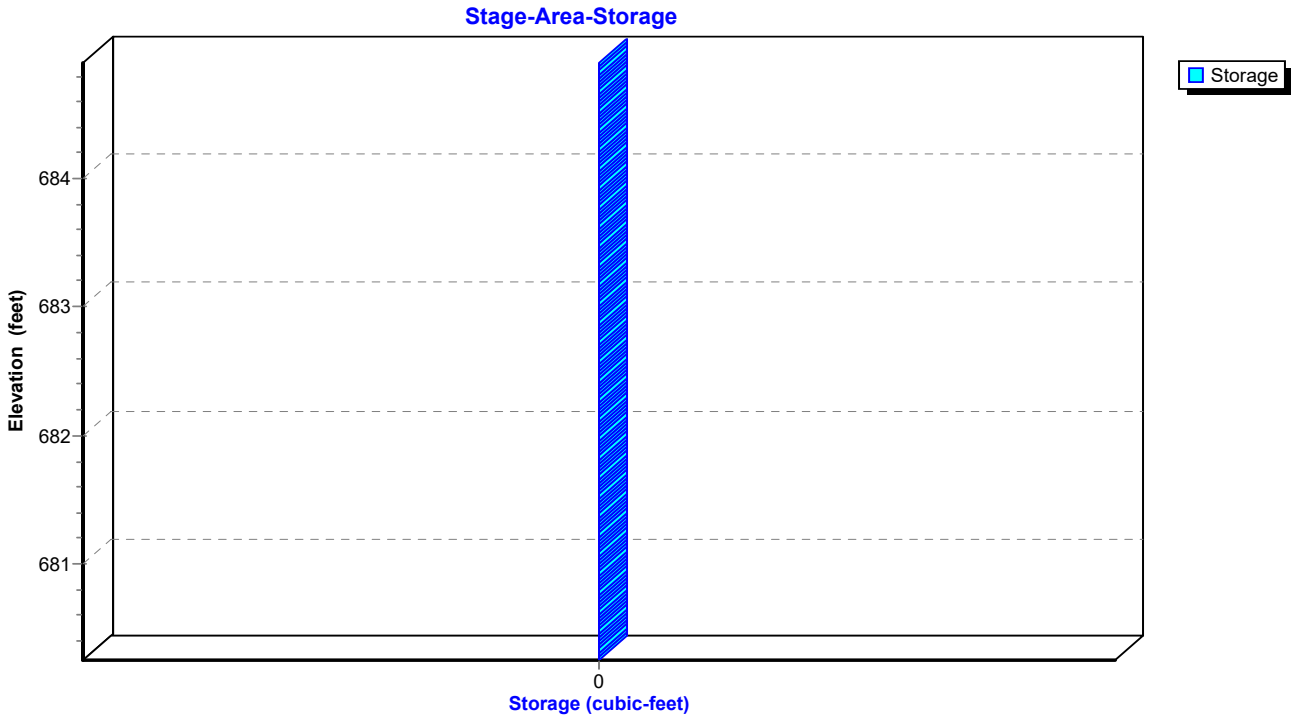
Pond CD2: Cross Drain



Pond CD2: Cross Drain



Pond CD2: Cross Drain



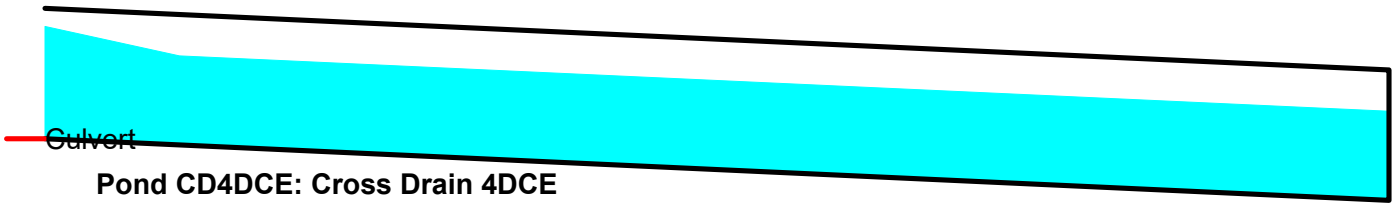
Summary for Pond CD4DCE: Cross Drain 4DCE

Inflow Area = 1,234,055 sf, 3.53% Impervious, Inflow Depth = 4.33" for 100-yr event
Inflow = 71.43 cfs @ 12.48 hrs, Volume= 444,860 cf
Outflow = 71.43 cfs @ 12.48 hrs, Volume= 444,860 cf, Atten= 0%, Lag= 0.0 min
Primary = 71.43 cfs @ 12.48 hrs, Volume= 444,860 cf
Routed to Pond POND1P : PROP POND

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 681.83' @ 12.48 hrs

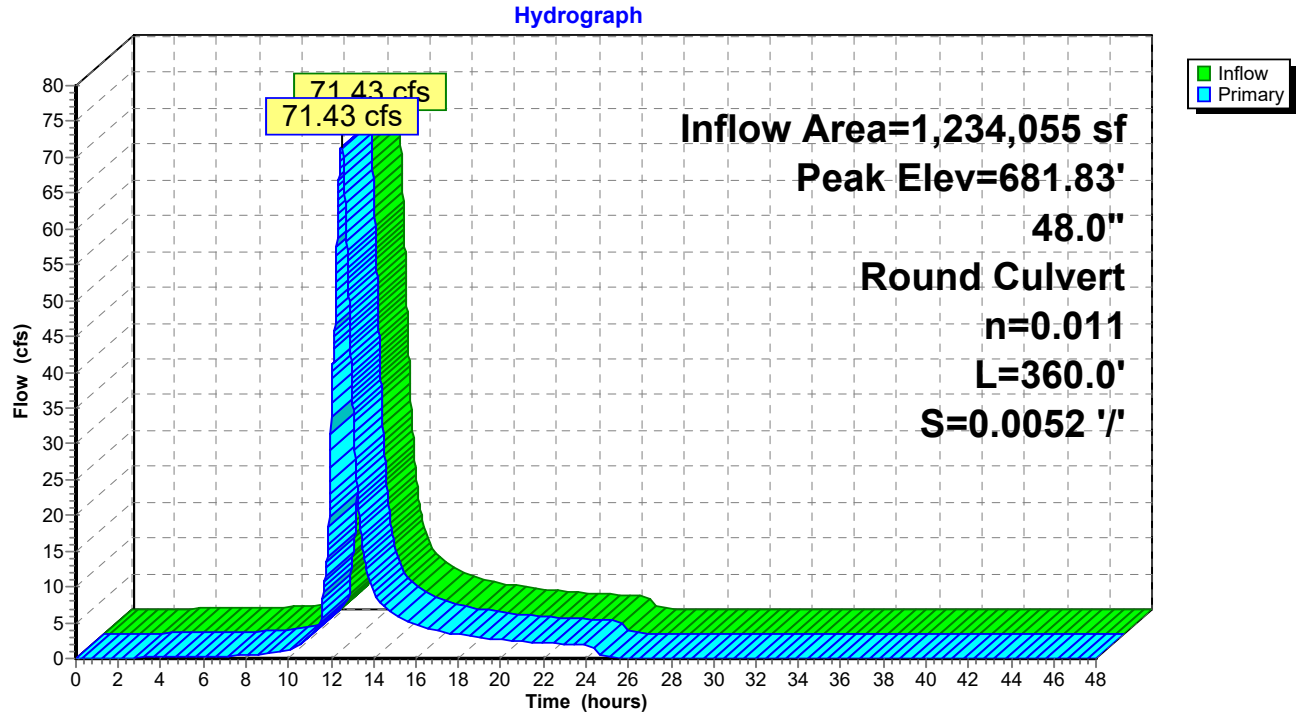
Device	Routing	Invert	Outlet Devices
#1	Primary	678.39'	**48.0" Round Culvert** L= 360.0' Ke= 0.500 Inlet / Outlet Invert= 678.39' / 676.50' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 12.57 sf

Primary OutFlow Max=71.43 cfs @ 12.48 hrs HW=681.83' (Free Discharge)
└**1=Culvert** (Barrel Controls 71.43 cfs @ 8.32 fps)



Pond CD4DCE: Cross Drain 4DCE

Pond CD4DCE: Cross Drain 4DCE



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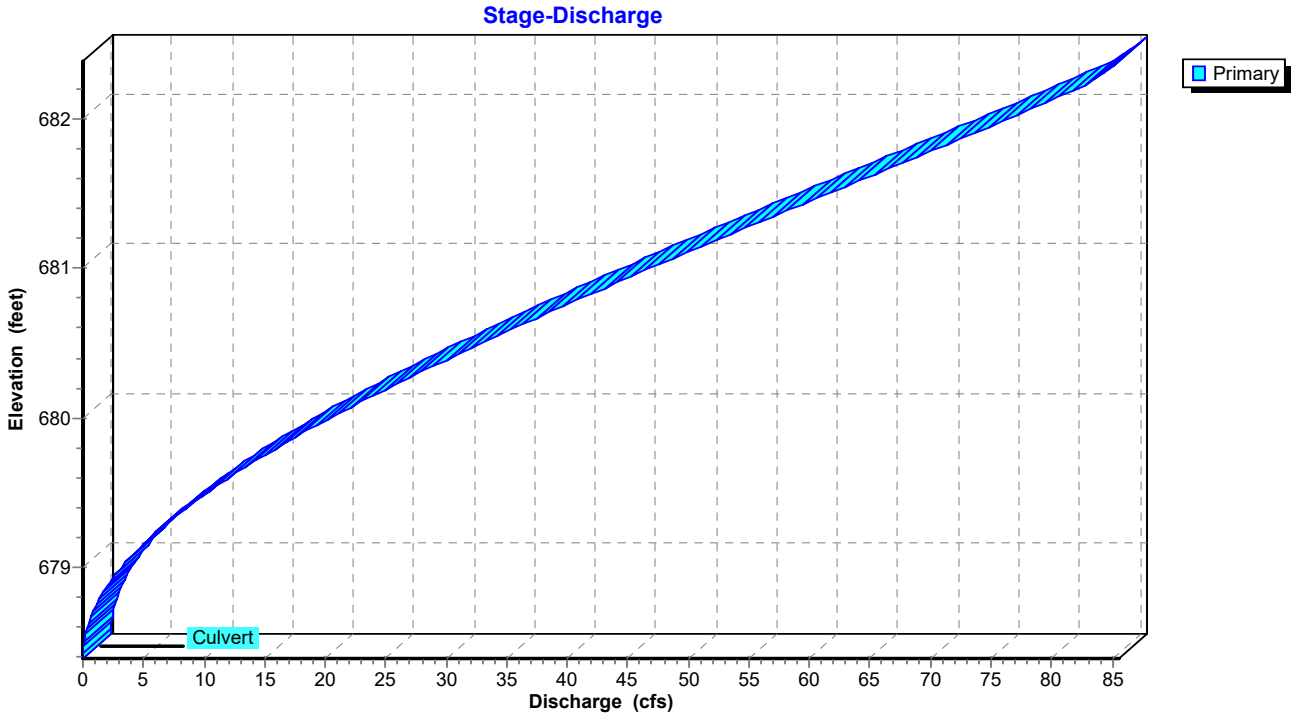

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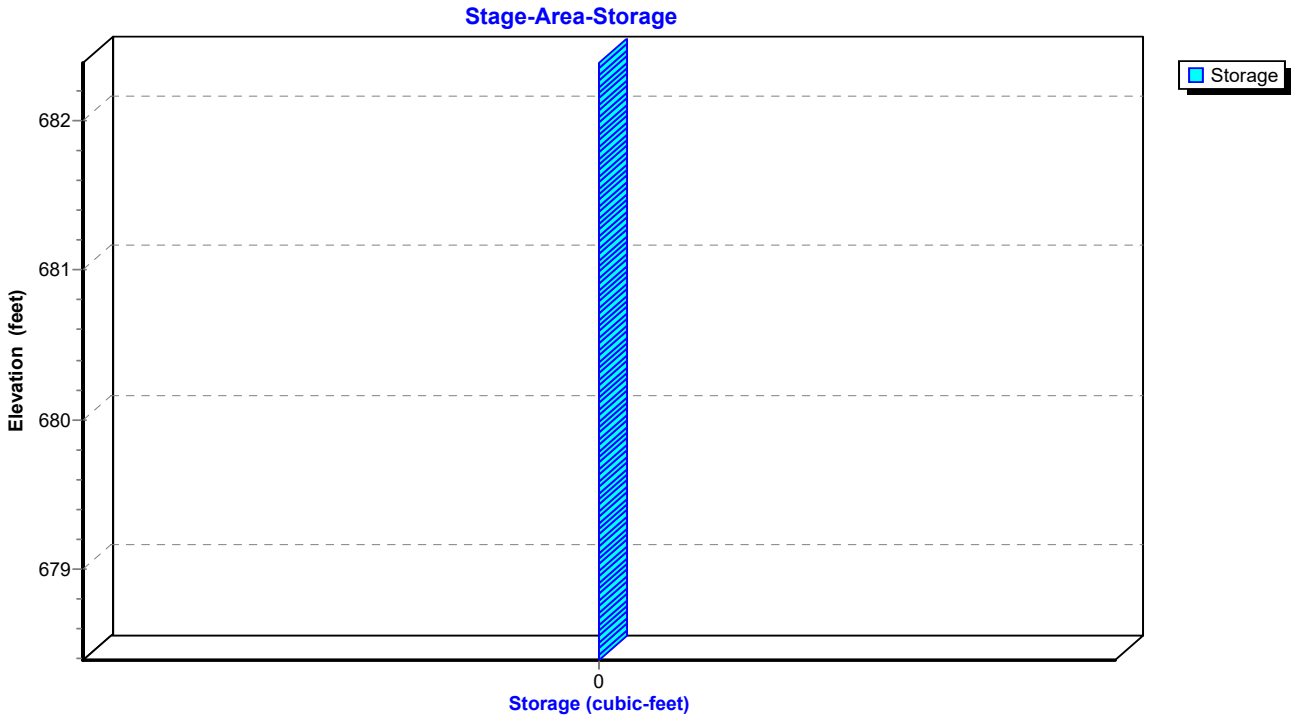


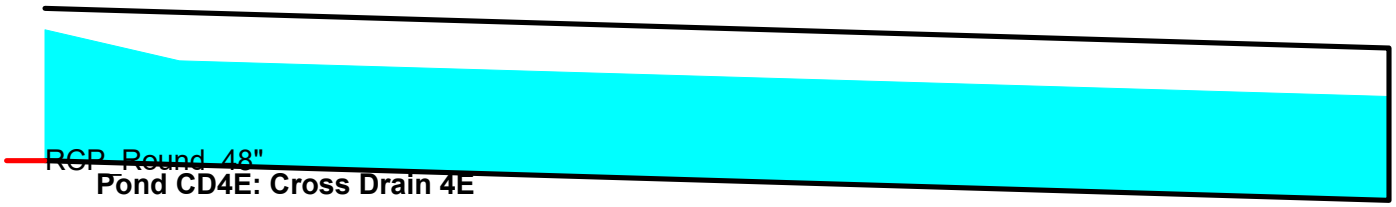
Summary for Pond CD4E: Cross Drain 4E

Inflow Area = 1,122,106 sf, 3.88% Impervious, Inflow Depth = 4.02" for 100-yr event
Inflow = 65.51 cfs @ 12.51 hrs, Volume= 376,280 cf
Outflow = 65.51 cfs @ 12.51 hrs, Volume= 376,280 cf, Atten= 0%, Lag= 0.0 min
Primary = 65.51 cfs @ 12.51 hrs, Volume= 376,280 cf
Routed to Pond CD4DCE : Cross Drain 4DCE

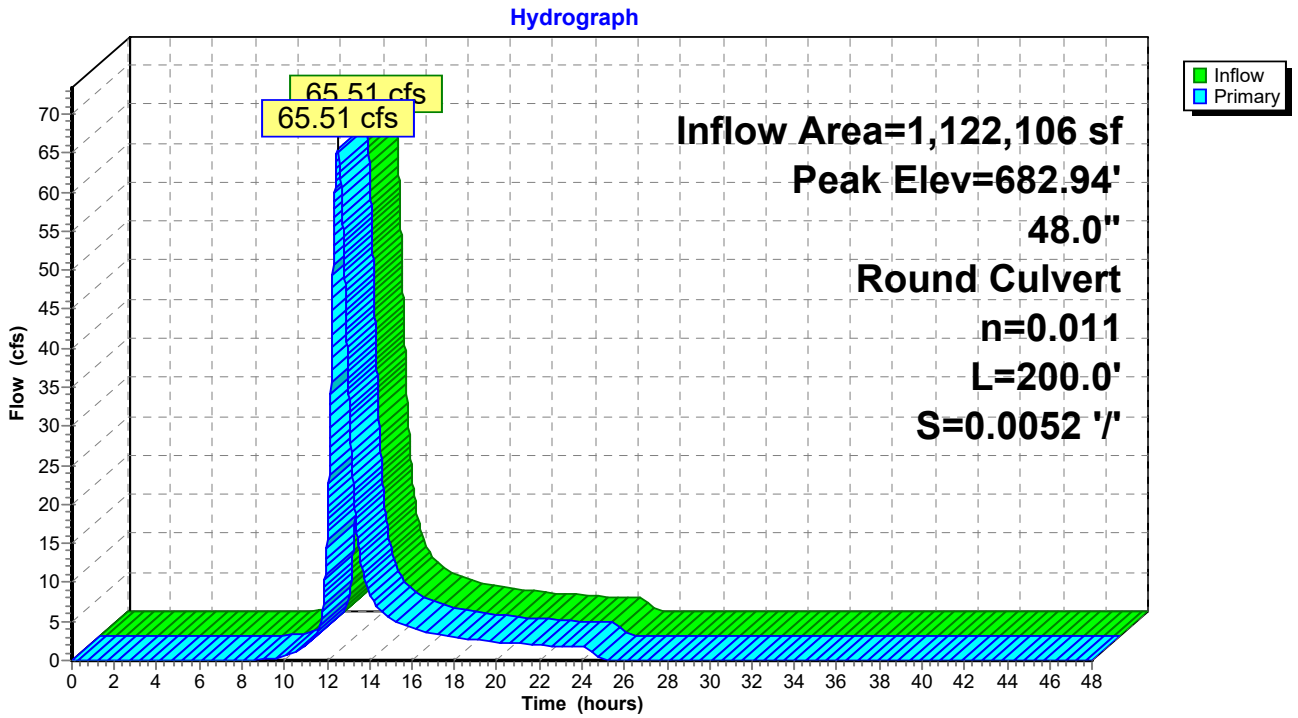
Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 682.94' @ 12.51 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	679.50'	**48.0" Round RCP_Round 48"** L= 200.0' Ke= 0.500 Inlet / Outlet Invert= 679.50' / 678.46' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 12.57 sf

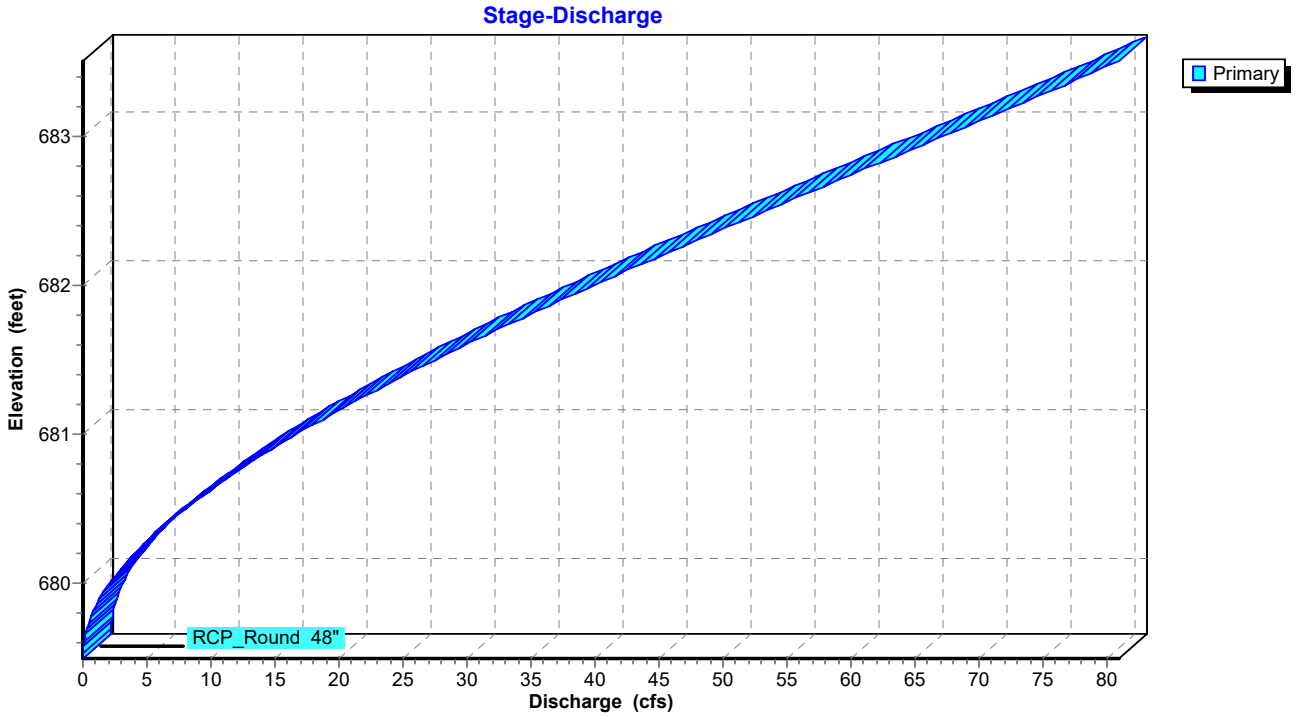
Primary OutFlow Max=65.51 cfs @ 12.51 hrs HW=682.94' (Free Discharge)
└**1=RCP_Round 48"** (Barrel Controls 65.51 cfs @ 7.65 fps)



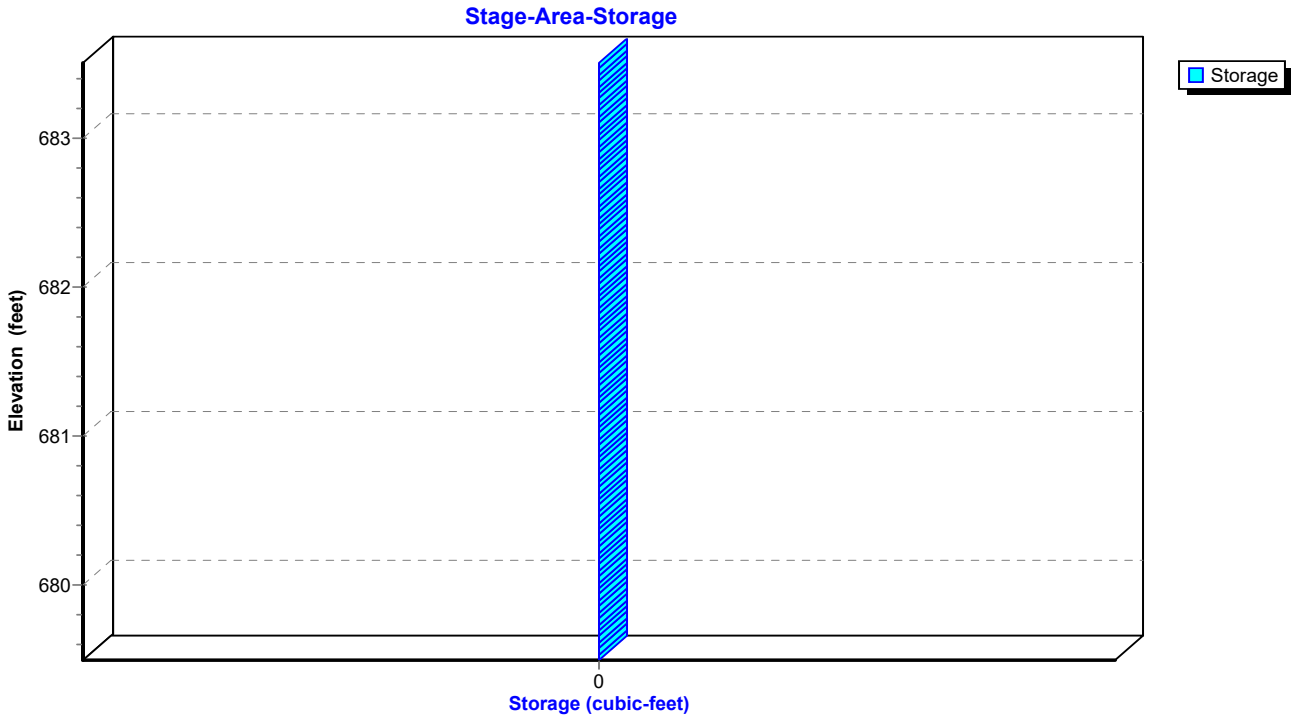
Pond CD4E: Cross Drain 4E



Pond CD4E: Cross Drain 4E



Pond CD4E: Cross Drain 4E



Summary for Pond POND1P: PROP POND

Inflow Area = 1,765,922 sf, 9.87% Impervious, Inflow Depth = 5.24" for 100-yr event
Inflow = 125.53 cfs @ 12.46 hrs, Volume= 770,685 cf
Outflow = 48.37 cfs @ 13.09 hrs, Volume= 770,118 cf, Atten= 61%, Lag= 37.9 min
Primary = 48.37 cfs @ 13.09 hrs, Volume= 770,118 cf
Routed to Reach OF4P : Primary Stream for Outfalls

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 682.27' @ 13.09 hrs Surf.Area= 119,057 sf Storage= 240,344 cf

Plug-Flow detention time= 52.6 min calculated for 769,958 cf (100% of inflow)
Center-of-Mass det. time= 52.3 min (867.9 - 815.6)

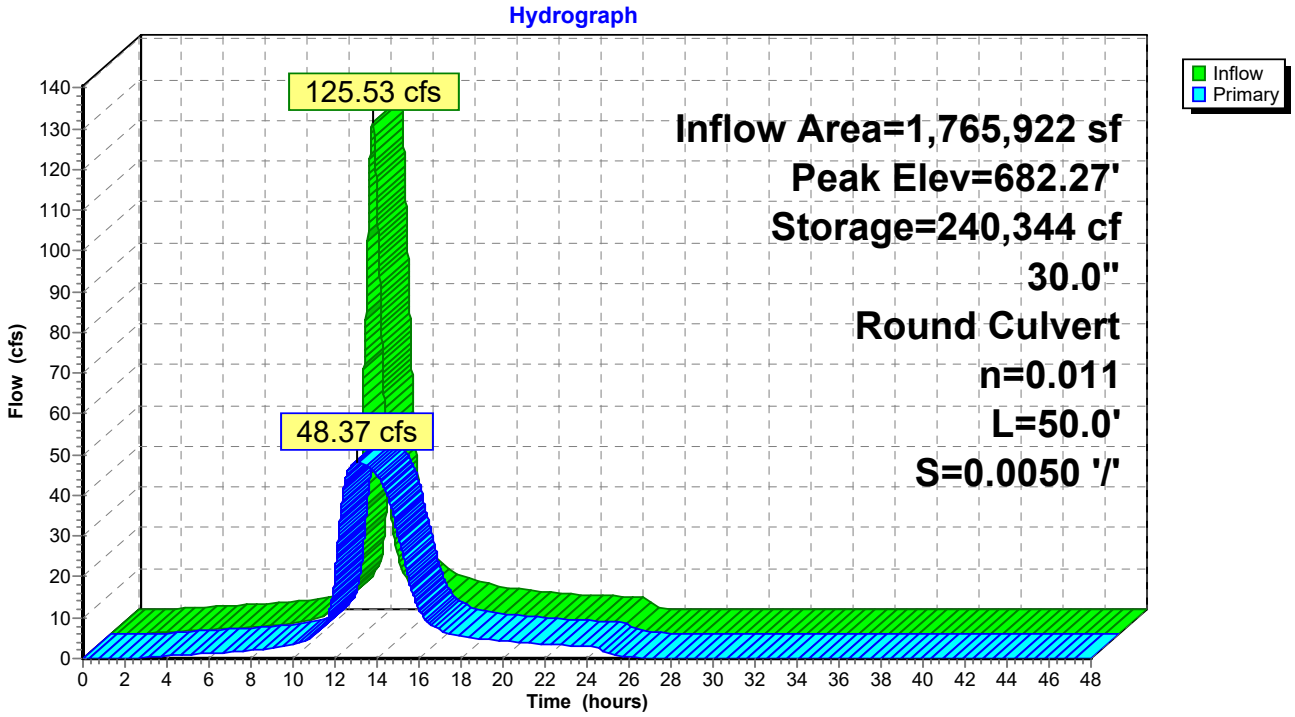
Volume	Invert	Avail.Storage	Storage Description
#1	676.00'	327,838 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
676.00	505	0	0
677.00	14,000	7,253	7,253
678.00	20,000	17,000	24,253
679.00	29,000	24,500	48,753
680.00	39,000	34,000	82,753
681.00	47,000	43,000	125,753
682.00	119,057	83,029	208,781
683.00	119,057	119,057	327,838

Device	Routing	Invert	Outlet Devices
#1	Primary	676.25'	**30.0" Round Culvert** L= 50.0' Ke= 0.600 Inlet / Outlet Invert= 676.25' / 676.00' S= 0.0050 '/' Cc= 0.900 n= 0.011, Flow Area= 4.91 sf

Primary OutFlow Max=48.37 cfs @ 13.09 hrs HW=682.27' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 48.37 cfs @ 9.85 fps)

Pond POND1P: PROP POND



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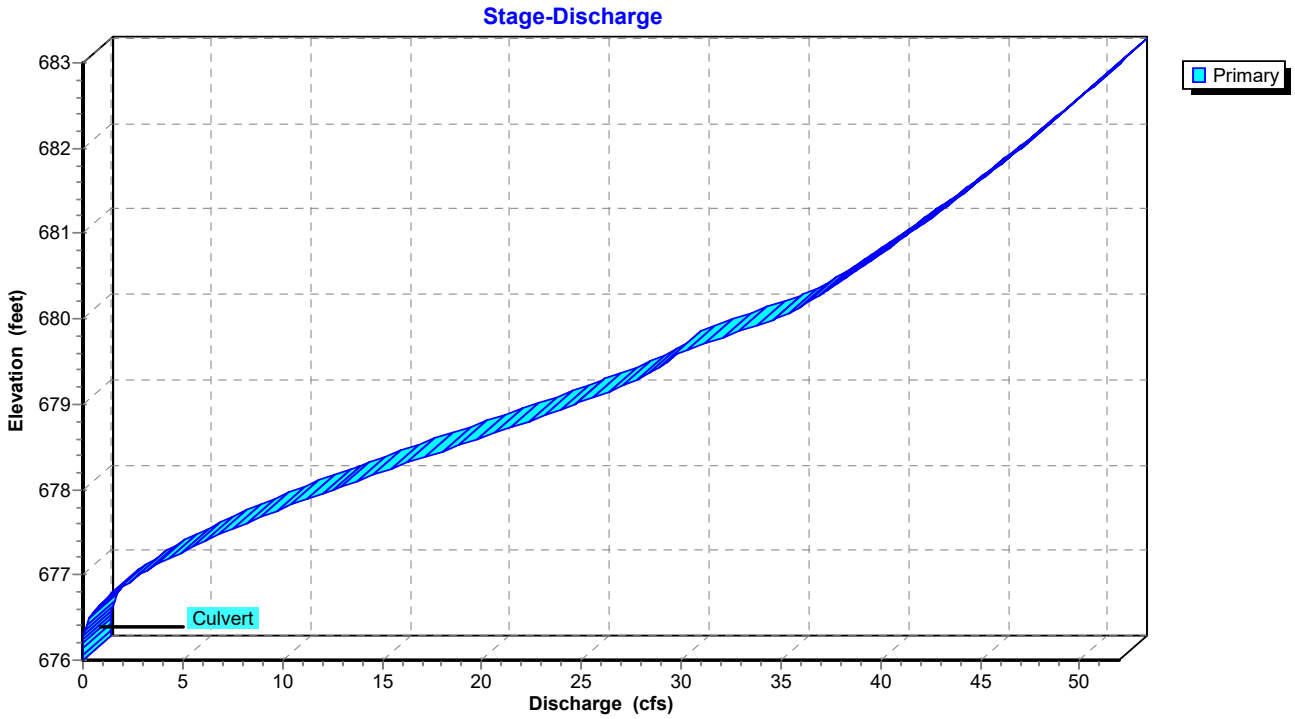
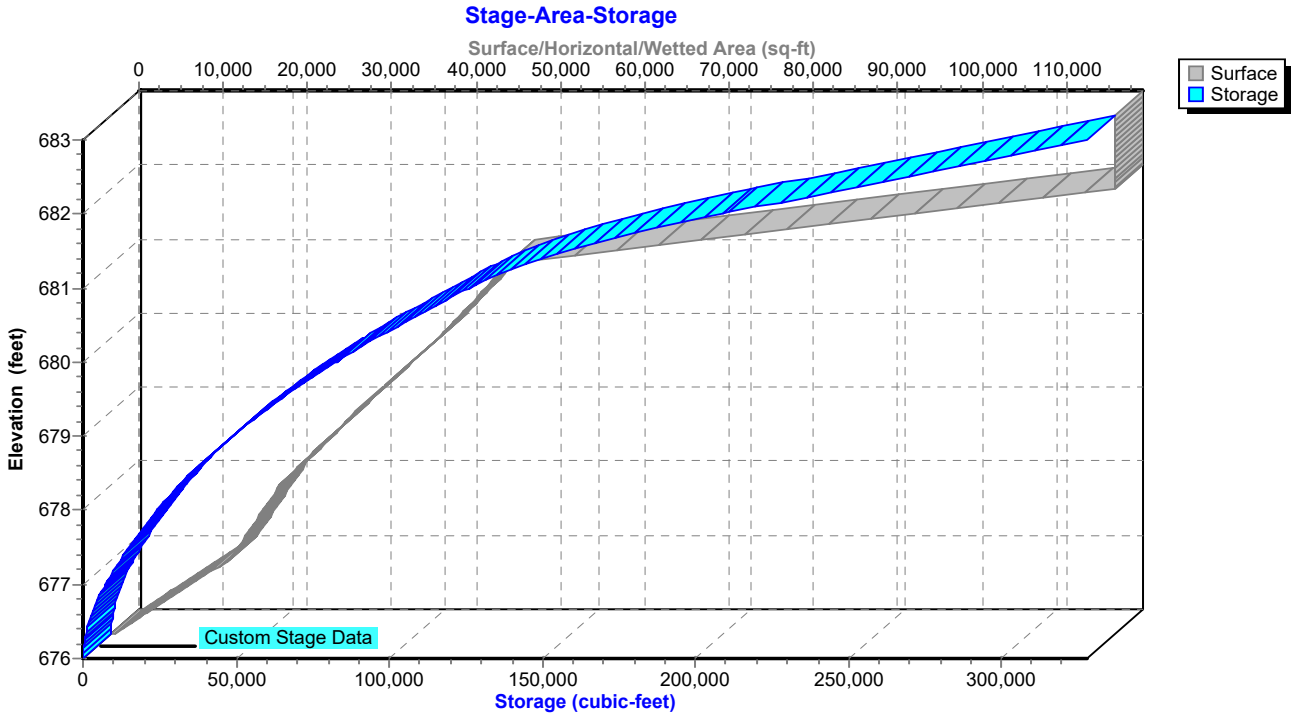


Pond POND1P: PROP POND



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Stormwater Pollution Prevention Plan

Bulk Storage Railyard

South Main Street
Tax Map 150 Parcel 063.11
Mt. Pleasant, Maury County, Tennessee 38474

Prepared For:

True Rail Enterprises, LLC
500 1st Avenue
Mt. Pleasant, Tennessee 38474

Prepared By:

CSR Engineering

2010 Highway 49E
Pleasant View, Tennessee 37146

CSR Project No. 23-040

October 27, 2025

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APPENDIX F: INSPECTION CERTIFICATION

OWNER CERTIFICATION PAGE

Name of Construction Project: Bulk Storage Railyard
Location of Project: South Main Street
Tax Map 150 Parcel 063.11
Mt. Pleasant, Maury County, Tennessee 38474

Owner/Permittee responsible for Stormwater Pollution Prevention during construction:

Mark Smith
True Rail Enterprises, LLC
500 1st Avenue
Mt. Pleasant, Tennessee 38474

MANAGEMENT CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Plan Reviewed and Accepted by:

Mark Smith Digitally signed by Mark Smith Date: 2025.10.28 10:46:44 -05'00'	CEO	10/28/25
Signature	Title	Date

(*must be signed by President, V.P., or equivalent)*

Bonafide Holdings TN, LLC / True Rail Enterprises, LLC
Company/Municipality/Owner

GENERAL CONTRACTOR CERTIFICATION PAGE

Name of Construction Project:	Bulk Storage Railyard
Location of Project:	South Main Street Tax Map 150 Parcel 063.11 Mt. Pleasant, Maury County, Tennessee 38474

Operator responsible for Stormwater Pollution Prevention during construction:

Contractor: TBD

Address: _____

Phone: _____

GENERAL CONTRACTOR CERTIFICATION

I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above described construction activity subject to NPDES permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Plan Reviewed and Accepted by:

_____ _____ _____

Signature Title Date

(*must be signed by President, V.P., or equivalent)*

_____

Company/Municipality/Owner

1.0 INTRODUCTION AND GENERAL INFORMATION

True Rail Enterprises, LLC, as the owner and primary permittee, is overseeing the construction activities outlined in this Stormwater Pollution Prevention Plan (SWPPP). This SWPPP has been developed under the authority of the National Pollutant Discharge Elimination System (NPDES) and complies with the Tennessee Department of Environment and Conservation's (TDEC) Tennessee General Permit No. TNR100000 for Stormwater Discharges from Construction Activities (CGP), effective October 1, 2021. This SWPPP is a living document and will be amended as necessary to reflect changes in site conditions or permit requirements.

This SWPPP identifies potential pollution sources that could affect stormwater discharges during construction and describes Best Management Practices (BMPs) and EPSC measures to mitigate these impacts. All EPSC measures are designed to manage stormwater from a 2-year/24-hour storm event or greater.

The owner and all contractors will comply with the CGP requirements to protect water quality. Non-compliance with permit conditions violates the Clean Water Act (CWA) and may result in enforcement actions, permit termination, or denial of permit renewal. A copy of the Notice of Intent (NOI) submitted electronically through the MyTDEC platform, along with this SWPPP, is included in **Appendix A**.

Table 1: Project Overview and Team	
Project Name	Bulk Storage Railyard
Location	South Main Street Tax Map 150 Parcel 063.11 Mt. Pleasant, Maury County, Tennessee 38474
Owner / Primary Permittee	True Rail Enterprises, LLC (931) 325-5570
Secondary Permittee / General Contractor	To Be Determined (TBD)
Engineer	Jason Reynolds, P.E., CSR Engineering
Level I EPSC Inspector(s)	TBD

The following information will be posted at a conspicuous location near the main entrance of the construction site, such as the job bulletin board:

1. A copy of the Notice of Coverage (NOC) with the NPDES permit tracking number.
2. Contact information for the project owner or a local representative.
3. A brief project description.
4. The SWPPP location, if the site is inactive or has no on-site storage location.
5. Proof that the twice-weekly inspector has completed the Level 1 course on the Fundamentals of Erosion Prevention and Sediment Control.

2.0 SITE DESCRIPTION

The subject property currently consists of vacant cropland and undeveloped wooded areas. The Tennessee Southern Railroad bounds the eastern property boundary. The proposed development includes a ±25,000 square-foot (ft^2) office building, a ±87,500 ft^2 warehouse building, rail turnout and mainline siding, industry tracks, stone driveways, sidewalks, and asphalt roadways, covering 62.16 acres of Light Industrial (IP) zoning, with a disturbed area of approximately 29.21 acres.

The surrounding area consists of residential properties to the north and west, and agricultural properties to the east and south. An aerial site location map and topographic location map are included in **Appendix B**.

2.1 Site Drainage Areas

The site currently drains through four primary drainage areas (DAs) to an unnamed drainage feature along the northern portion of the property, which conveys water eastward off-site. During construction and post-construction, the same four drainage areas will manage runoff, with DA 4 subdivided into six sub-basins (DA 4A–DA 4F) to control flows and meet water quality and quantity requirements. Existing and proposed conditions are summarized in **Table 2** and shown on the Existing and Proposed Drainage Maps in **Appendix C**.

Table 2: Stormwater Drainage Descriptions

Drainage Area / Sub-basin	Existing Size (acres)	Existing Flow Direction / Notes	Proposed Size (acres)	Proposed Flow Path	Outfall
DA 1	143	Northwest portion of overall site, outside LOD; drains off-site to existing feature	143	Unchanged; drains to existing feature	-
DA 2	34.9	Western portion of overall site, mostly outside LOD; areas within LOD drain northeast	29.16	Drains northeast through an under-road culvert	Outfall 1
DA 3	9.54	North-central portion, includes portion of drainage feature; drains north	2.13	Drains north; includes drainage feature	Outfall 2
DA 4	41.5	Eastern portion; drains generally northeast	49.06	Collected in six sub-basins (DA 4A through DA 4F); flows generally northeast via swales and conveyance systems	Outfall 3

All drainage areas will be managed using BMPs consistent with the CGP. Temporary controls will be installed during construction, and permanent measures will be implemented post-construction to manage runoff quantity and quality.

2.2 Soils Descriptions

According to the USDA NRCS Soil Survey, five soil types are on-site, as summarized in **Table 3**. The site-specific Soil Survey is provided in **Appendix D**.

Table 3: Soil Descriptions						
Soil Name	Landform	Parent Material	Hydric Rating	Horizon Layer Descriptions	Drainage Class	K Factor
Armour silt loam (Ae)	Hillslopes	Silty alluvium and/or loamy alluvium over clayey residuum weathered from phosphatic limestone	No	0-14”: silt loam 14-60”: silty clay loam	Well drained	.37
Burgin silt loam (Bm)	Flood plains	Clayey alluvium derived from limestone	No	0-14”: silt loam 14-35”: clay	Somewhat poorly drained	.37
Donerail silt loam (Df)	Hillslopes	Clayey alluvium derived from limestone	No	0-10”: silt loam 10-20”: silty clay loam 20-60”: silty clay	Moderately well-drained	.37
Lindell silt loam (Ld)	Flood plains	Fine-loamy alluvium derived from limestone and siltstone	No	0-52”: silt loam 52-79”: silty clay loam	Moderately well-drained	.32
Maury silt loam (Mb)	Hillslopes	Loess over clayey residuum and/or alluvium derived from limestone	No	0-14”: silt loam 14-26”: silty clay loam 26-40”: silty clay 40-60”: clay	Well drained	.32

2.3 Aquatic Resources and Receiving Waters

The subject property is not located within a Federal Emergency Management Agency (FEMA)-identified floodplain and does not contain wetlands, streams, or other aquatic resources, as determined through site reconnaissance and a review of available mapping resources, including the National Wetlands Inventory (NWI) and topographic maps. No hydrologic features subject to regulation under Section 404 of the CWA or the Tennessee Water Quality Control Act are present within the subject property boundary. Copies of the FEMA FIRMette (derived from FIRM 47119C0265E, effective April 16, 2007) and NWI map are included in Appendix D.

Stormwater from the subject property travels off-site in a northeast direction to an unnamed drainage feature, where it eventually discharges into Sugar Creek (TN Waterbody ID TN06040003023_0250), which is located approximately 0.3 miles northeast of the subject property. A 30-foot undisturbed buffer will be maintained on both sides of the existing drainage feature to minimize potential impacts from construction activities. If site conditions change or impacts to the drainage feature become unavoidable, the operator will be responsible for obtaining any necessary permits, including ARAP, USACE Section 404, and TVA Section 26A permits

3.0 CONSTRUCTION ACTIVITIES AND SEQUENCING

The construction activities proposed for coverage under this SWPPP include clearing, grubbing, grading, construction of the proposed structures and associated paved areas, and site stabilization. Additional supporting activities will involve the installation of erosion control

measures, utility installation, placement of sod, riprap, spreading of topsoil, seeding, mulching, watering, and fertilizing.

EPSC measures will be installed before any earthmoving operations begin. These measures are designed with good engineering practices to be consistent with the requirements and recommendations of the Tennessee EPSC Handbook. The design provides the following:

- Minimize or eliminate the dislodging or suspension of soil in stormwater runoff.
- Retain mobilized sediment on-site to the maximum extent practical.
- Slow down runoff to prevent rill and gully formation.
- Minimize the tracking of sediment, dirt, or mud off-site or onto public roads and reduce dust generation.

Construction sequencing is outlined below. The contractor is required to implement the BMPs outlined in the EPSC plan sheets (Appendix C), as described in this SWPPP, and in accordance with the Tennessee EPSC Handbook.

3.1 Initial EPSC Phase

The initial phase includes installing and activating EPSC measures before starting land-disturbing activities. EPSC devices will be maintained and adjusted as construction progresses.

1. Install initial EPSC measures, including the construction entrance, designated refueling area, concrete washout area, and silt fencing.
2. Install 4ft tall high-visibility construction fencing around the septic perc area to prevent disturbance.
3. Install 4ft tall high-visibility construction fencing and a layer of silt fencing along the existing drainage feature, maintaining a 30-foot undisturbed buffer on each side.
4. Install berm and construct the temporary sediment basin with outfall stabilized using rip-rap.
5. Contact the City of Mt. Pleasant for an inspection of EPSC measures and to apply for the grading permit.

3.2 Intermediate EPSC Phase

This phase includes grading and installing the stormwater conveyance system. EPSC measures will be maintained and adjusted as needed. The 30-foot buffer along the existing drainage feature must be maintained and protected throughout construction.

1. Complete grading activities. In disturbed areas, maintain slopes no steeper than 3:1, with efforts to preserve sheet flow where feasible. Stabilize critical slopes of 3:1 or steeper within seven calendar days of disturbance. Stabilize all other disturbed areas within 14 calendar days.
2. Once the open detention pond is constructed, immediately install inlet protection and stabilize pond soil with blankets and/or sod.
3. Install the stormwater conveyance system, including flat-bottom ditches and associated rock check dams, trench drains, and underground piping. Provide temporary inlet and outlet protections.

3.3 Final EPSC Phase

The final phase includes constructing the structures, paving, permanent stabilization, and removal of temporary controls.

1. Install utilities.
2. Construct structures, including asphalt roads, stone driveways, office and warehouse buildings, and associated rail infrastructure.
3. Install permanent EPSC measures, including erosion control blankets on all slopes 3:1 or steeper and riprap on all slopes 2:1 or greater. All other disturbed areas shall be stabilized with seed and straw.
4. Finalize grading and stabilization, maintaining slopes no steeper than 3:1 where feasible and preserving sheet flow where possible.
5. Address landscaping needs.
6. Remove temporary EPSC devices, leaving permanent stormwater controls in place, including the open detention pond.

Once construction activities have ceased, a Notice of Termination (NOT) form and photographs showing site stabilization must be submitted to TDEC via MyTDEC. A copy of the required NOT form is included in **Appendix E**.

4.0 STORMWATER RUNOFF CONTROLS

This section outlines the stormwater runoff control measures to be implemented during construction to minimize pollution. It includes a description of EPSC practices, stormwater management systems, procedures for handling other potential pollutants, and measures to manage non-stormwater and prohibited discharges. The site operator is responsible for ensuring that all measures are implemented as described and within the prescribed timelines to comply with the requirements set forth by the CGP and Tennessee's stormwater regulations.

4.1 Erosion Prevention and Sediment Control

The site operator implements, maintains, and inspects EPSC measures throughout construction. The EPSC Plan in Appendix C provides detailed locations and specifications for all control measures.

- Installation of EPSC Devices

  EPSC devices must be installed and functional before any earth-moving activities begin. These measures include a stabilized construction entrance, designated refueling and concrete washout areas, silt fencing along cuts and fills, and high-visibility fencing to protect the existing drainage feature and septic perc area. The temporary sediment basin, with an associated berm, must also be installed during this phase. Temporary erosion control measures that are removed at the beginning of the workday must be replaced by the end of the day.

- Grading and Excavation Controls

  Grading and excavation will be phased to limit the exposure of disturbed soil. Slopes

steeper than 3:1 must be stabilized with erosion control blankets, while slopes 2:1 or greater require riprap. All other disturbed areas must be stabilized with seed and straw within 14 days of the last disturbance.

- Stormwater Conveyance and Inlet Protection

  As the stormwater conveyance system is installed, temporary protection must be placed at inlets to prevent sediment from entering the system. The site will include a permanent open detention pond designed to manage stormwater runoff. The pond must be constructed with appropriate stabilization measures, such as riprap at inlets and outlets, and maintained throughout the project to ensure proper function.

- Permanent Stabilization

  Final stabilization measures will be implemented after grading and major earth-moving activities are complete. Permanent stabilization includes establishing a perennial, native vegetative cover with a minimum of 70 percent uniform density. Paved areas will be completed, and permanent stormwater features will be installed. All stabilization measures, including paving or vegetation, must be completed within 14 days of final grading to prevent erosion.

- Removal of Temporary EPSC Measures

  Once final stabilization has been achieved, all temporary EPSC devices, including high-visibility construction fencing, check dams, silt fencing, and inlet protection, must be removed.

4.2 Stormwater Management

Post-construction stormwater management measures will be implemented to control sediment and minimize the discharge of pollutants from the subject property. These measures include one permanent open detention pond. The pond is designed to treat runoff and reduce sediment loading to receiving waters. The design will meet the requirements for managing stormwater from the 2-year, 24-hour storm event in accordance with the Tennessee Erosion and Sediment Control Handbook. The property owner will be responsible for regular maintenance and inspections to ensure the continued function of the stormwater management systems.

4.3 Other Items Needing Control

This subsection identifies construction materials, wastes, and other potential pollutants that require proper handling, storage, and disposal to minimize the risk of contaminating stormwater during construction activities. The operator shall establish and maintain a proactive method to prevent litter, construction debris, and construction chemicals from entering the waters of the state/U.S. BMPs will be implemented to ensure these items do not contribute to pollution in accordance with the requirements of the CGP.

- Construction Materials

  The construction items anticipated at this subject property include earth, rock, concrete, asphalt, corrugated steel pipe, mineral aggregates, timber, and structural

components. Stockpiled control measures will secure erodible construction materials downgradient of the stockpiles.

- Management of Construction Materials and Chemicals
  In addition to the above-referenced materials, the site will handle materials such as asphalt, paints, solvents, and other chemicals. These materials will be stored in designated areas with appropriate containment measures to prevent spillage. Any waste materials generated from the handling of these substances will be appropriately disposed of off-site in accordance with local, state, and federal regulations. Asphalt will be stored in covered containers to prevent exposure to rainfall. Paint and solvent containers will be tightly sealed when not in use, and the operator will ensure that all construction staff are trained on the proper handling and emergency response procedures in case of a spill. Spill kits will be available at storage areas and refueling points, and regular inspections will be conducted to ensure proper containment and management.

- Waste Materials
  Waste material (earth, rock, concrete, litter) not required for the construction of the project will be disposed of by the operator off-site in a legal manner.

- Other Materials
  Other materials not used for construction but needed at the proposed site must be controlled to prevent pollution of the receiving waters. These items include, but are not limited to, the storage and dispensing of fertilizers and lime, diesel fuel and gasoline, and machinery and lubricants (oil and grease).

  Soils at fueling areas should be checked daily for signs of spillage and staining of the soil. Machinery should be serviced or repaired off-site to prevent leaks of fluids. The contractor is responsible for reporting all hazardous materials in accordance with all applicable federal, state, and local regulations.

4.4 Non-Stormwater Discharges

The following non-stormwater discharges have the potential to occur at the site during construction:

- Groundwater may be intercepted during excavation. While locations are unknown, this SWPPP will be modified as necessary as groundwater is discovered.
- Dust suppression water.
- Water used to wash vehicles (where detergents are not used and filtering is provided before water leaves the site).

4.5 Prohibited Discharges

The following discharges are prohibited:

- Wastewater from washout of concrete, unless managed by an appropriate control.
- Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials.
- Fuels, oils, and other potential pollutants used in vehicle and equipment operation and

maintenance.
- Soaps or solvents used in vehicle and equipment washing.
- Discharges from dewatering activities, including discharges from dewatering trenches and excavations, are prohibited unless managed by appropriate controls.

4.6 General Stormwater Quality Measures

Locations where vehicles enter and exit the site shall be inspected for evidence of off-site roadway sediment tracking. The operator shall take appropriate steps to ensure that petroleum products or other chemical pollutants are prevented from entering the waters of the state/U.S.

All equipment refueling, servicing, and staging areas shall comply with all local, state, and federal laws, rules, regulations, and ordinances, including those of the National Fire Protection Association. Appropriate containment measures for these areas shall be utilized. All spills must be reported to the appropriate agency, and measures shall be taken immediately to prevent the pollution of the waters of the state/U.S., including groundwater, should a spill occur.

Borrow and waste disposal areas shall be located in non-wetland areas and above the 100-year FEMA floodplain. Borrow and waste disposal areas shall not affect any waters of the state/U.S. unless these areas are addressed explicitly in the EPSC plans.

The operation of equipment in waters of the state/U.S., including wetlands, shall be only as shown on the project plans and/or as so specified in any ARAP and/or section 404 permits. Any additional permits required by the operator's method(s) of construction shall be the responsibility of the contractor to obtain after receiving the approval of the TDEC Division of Water Pollution Control.

5.0 INSPECTIONS AND MAINTENANCE

This section outlines the procedures for assessing, inspecting, and maintaining EPSC measures throughout the project. Inspections will be conducted regularly to ensure the effectiveness of the EPSC measures, and corrective actions will be taken to prevent pollutant discharge and maintain compliance with the CGP.

5.1 Site Assessments

For outfalls draining 10 or more acres or 5 or more acres if draining to waters with unavailable parameters, a site assessment will be conducted by a qualified individual, such as a licensed Professional Engineer (PE), Certified Professional in Erosion and Sediment Control (CPESC), or a TDEC-certified Level II EPSC professional. This site assessment ensures that the design and implementation of erosion prevention and sediment control measures are sufficient to minimize the discharge of pollutants from these larger drainage areas.

Outfalls #1 and #3 both drain over 10 acres; therefore, a site assessment is required for the subject property.

5.2 Twice-Weekly Inspections

Inspection, maintenance, and overall effectiveness of EPSCs will be performed regularly throughout the project's life. Twice-weekly inspections (at least 72 hours apart) shall be performed to verify and document the functionality and performance of EPSC measures as

described in the EPSC plans and SWPPP. Qualified personnel, such as a licensed PE, CPESC, or TDEC-certified Level I EPSC professional, shall inspect disturbed areas of the construction site not permanently stabilized, areas of exposed material storage and structural controls, vehicle access points, and outfalls.

Outfall points shall be inspected to determine whether EPSC measures effectively prevent siltation impacts to surrounding waters. Upon conclusion of the inspections, EPSC measures found to be ineffective shall be repaired, replaced, or modified before the next rain event, if possible, but no more than seven days after the condition is identified. A copy of the Inspection Certification Form is included in **Appendix F**.

The operator shall install a rain gage on-site at a central location, preferably near the construction entrance or another easily accessible area. The rain gage will be maintained in good working condition, and daily precipitation amounts will be recorded. The recorded rainfall data shall be provided to the engineer on a monthly basis for review and to support the determination of BMP functionality. The rain gage will be inspected during each of the twice-weekly inspections, and any necessary maintenance will be performed promptly.

5.3 Maintenance

Sediment shall be removed from sediment control structures when the design capacity has been reduced by fifty percent. Sediment removed from sediment control structures shall be placed and treated in a manner so that the sediment is contained within the project limits and does not migrate into the waters of the state/U.S. During sediment removal, the operator shall ensure that structural components of erosion control structures are not damaged and thus made ineffective. If damage does occur, the operator shall repair the structures at the operator's own expense.

The operator shall establish and maintain a proactive method to prevent the off-site migration or deposit of sediment on roadways used by the general public.

6.0 STORMWATER MANAGEMENT RECORDS

The site operator shall maintain a copy of this SWPPP on-site (or at a nearby office) and place copies of any project-related permits on the project bulletin board. The site operator must also post the telephone number and address of a person the public can contact for information and a brief project description.

The operator will also maintain at the site the following records of construction activities:

- The dates when major grading activities occur.
- The dates when construction activities temporarily or permanently cease on a portion of the site.
- The dates when stabilization measures are initiated.
- Inspection reports and daily rainfall amounts.

All records related to this SWPPP will be retained for a minimum of three years from the date the NOT is submitted and coverage under the CGP ends. These records will be made available to TDEC or other regulatory authorities upon request.

APPENDIX A

NOTICE OF INTENT (NOI)

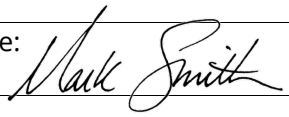
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
Davy Crockett Tower, 500 James Robertson Parkway 9th Floor Nashville, TN 37243
Toll Free Number: 1-888-891-8332 (TDEC)

NOTICE OF INTENT (NOI) FOR GENERAL NPDES PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES (TNR100000)

Site or Project Name: Bulk Storage Railyard		**NPDES Tracking Number: TNR**
Street Address including city or zip code or Location: South Main Street, Tax Map 150 Parcel 063.11 Mt. Pleasant, Tennessee 38474		Construction Start Date: 01/01/2026
		Estimated End Date: 12/31/2027
Site Description: True Rail Bulk Storage Railyard		Latitude (dd.dddd): 35.5167
		Longitude (-dd.dddd): -87.2147
County(ies): Maury	MS4 Jurisdiction (if applicable): N/A	Acres Disturbed: 29.21
		Total Acres: 62.16
Are there any streams ☐ and/or wetlands ☐ on or adjacent to the construction site? If wetlands are located on-site and may be impacted, attach wetlands delineation report. If an Aquatic Resource Alteration Permit has been obtained for this site, what is the permit number?		ARAP Number: N/A
Receiving waters: Sugar Creek (TN06040003023_0250)		
Include the SWPPP with the NOI ■ SWPPP Included	Include a site location map ■ Map Included	

Name of Site Owner or Developer (Site-Wide Permittee): (correct legal name of person, company, or entity that has operational or design control over construction plans and specifications) True Rail Enterprises, LLC			
For corporate entities only, provide the Tennessee Secretary of State (SOS) Control Number: 001060798			
Site Owner or Developer Contact Name: (individual responsible for site) Mark Smith	Title or Position: (the party who signs the certification below): CEO		
Mailing Address: 500 1st Avenue	City: Mt. Pleasant	State: TN	Zip: 38474
Phone: 931-325-5570	E-mail: mark@truerail.com		

Optional Contact Name: Katherine L. Clifton, P.G.	Title or Position: Environmental Geologist		
Mailing Address: 2010 Highway 49	City: Pleasant View	State: TN	Zip: 37146
Phone: 615-619-9784	E-mail: katherine.clifton@csrengineers.com		

Owner or Developer Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Primary Permittee) True Rail Enterprises, LLC		
I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.		
Owner or Developer Name: (print or type): Mark Smith	Signature: 	Date: 10/28/25

Contractor(s) Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Secondary Permittee)		
I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.		
Primary contractor name, address, and SOS control number (if applicable): (print or type)	Signature:	Date:
Primary contractor name, address, and SOS control number (if applicable): (print or type)	Signature:	Date:
Primary contractor name, address, and SOS control number (if applicable): (print or type)	Signature:	Date:

CN-0940 (Rev. 04-24) (Instructions on reverse) RDA 2366

NOTICE OF INTENT (NOI) FOR GENERAL NPDES PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES (TNR100000)

Purpose of this form - A completed notice of intent (NOI) must be submitted to obtain coverage under the Tennessee General NPDES Permit for Discharges of Stormwater Associated with Construction Activity (permit). **Requesting coverage under this permit means that an applicant has obtained and examined a copy of this permit, and thereby acknowledges applicant's claim of ability to be in compliance with permit terms and conditions.** This permit is required for stormwater discharge(s) from construction activities including clearing, grading, filling, and excavating (including borrow pits) of one or more acres of land. This form should be submitted at least 30 days prior to the commencement of land disturbing activities, or no later than 48 hours prior to when a new operator assumes operational control over site specifications or commences work at the site.

The appropriate permit application fee must accompany the NOI and is based on total acreage to be disturbed by an entire project, including any associated construction support activities (e.g., equipment staging yards, material storage areas, excavated material disposal areas, borrow or waste sites):

(i) Projects equal to or greater than 150 acres	$10,000
(ii) Projects equal to or greater than 50 acres and less than 150 acres	$6,000
(iii) Projects equal to or greater than 20 acres and less than 50 acres	$3,000
(iv) Projects equal to or greater than 5 acres and less than 20 acres	$1,000
(v) Projects equal to or greater than 1 acre and less than 5 acres	$250
(vi) Projects seeking subsequent coverage under an actively covered larger common plan of development or sale	$100

There is no fee for sites less than 1 acre. A separate annual maintenance fee is also required for construction activities that exceed 1 year under general permit coverage. Tennessee Rules, Chapter 0400-40-11-.02(b)(12)).

Who must submit the NOI form? Per Section 2 of the permit, all site operators must submit an NOI form. "Operator" for the purpose of this permit and in the context of stormwater associated with construction activity means any person associated with a construction project who meets either or both of the following two criteria: (1) The person has operational or design control over construction plans and specifications, including the ability to make modifications to those plans and specifications. This person is typically the owner or developer of the project or a portion of the project (e.g. subsequent builder), or the person that is the current landowner of the construction site. This person is considered the primary permittee; or (2) The person has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a SWPPP for the site or other permit conditions. This person is typically a contractor or a commercial builder who is hired by the primary permittee and is considered a secondary permittee.

Owners, developers, and all contractors that meet the definition of the operator in subsection 2.2 of the permit shall apply for permit coverage on the same NOI, insofar as possible. After permit coverage has been granted to the primary permittee, any separate or subsequent NOI submittals must include the site's previously assigned permit tracking number and the project name. The site-wide site-specific SWPPP shall be prepared in accordance with the requirements of part 5 of the permit and must be submitted with the NOI unless the NOI being submitted is to only add a contractor (secondary permittee) to an existing coverage. Artificial entities (e.g., corporations or partnerships excluding entities not required to register) must submit the TN Secretary of State, Division of Business Services, control number. The Division reserves the right to deny coverage to artificial entities that are not properly registered and in good standing with the TN Secretary of State.

Notice of Coverage - The division will review the NOI for completeness and accuracy and prepare a notice of coverage (NOC). Stormwater discharge from the construction site is authorized as of the effective date of the NOC.

Complete the form - Type or print clearly, using ink and not markers or pencil. Answer each item or enter "NA," for not applicable, if a particular item does not fit the circumstances or characteristics of your construction site or activity. If you need additional space, attach a separate piece of paper to the NOI form. **The NOI will be considered incomplete without a permit fee, a map, and the SWPPP.**

Describe and locate the project - Use the legal or official name of the construction site. If a construction site lacks street name or route number, give the most accurate geographic information available to describe the location (reference to adjacent highways, roads, and structures, e.g., intersection of state highways 70 and 100). Latitude and longitude (expressed in decimal degrees) of the center of the site can be located on USGS quadrangle maps. The maps can be obtained at the USGS World Wide Web site: http://www.usgs.gov/; latitude and longitude information can be found at numerous other web sites. Attach a copy of a portion of a 7.5-minute topographic map, a city map, or a county map showing location of site, with boundaries at least one mile outside the site boundaries. Provide estimated starting date of clearing activities and completion date of the project, and an estimate of the number of acres of the site on which soil will be disturbed, including borrow areas, fill areas, stockpiles and the total acres. For linear projects, give location at each end of the construction area.

Give name of the receiving waters - Trace the route of stormwater runoff from the construction site and determine the name of the river(s), stream(s), creek(s), wetland(s), lake(s) or any other water course(s) into which the stormwater runoff drains. Note that the receiving water course may or may not be located on the construction site. If the first water body receiving construction site runoff is unnamed ("unnamed tributary"), determine the name of the water body that the unnamed tributary enters.

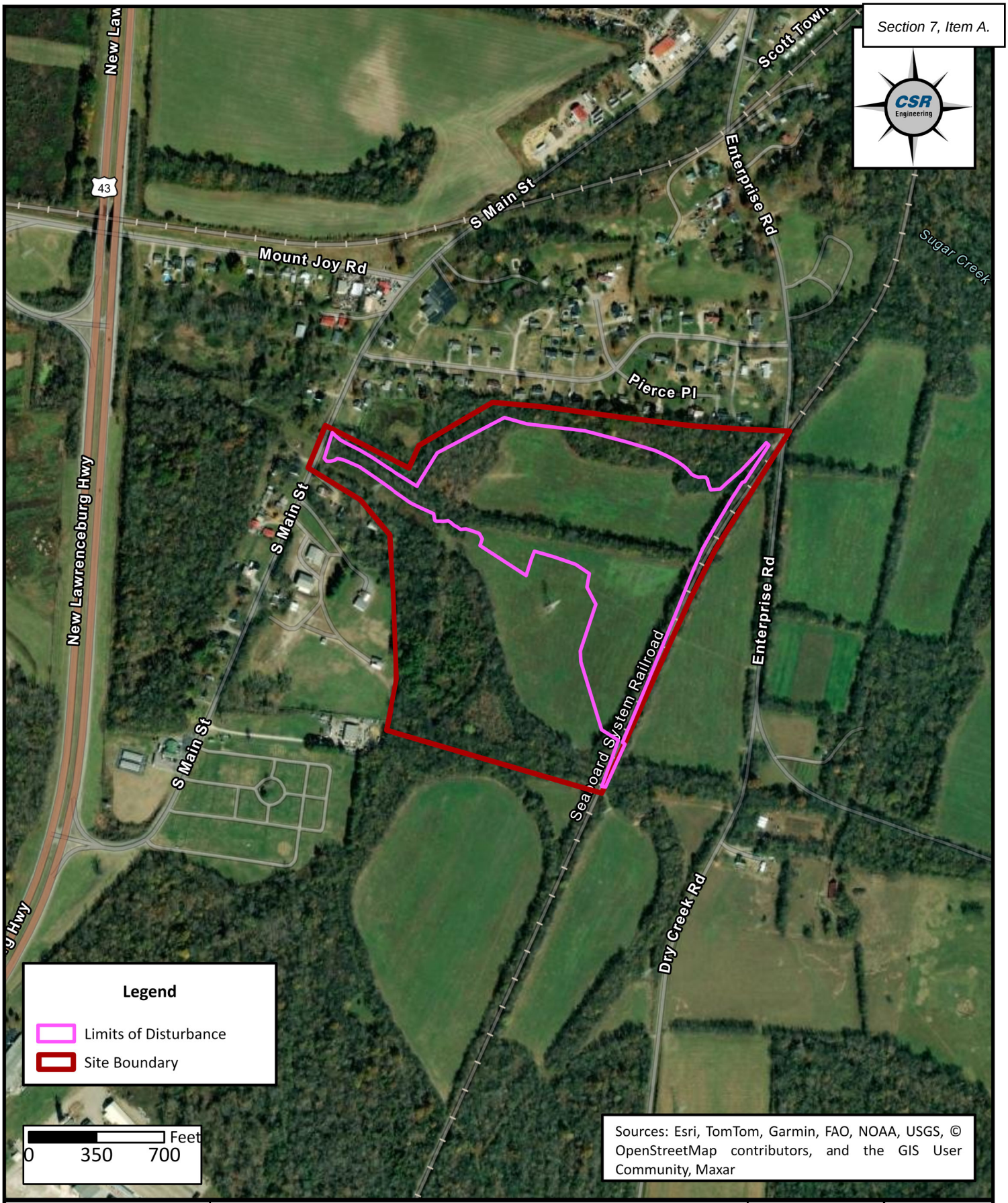
An ARAP may be required - If your work will disturb or cause alterations of a stream or wetland, you must obtain an appropriate Aquatic Resource Alteration Permit (ARAP). If you have a question about the ARAP program, contact your local Environmental Field Office (EFO).

Submitting the form and obtaining more information - Note that this form must be signed by the company President, Vice-President, or a ranking elected official in the case of a municipality, for details see subpart 2.5. For more information, contact your local EFO at the toll-free number 1-888-891-8332 (TDEC). Submit the completed NOI form (keep a copy for your records) to the appropriate EFO for the county(ies) where the construction activity is located, addressed to **Attention: Stormwater NOI Processing** or use MyTDEC Forms for electronic submittal.

EFO	Street Address	Zip Code	EFO	Street Address	Zip Code
Memphis	8383 Wolf Lake Drive, Bartlett	38133-4119	Cookeville	1221 South Willow Ave.	38506
Jackson	1625 Hollywood Drive	38305-4316	Chattanooga	1301 Riverfront Parkway, Suite 206	37402-2013
Nashville	711 R S Gass Boulevard	37243	Knoxville	3711 Middlebrook Pike	37921
Columbia	1421 Hampshire Pike	38401	Johnson City	2305 Silverdale Road	37601

APPENDIX B

SITE FIGURES



CSR Engineering

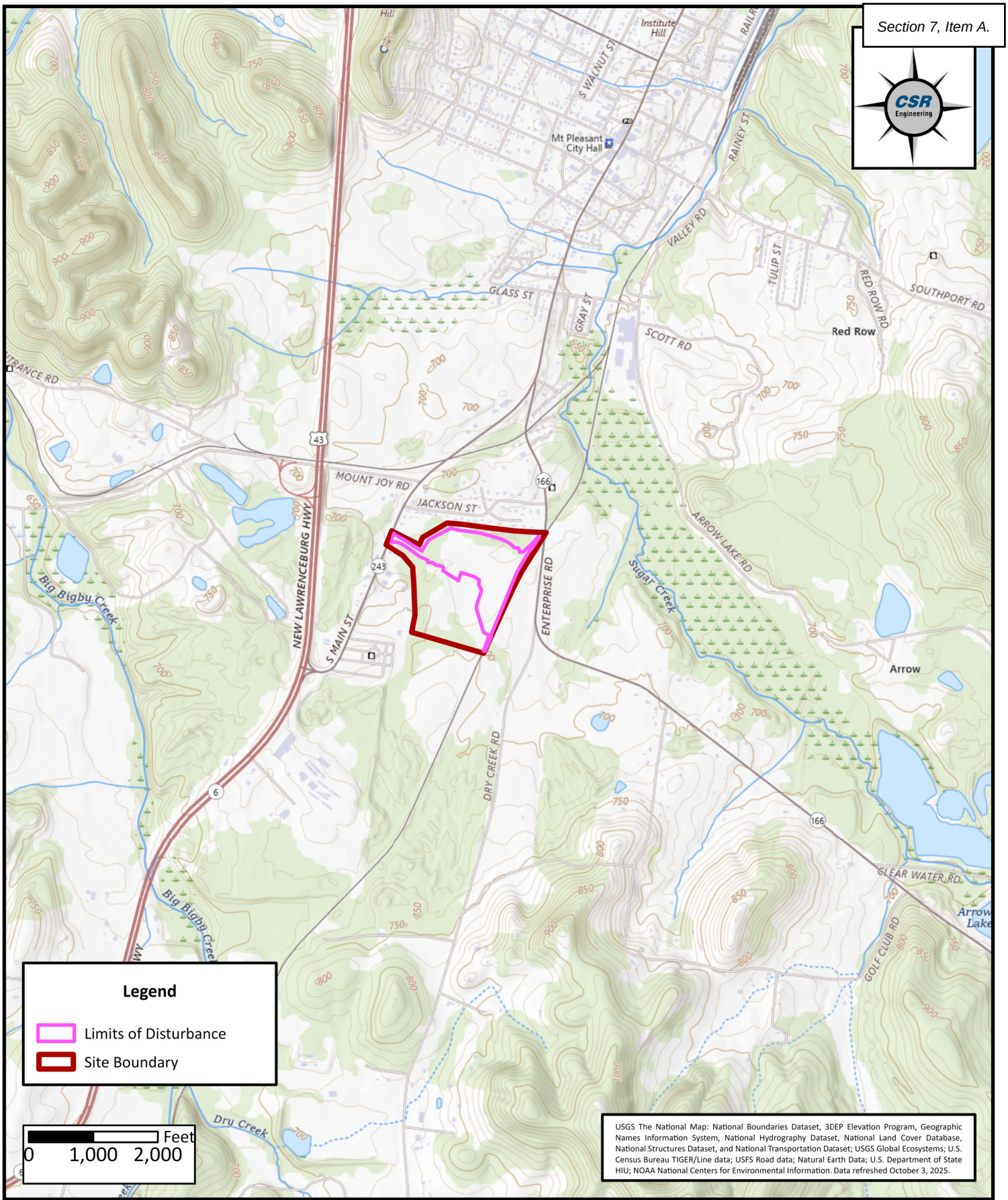
SITE LOCATION MAP
BULK STORAGE RAILYARD
SOUTH MAIN STREET - TAX MAP 150 PARCEL 063.11
MT. PLEASANT, MAURY COUNTY, TENNESSEE

Drawn by: kclifton

Date: 10/21/2025

Project No.: 23-040

FIGURE 1



CSR Engineering

SITE LOCATION TOPOGRAPHIC MAP
BULK STORAGE RAILYARD
SOUTH MAIN STREET - TAX MAP 150 PARCEL 063.11
MT. PLEASANT, MAURY COUNTY, TENNESSEE

Drawn by: kclifton

Date: 10/21/2025

Project No.: 23-040

FIGURE 2

APPENDIX C

EPSC PLANS AND NOTES

REVISIONS

NO.	DATE	BY	DESCRIPTION

SITE DEVELOPMENT PLANS

OF

RAIL YARD AND SITE DEVELOPMENT

FOR

TRUE RAIL ENTERPRISES, LLC.

S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY
TAX MAP 150 PARCEL 063.11

OCTOBER 2025

CONTRACTOR'S NOTES:

THE CONTRACTOR'S WORK TO BE PERFORMED UNDER THIS PROJECT WILL CONSIST OF FURNISHING ALL EQUIPMENT, LABOR, MATERIALS, TOOLS AND SUPERVISION NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED NORTH STAR FACILITY AND OTHER RELATED WORK AS LISTED IN THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, UTILITY LOCATIONS, ELEVATIONS, EXISTING INVERTS PRIOR TO ORDERING ANY MATERIAL. IF A DISCREPANCY IS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR REPRESENTATIVE IMMEDIATELY.

ALL WORK SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL CODES AND LAWS. ALL NECESSARY LICENSES AND PERMITS NOT OBTAINED BY THE OWNER SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

ALL MATERIALS SHALL BE NEW UNLESS USED OR SALVAGED MATERIALS ARE AUTHORIZED BY OWNER.

THE CONCRETE SHALL HAVE A 4000 PSI MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS. MAXIMUM SLUMP SHALL BE 4 INCHES, UNLESS NOTED OTHERWISE.

ALL EXTERIOR CONCRETE SHALL BE FINISHED WITH A FINE HAIR BROOM.

ALL WORK PERFORMED SHALL BE IN THE BEST RECOGNIZED TRADE PRACTICES AND TO THE ENTIRE SATISFACTION OF THE OWNER.

ALL DESIGNATED GRASS AREAS WITHIN THE PROPERTY LINE SHALL BE SEEDED AND MULCHED.

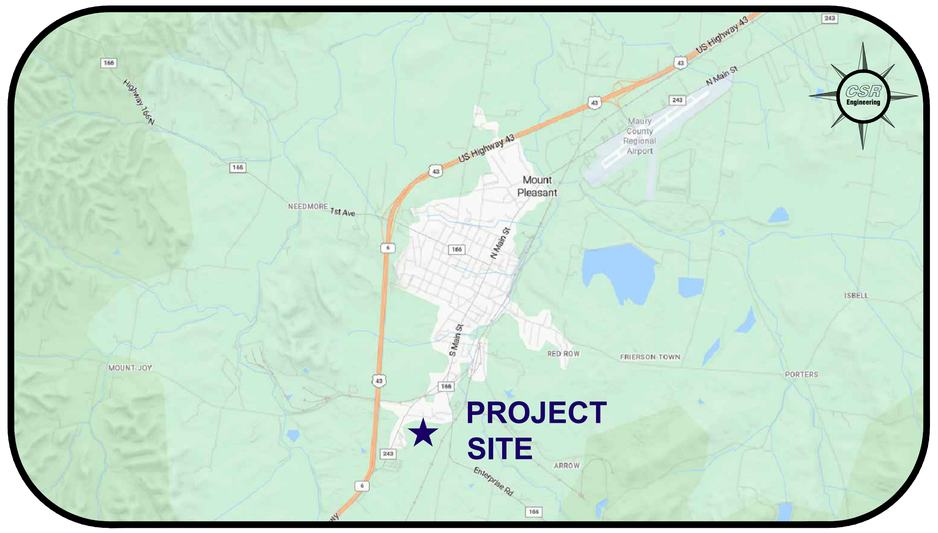
UTILITY COMPANIES:

NATURAL GAS -
CITY OF MOUNT PLEASANT
100 PUBLIC SQUARE
(931) 379-7717

WATER-
CITY OF MOUNT PLEASANT
100 PUBLIC SQUARE
(931) 379-7717

SEWER-
CITY OF MOUNT PLEASANT
100 PUBLIC SQUARE
(931) 379-7717

ELECTRIC -
MOUNT PLEASANT POWER SYSTEM
123 N. MAIN STREET
(931) 379-3233



LOCATION MAP

SCALE: 1"=3,000'

INDEX OF DRAWINGS

SHEET	DESCRIPTION
T1.0	TITLE SHEET
C1.0	EXISTING SITE PLAN
	PROPOSED
C2.0	OVERALL SITE PLAN
C2.1	ENLARGED SITE PLAN
C2.2	ENLARGED SITE PLAN
C3.0	GRADING PLAN AREA 1
C3.1	GRADING PLAN AREA 2
C3.2	GRADING PLAN AREA 3
C3.3	CUT AND FILL QUANTITIES
C3.4	EXISTING DRAINAGE MAP
C3.5	PROPOSED DRAINAGE MAP
C4.0	INITIAL EPSC PLAN
C4.1	INTERMEDIATE EPSC PLAN
C4.2	FINAL EPSC PLAN
C4.3	EPSC DETAILS
C4.4	SEDIMENT BASIN DETAILS
C5.0	UTILITY PLAN
C5.1	LIGHTING PLAN
C6.0	STORMWATER DETAILS
C7.0	SITE DETAILS
C8.0	SITE PROFILES
A-1-A-3	ARCHITECTURAL PLANS
L-1.0-L1.2	LANDSCAPING PLANS
	RAILROAD PLANS
RR1.	ESTIMATED QUANTITIES AND NOTES
RR2.	PROPOSED TRACK LAYOUTS - OVERALL
RR3.	PROPOSED SIDING TRACK - STA. 0+00 TO STA. 10+00
RR4.	PROPOSED SIDING TRACK - STA. 10+00 TO E.O.L.
RR5.	PROPOSED INDUSTRY TRACK 4 - STA. 0+00 TO STA. 7+00
RR6.	PROPOSED INDUSTRY TRACK 4 - STA. 7+00 TO E.O.L.
RR7.	PROPOSED TRACK 2 - PROFILE
RR8.	TYPICAL TRACK DETAILS

ZONED "IL"
LIGHT INDUSTRIAL DISTRICT
MINIMUM BUILDING SETBACKS
FRONT - 50'
REAR - 50'
SIDE - 50'

CSR Engineering

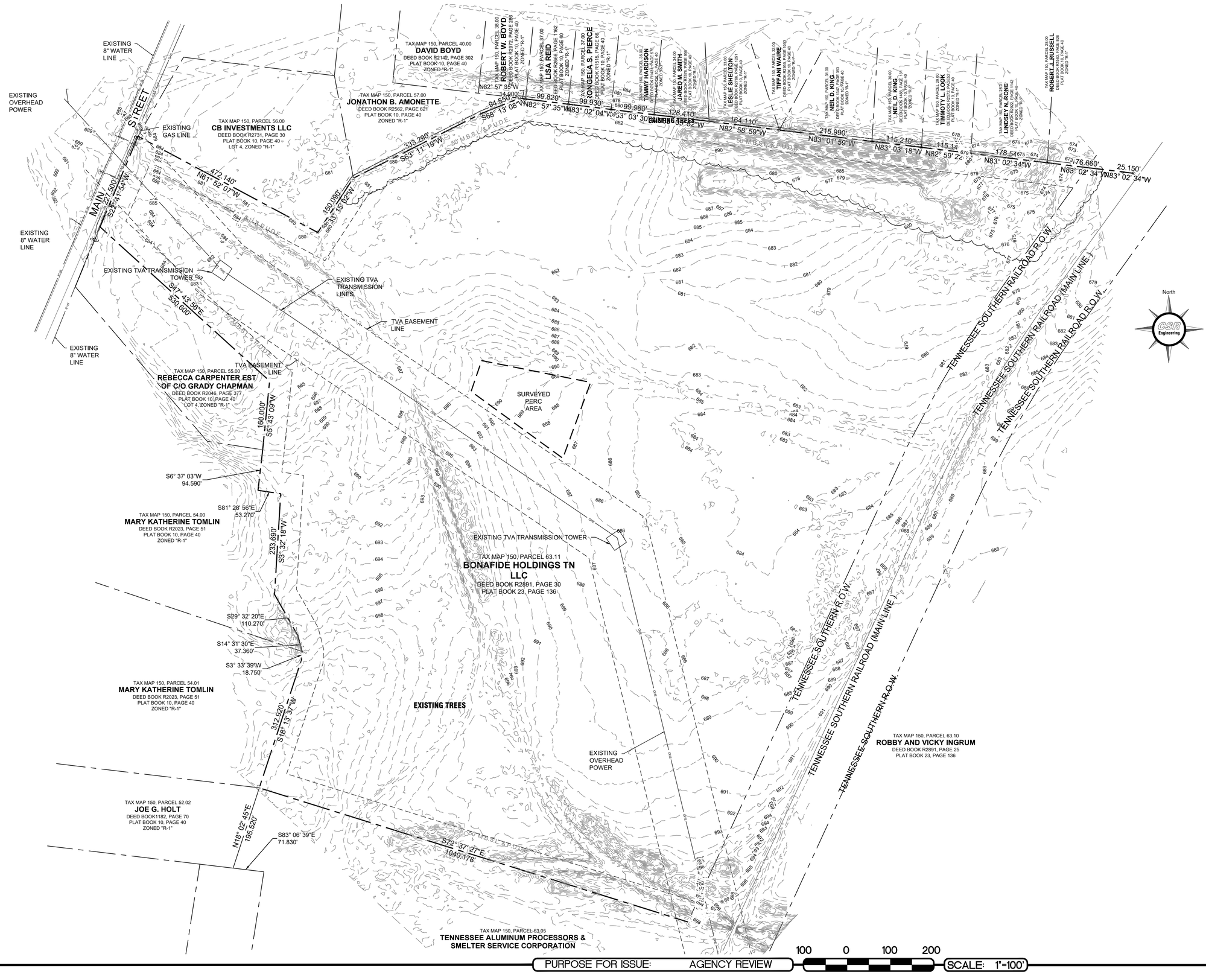
Jason Reynolds PE
CSR Engineering, Inc.
2010 Highway 49E
Pleasant View, TN 37146
P: 615.247.5381
F: 615.246.3815
jason.reynolds@csrengineers.com

Tennessee 811
Know what's below. Call before you dig.

TrueRail ENTERPRISES, LLC

True Rail Enterprises, LLC
Mark Smith
500 1st Avenue
Mt. Pleasant, TN 38474
P: 931.325.5570
C: 423.244.6057
mark@truerail.com

PURPOSE FOR ISSUE: AGENCY REVIEW



PURPOSE FOR ISSUE: AGENCY REVIEW

100 0 100 200

SCALE: 1"=100'

CSR Engineering

CSR Engineering, Inc.
2010 Highway 49E
Pleasant View, TN 37146
P: 615.212.2389
F: 615.246.3815
www.csrengineers.com

TrueRail ENTERPRISES, LLC

EXISTING SITE PLAN

OF

BULK STORAGE RAILYARD

FOR

TRUE RAIL ENTERPRISES, LLC

S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

REVISIONS

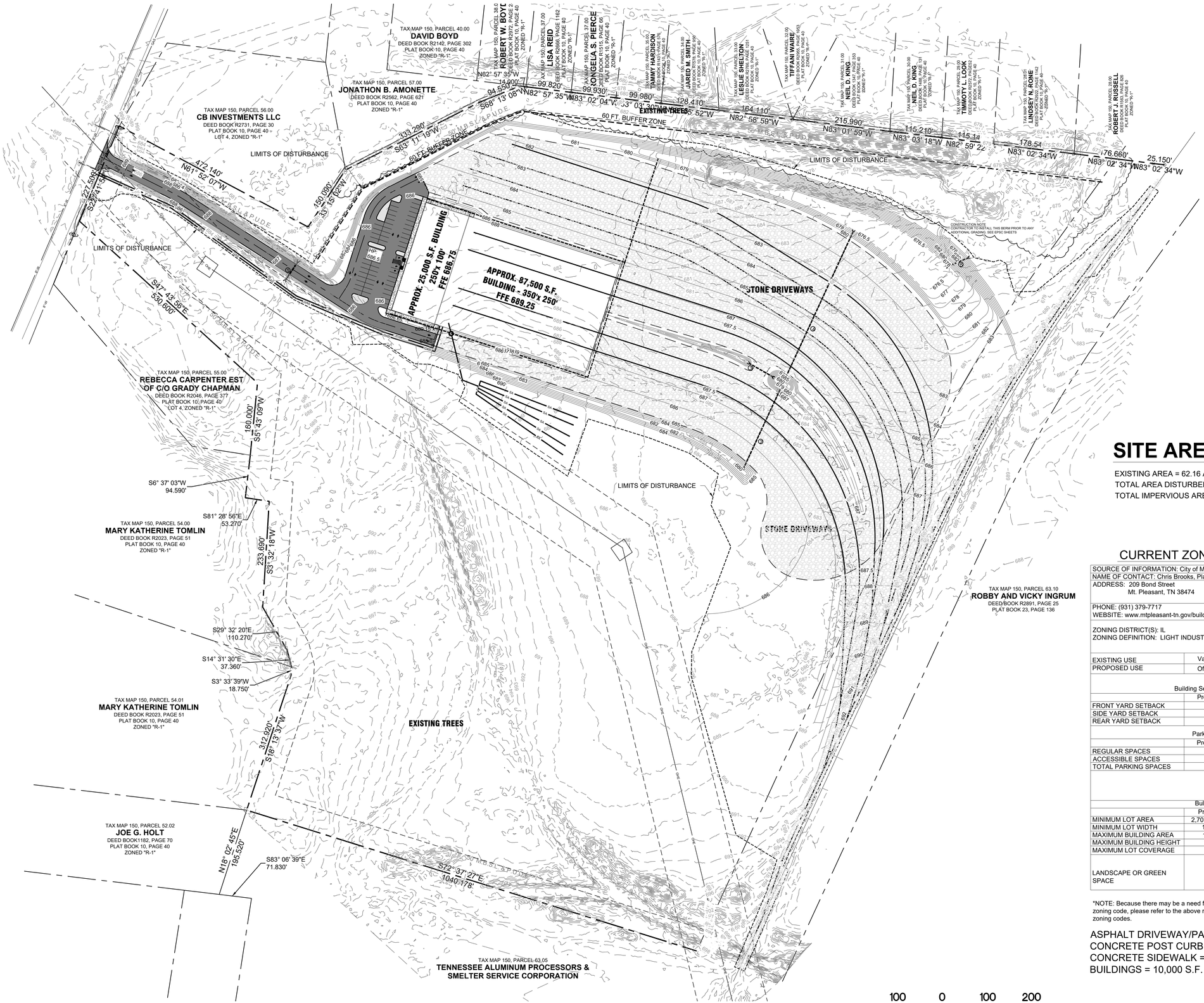
NO.	DATE	BY	DESCRIPTION

DESIGNER MSS
REVIEWER JLR

PROJECT 23-040

DATE 10-14-2025

SHEET C1.0



SITE AREA

EXISTING AREA = 62.16 ACRES (2,707,846 S.F.)
TOTAL AREA DISTURBED = 29.21 ACRES (1,272,346 S.F.)
TOTAL IMPERVIOUS AREA = 3.83 ACRES (166,705 S.F.)

CURRENT ZONING INFORMATION

SOURCE OF INFORMATION: City of Mt. Pleasant and Planning Department	
NAME OF CONTACT: Chris Brooks, Planning Director	
ADDRESS: 209 Bond Street Mt. Pleasant, TN 38474	
PHONE: (931) 379-7717 WEBSITE: www.mtpleasant-tn.gov/building-planning	
ZONING DISTRICT(S): IL ZONING DEFINITION: LIGHT INDUSTRIAL	TAX MAP 150, PARCEL 063.11
EXISTING USE	Vacant - Undeveloped
PROPOSED USE	Office, Warehouse, and Maintenance Facility

Building Setback Requirements

	Proposed	Required	Notes
FRONT YARD SETBACK	225'	50'	
SIDE YARD SETBACK	350'	50'	
REAR YARD SETBACK	780'	50'	

Parking Tabulation

	Proposed	Required	Notes
REGULAR SPACES	57	62	
ACCESSIBLE SPACES	3	3	
TOTAL PARKING SPACES	60	65	

Bulk Restrictions

	Proposed	Required	Notes
MINIMUM LOT AREA	2,707,846 S.F.	40,000 S.F.	
MINIMUM LOT WIDTH	1230 FT.	100 FT.	
MAXIMUM BUILDING AREA	1.26%	50% MAX.	
MAXIMUM BUILDING HEIGHT	39 FT.	60 FT.	
MAXIMUM LOT COVERAGE		-	
LANDSCAPE OR GREEN SPACE			See "Landscaping Plan"

*NOTE: Because there may be a need for further interpretation of the applicable zoning code, please refer to the above referenced municipality and the applicable zoning codes.

ASPHALT DRIVEWAY/PARKING = 43,487 S.F.
CONCRETE POST CURB = 1,938 S.F.
CONCRETE SIDEWALK = 4,815 S.F.
BUILDINGS = 10,000 S.F. OFFICE & 102,500 S.F.WH

PURPOSE FOR ISSUE: AGENCY REVIEW

100 0 100 200 SCALE: 1"=100'

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OVERALL SITE PLAN
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MAURY COUNTY

REVISIONS

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REVIEWER JLR
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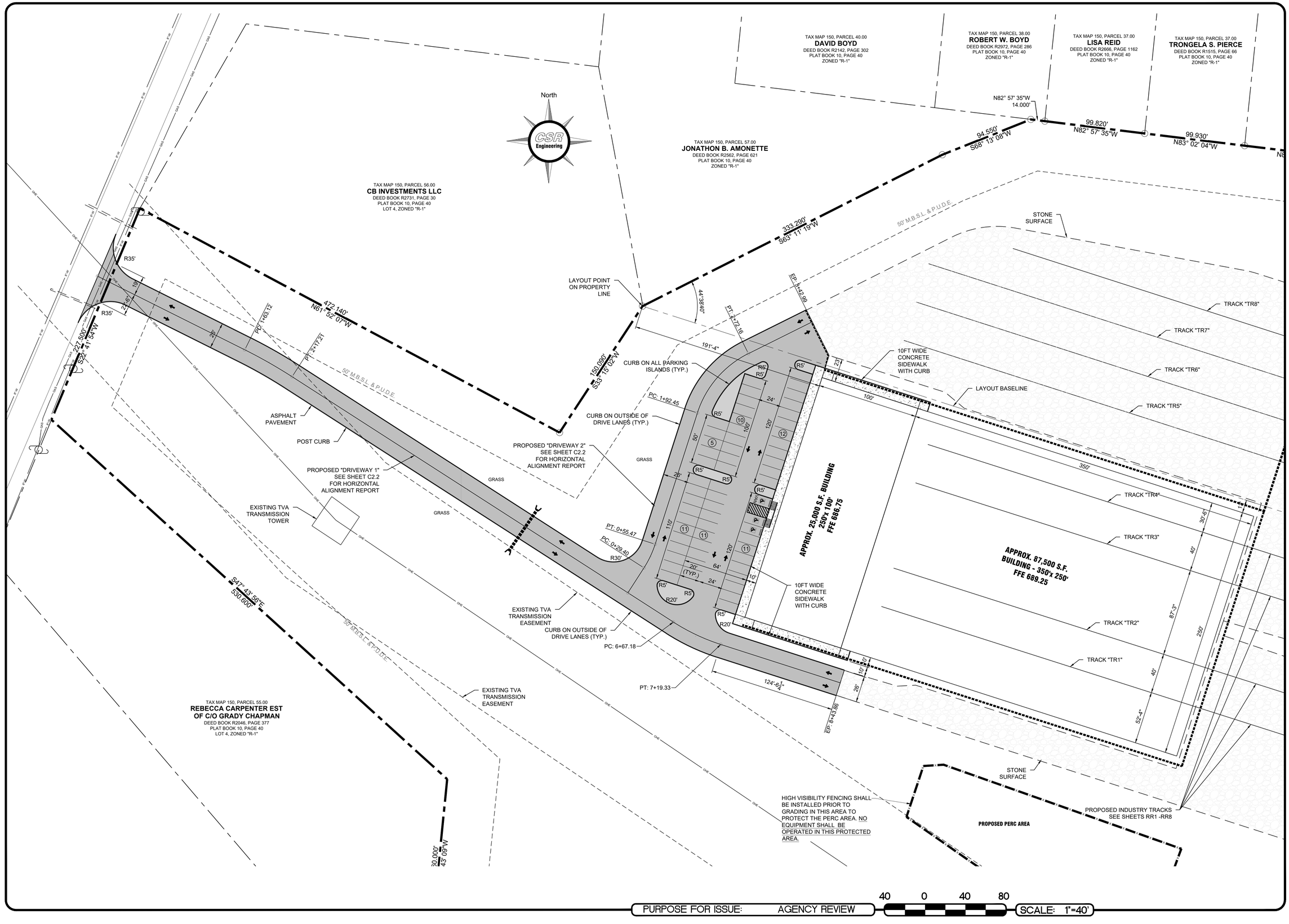
DATE 10-14-2025
SHEET C2.0



PURPOSE FOR ISSUE: AGENCY REVIEW

40 0 40 80

SCALE: 1"=40'

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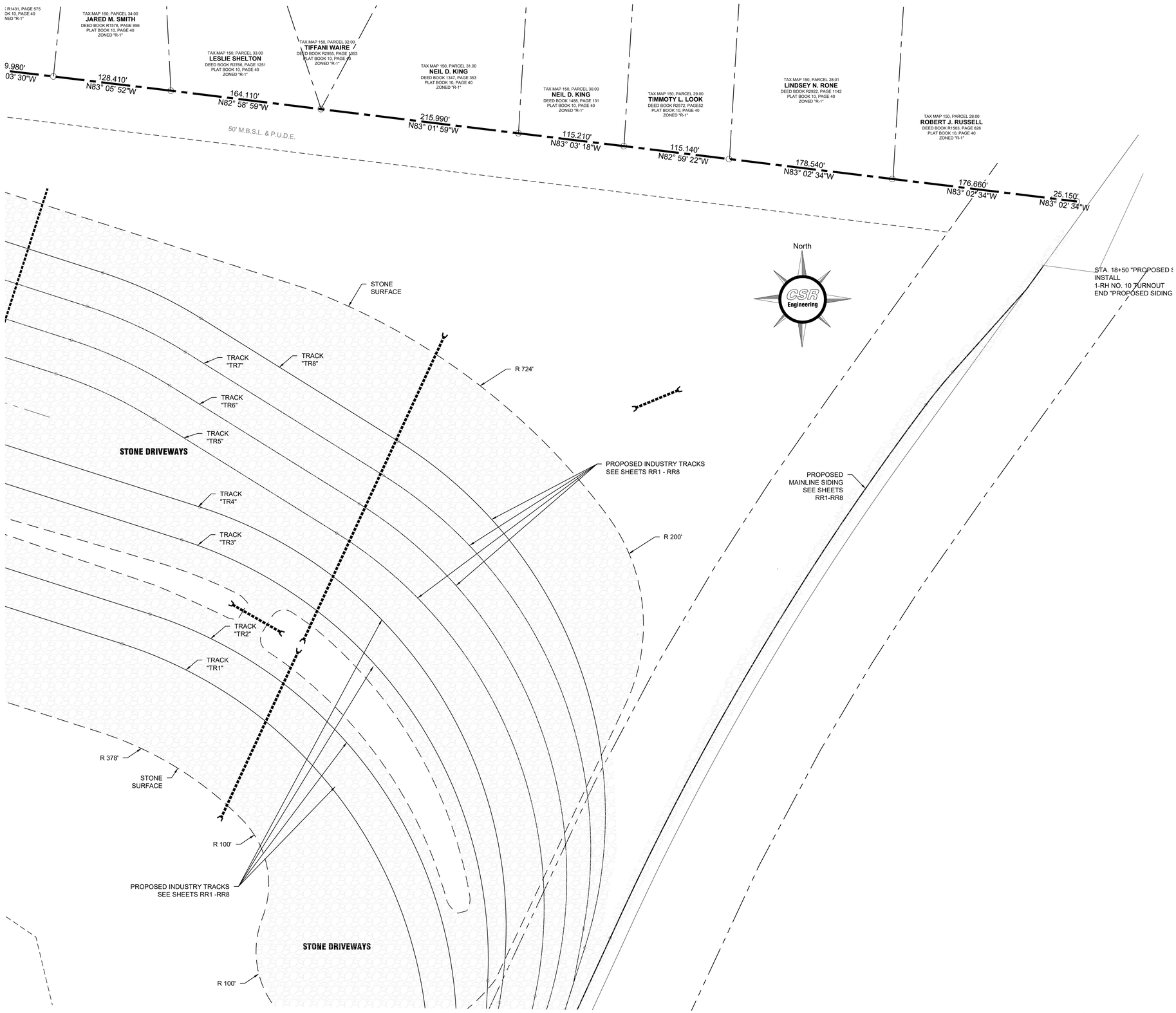
SHEET C2.1



"Driveway 1"
Horizontal Alignment Report

Begin Driveway 1
N 433,347.5470 E 1,605,756.3945 0+00.00

Line (1)
S63° 25' 31"E 163.12'
N 433,274.5725 E 1,605,902.2812 1+63.12
Line (1)

Curve (2)
BC N 433,274.5725 E 1,605,902.2812 1+63.12
CTR N 432,827.3971 E 1,605,678.5980
PI N 433,262.4620 E 1,605,926.4919

Direction Back S63° 25' 31"E
Radius 500.00'
Delta 6°11'53"(RT)
Length 54.09'
Tangent 27.07'
Chord Direction S60° 19' 34"E Distance 54.06'
Direction Ahead S57° 13' 37"E

EC N 433,247.8083 E 1,605,949.2535 2+17.21
Curve (2)

Line (3)
S57° 13' 37"E 449.98'
N 433,004.2318 E 1,606,327.6026 6+67.18
Line (3)

Curve (4)
BC N 433,004.2318 E 1,606,327.6026 6+67.18
CTR N 433,172.3963 E 1,606,435.8649
PI N 432,990.0367 E 1,606,349.6520

Direction Back S57° 13' 37"E
Radius 200.00'
Delta 14°56'23"(LT)
Length 52.15'
Tangent 26.22'
Chord Direction S64° 41' 49"E Distance 52.00'
Direction Ahead S72° 10' 01"E

EC N 432,982.0058 E 1,606,374.6156 7+19.33
Curve (4)

Line (5)
S72° 10' 01"E 124.53'
N 432,943.8693 E 1,606,493.1612 8+43.86
Line (5)

N 432,943.8693 E 1,606,493.1612 8+43.86
End Driveway 1

****

Alignment Length: 843.86'

****

"Driveway 2"
Horizontal Alignment Report

Begin Driveway 2
N 433,044.2824 E 1,606,265.3917 0+00.00

Line (1)
N32° 46' 23"E 25.90'
N 433,066.0561 E 1,606,279.4093 0+25.90
Line (1)

Curve (2)
BC N 433,066.0561 E 1,606,279.4093 0+25.90
CTR N 433,336.7116 E 1,605,858.9981
PI N 433,121.1794 E 1,606,314.8970

Direction Back N32° 46' 23"E
Radius 500.00'
Delta 14°56'23"(LT)
Length 130.37'
Tangent 65.56'
Chord Direction N25° 18' 11"E Distance 130.00'
Direction Ahead N17° 49' 59"E

EC N 433,183.5883 E 1,606,334.9742 1+56.27
Curve (2)

Line (3)
N17° 49' 59"E 24.14'
N 433,206.5723 E 1,606,342.3682 1+80.41
Line (3)

Non-Tangent Radial Bearing N72° 43' 57"W
Curve (4)
BC N 433,206.5723 E 1,606,342.3682 1+80.41
CTR N 433,176.8797 E 1,606,437.8909
PI N 433,247.3498 E 1,606,355.0437

Direction Back N17° 16' 03"E
Radius 100.03'
Delta 46°14'03"(RT)
Length 80.72'
Tangent 42.70'
Chord Direction N40° 23' 05"E Distance 78.55'
Direction Ahead N63° 30' 06"E

EC N 433,266.4023 E 1,606,393.2599 2+61.13
Curve (4)

Line (5)
Non-Tangent Radial Bearing N26° 29' 54"W
N63° 30' 19"E 80.63'
N 433,302.3731 E 1,606,465.4227 3+41.76
Line (5)

N 433,302.3731 E 1,606,465.4227 3+41.76
End Driveway 2

****

Alignment Length: 341.76'

****

PURPOSE FOR ISSUE: AGENCY REVIEW

50 0 50 100

SCALE: 1"=50'

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MAURY COUNTY

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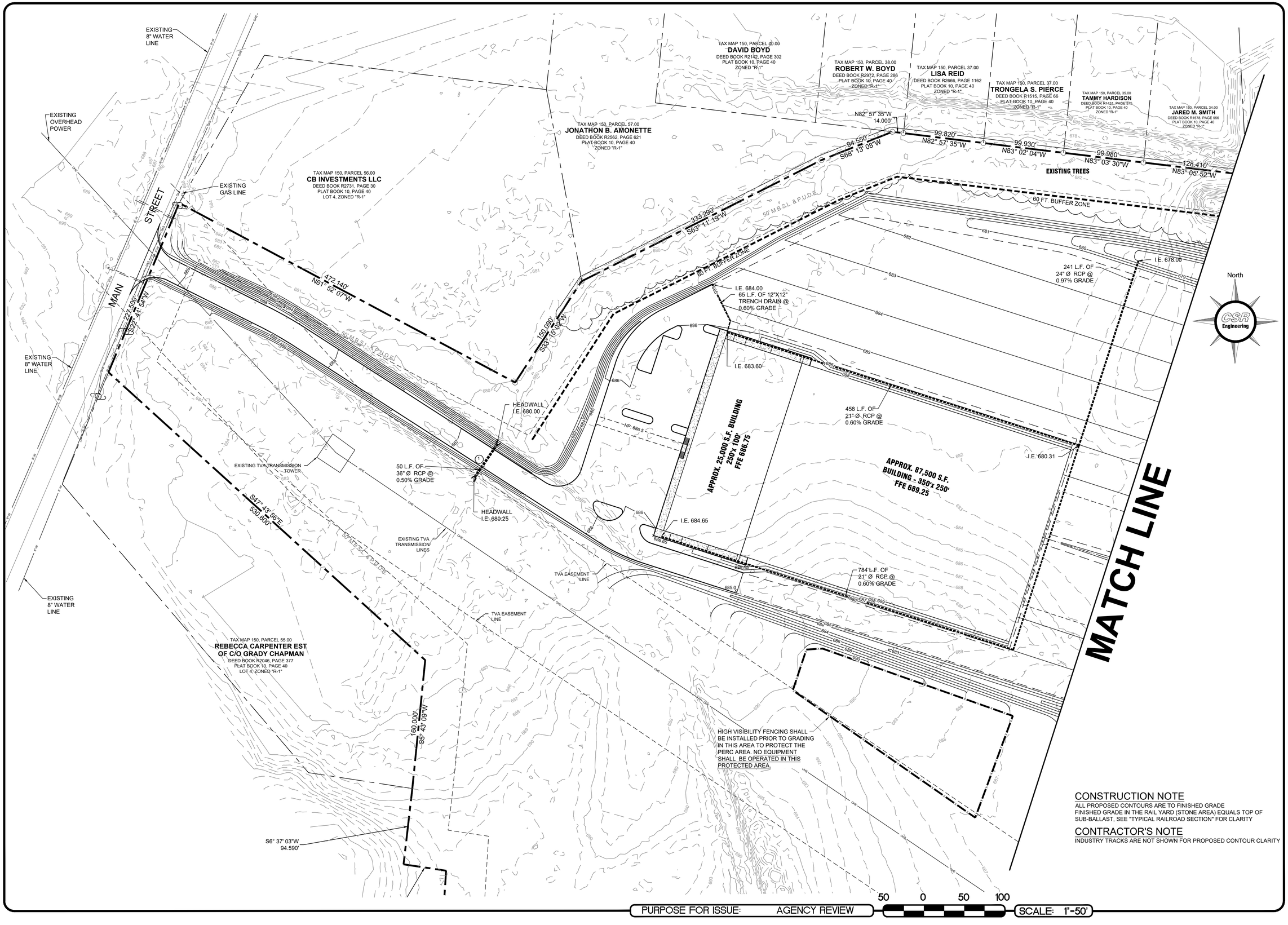
REVIEWER JLR

PROJECT 23-040

DATE 10-14-2025

SHEET C2.2



CONSTRUCTION NOTE

ALL PROPOSED CONTOURS ARE TO FINISHED GRADE
FINISHED GRADE IN THE RAIL YARD (STONE AREA) EQUALS TOP OF SUB-BALLAST, SEE "TYPICAL RAILROAD SECTION" FOR CLARITY

CONTRACTOR'S NOTE

INDUSTRY TRACKS ARE NOT SHOWN FOR PROPOSED CONTOUR CLARITY

PURPOSE FOR ISSUE: AGENCY REVIEW

50 0 50 100

SCALE: 1"=50'

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GRADING PLAN AREA 1
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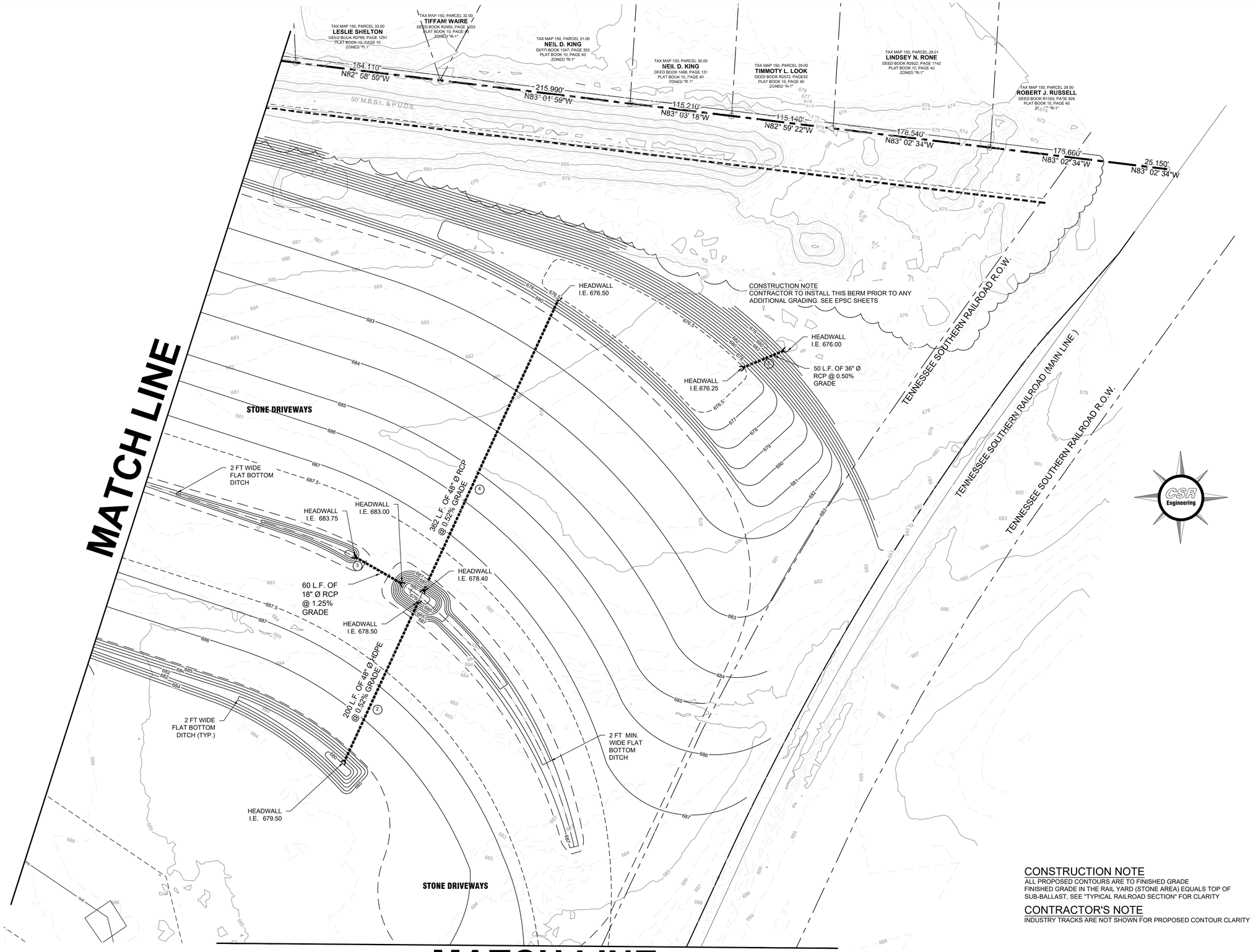
SHEET C3.0



CONSTRUCTION NOTE

ALL PROPOSED CONTOURS ARE TO FINISHED GRADE
FINISHED GRADE IN THE RAIL YARD (STONE AREA) EQUALS TOP OF SUB-BALLAST, SEE "TYPICAL RAILROAD SECTION" FOR CLARITY

CONTRACTOR'S NOTE

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PURPOSE FOR ISSUE: AGENCY REVIEW

50 0 50 100

SCALE: 1"=50'

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TrueRail™ ENTERPRISES, LLC

GRADING PLAN AREA 2

OF

BULK STORAGE RAILYARD

FOR

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S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

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NO.	DATE	BY	DESCRIPTION

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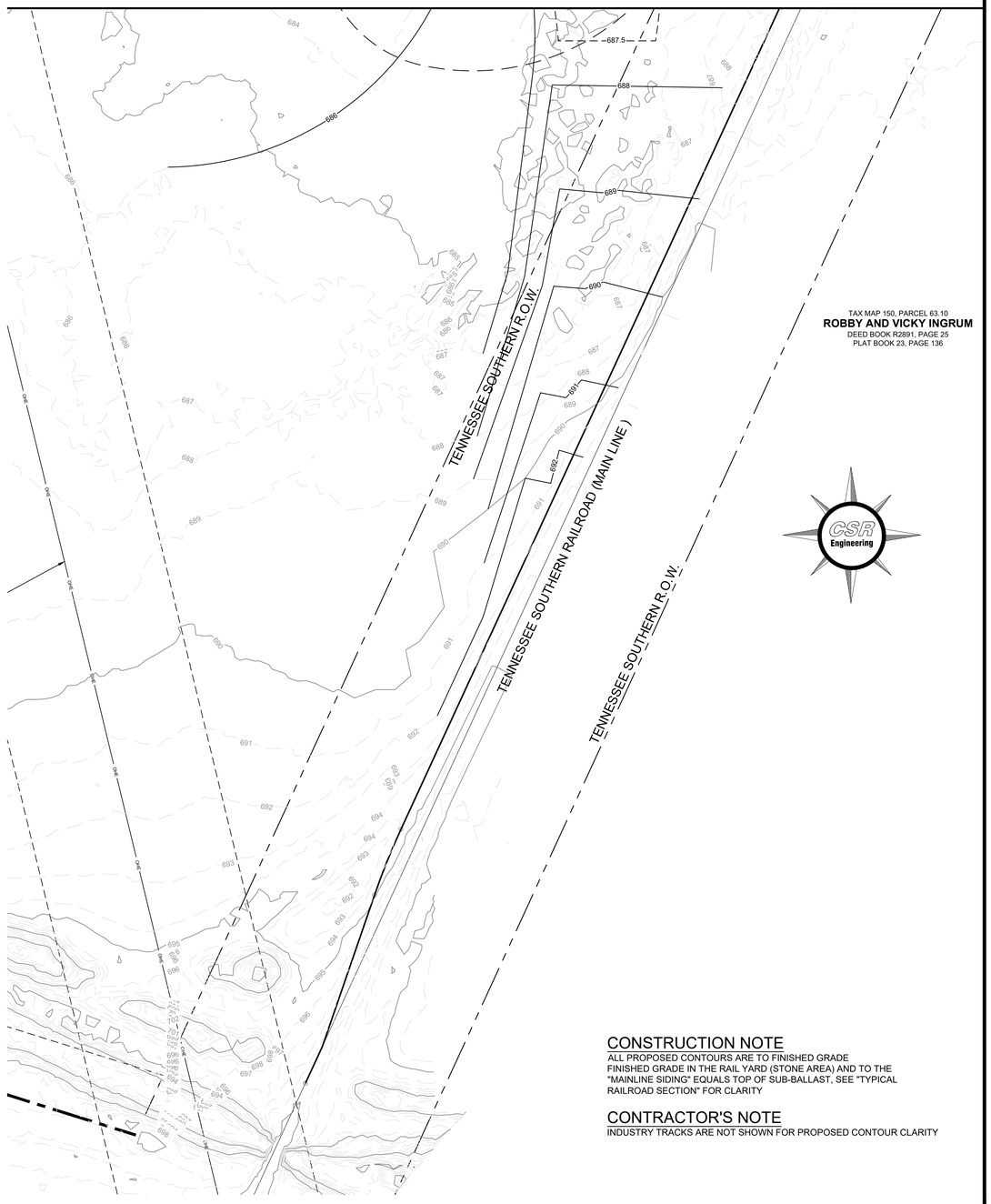
PROJECT 23-040

DATE 10-14-2025

SHEET C3.1

MATCH LINE



CONSTRUCTION NOTE

ALL PROPOSED CONTOURS ARE TO FINISHED GRADE
FINISHED GRADE IN THE RAIL YARD (STONE AREA) AND TO THE "MAINLINE SIDING" EQUALS TOP OF SUB-BALLAST, SEE "TYPICAL RAILROAD SECTION" FOR CLARITY

CONTRACTOR'S NOTE

INDUSTRY TRACKS ARE NOT SHOWN FOR PROPOSED CONTOUR CLARITY

PURPOSE FOR ISSUE: AGENCY REVIEW

50 0 50 100

SCALE: 1"=50'

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GRADING PLAN AREA 3
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MAURY COUNTY

REVISIONS

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REVIEWER JLR

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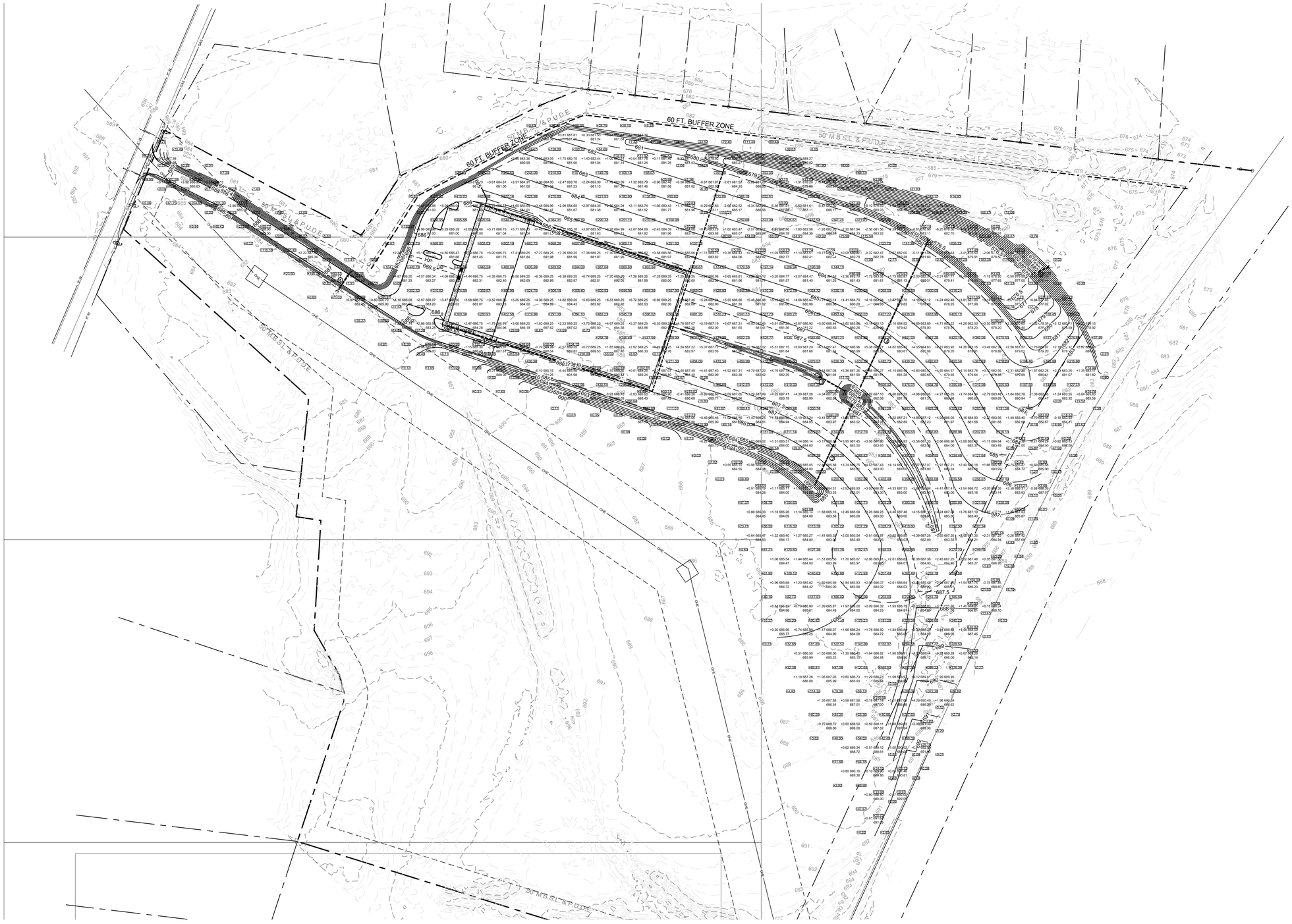
SHEET **C3.2**



Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
Tru Rail Cut and Fill	**1.000**	**1.000**	1219722.07 Sq. Ft.	17607.69 Cu. Yd.	107320.31 Cu. Yd.	89712.62 Cu. Yd.<Fill>
Totals			1219722.07 Sq. Ft.	17607.69 Cu. Yd.	107320.31 Cu. Yd.	89712.62 Cu. Yd.<Fill>

PURPOSE FOR ISSUE: AGENCY REVIEW

100 0 100 200

SCALE: 1"=100'

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TrueRail™ ENTERPRISES, LLC

CUT AND FILL QUANTITIES

OF

BULK STORAGE RAILYARD

FOR

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REVIEWER JLR

PROJECT 23-040

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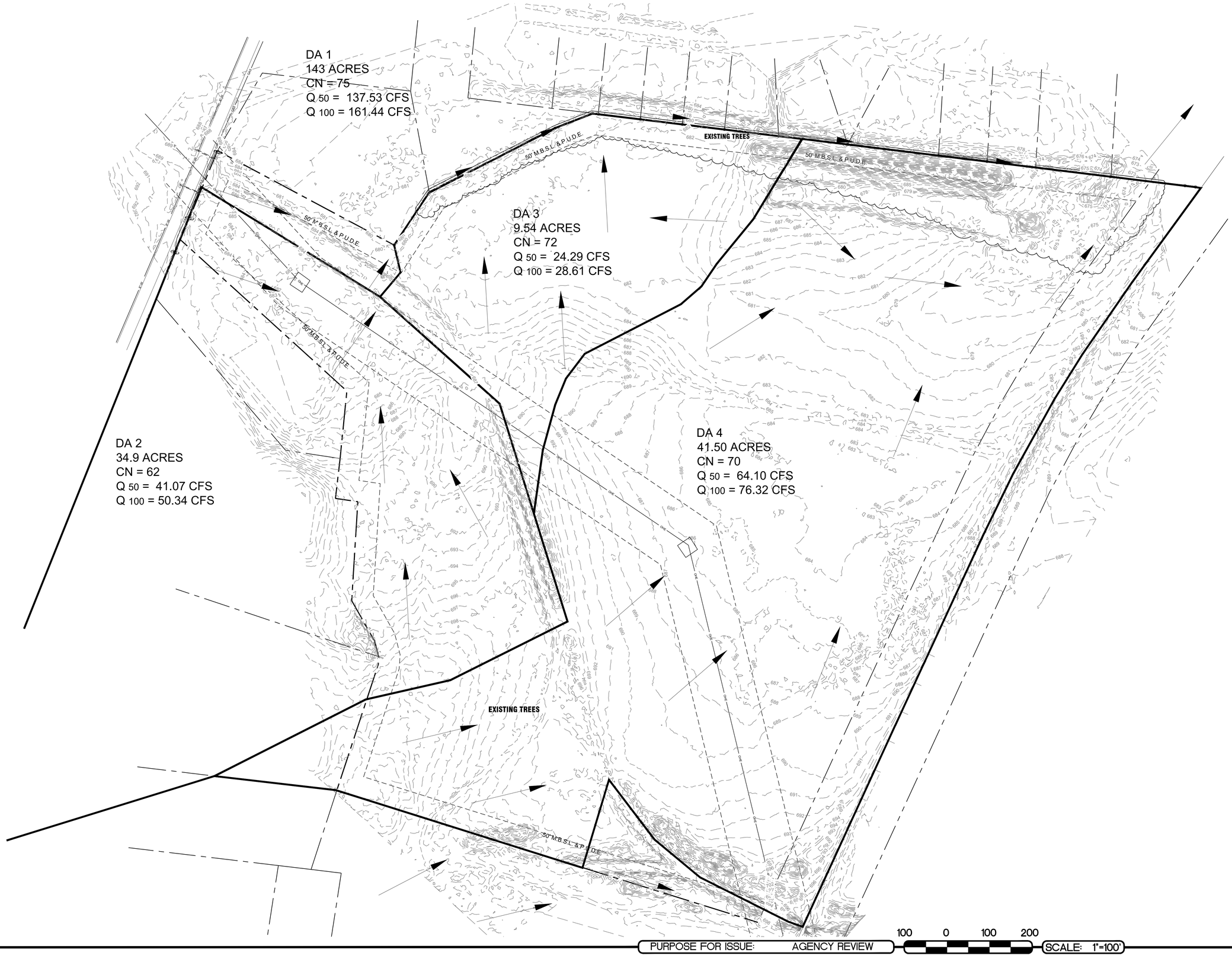

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100 0 100 200

SCALE: 1"=100'

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TrueRail™ ENTERPRISES, LLC

EXISTING DRAINAGE MAP

OF

BULK STORAGE RAILYARD

FOR

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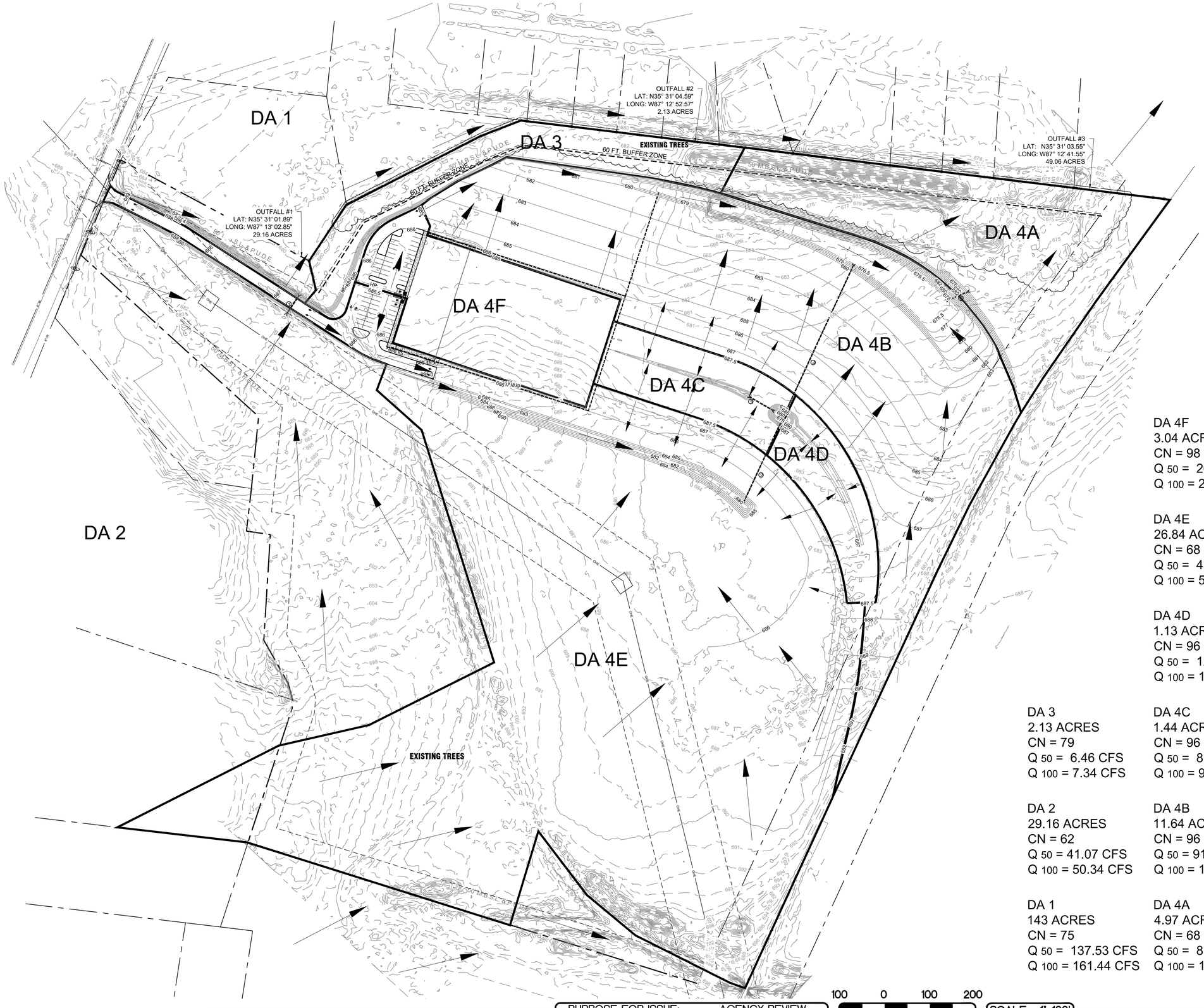
SHEET C3.4



DA 4F
3.04 ACRES
CN = 98
Q 50 = 26.98 CFS
Q 100 = 29.57 CFS

DA 4E
26.84 ACRES
CN = 68
Q 50 = 45.39 CFS
Q 100 = 54.32 CFS

DA 4D
1.13 ACRES
CN = 96
Q 50 = 12.02 CFS
Q 100 = 13.22 CFS

DA 3
2.13 ACRES
CN = 79
Q 50 = 6.46 CFS
Q 100 = 7.34 CFS

DA 4C
1.44 ACRES
CN = 96
Q 50 = 8.86 CFS
Q 100 = 9.74 CFS

DA 2
29.16 ACRES
CN = 62
Q 50 = 41.07 CFS
Q 100 = 50.34 CFS

DA 4B
11.64 ACRES
CN = 96
Q 50 = 91.07 CFS
Q 100 = 100.14 CFS

DA 1
143 ACRES
CN = 75
Q 50 = 137.53 CFS
Q 100 = 161.44 CFS

DA 4A
4.97 ACRES
CN = 68
Q 50 = 8.73 CFS
Q 100 = 10.45 CFS

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100 0 100 200

SCALE: 1"=100'

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PROPOSED DRAINAGE MAP

OF

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MAURY COUNTY

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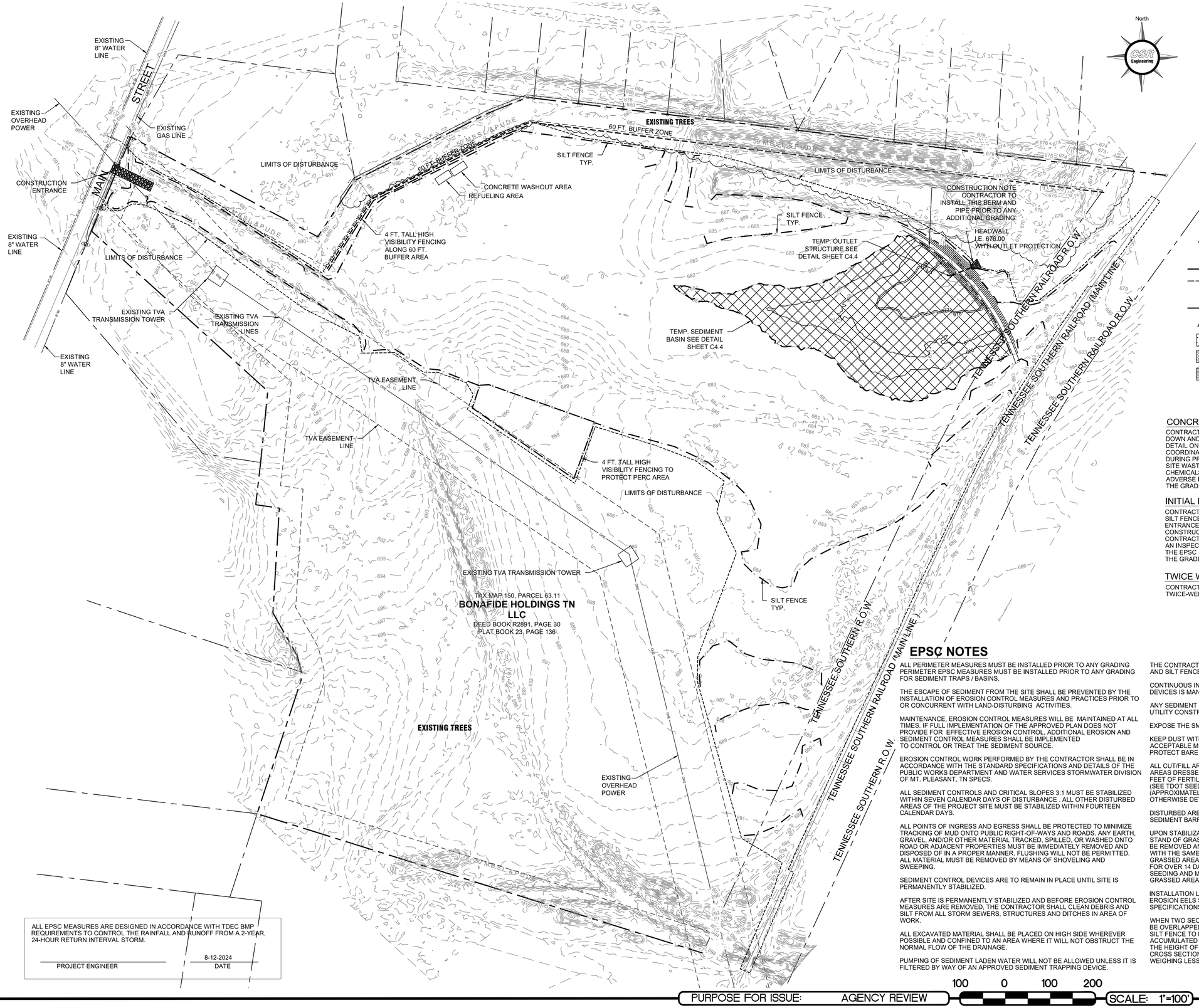
DESIGNER DKH
REVIEWER KCW

PROJECT 23-040

DATE 10-14-25

SHEET C3.5



EPSC LEGEND

- TEMPORARY ROCK CHECK DAM (TCP-12)
- TEMPORARY INLET PROTECTION (CATCH BASIN) (TCP-24)
- SILT FENCE WITH WIRE BACKING AND STEEL POSTS (TCP-13)
- HIGH VISIBILITY CONSTRUCTION FENCE
- TEMPORARY INLET PROTECTION (OUTLET STRUCTURE) (TCP-14)
- TEMPORARY SEDIMENT TUBE (TCP-14)
- PERMANENT RIPRAP OUTLET PROTECTION (PESC-07)
- PERMANENT STABILIZATION (SOD)
- PERMANENT STABILIZATION, EROSION CONTROL BLANKET (CURLEX II, OR EQUAL) (TCP-09)
- PERMANENT STABILIZATION (RIP-RAP LINING)

CONCRETE WASHDOWN NOTE

CONTRACTOR TO PROVIDE AN AREA FOR CONCRETE WASH DOWN AND EQUIPMENT FUELING IN ACCORDANCE WITH CP-10 DETAIL ON SHEET C4.3, RESPECTIVELY. CONTRACTOR TO COORDINATE EXACT LOCATION WITH NPDES DEPARTMENT DURING PRECONSTRUCTION MEETING. CONTROL OF OTHER SITE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CHEMICALS, LITTER, AND SANITARY WASTES THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY IS ALSO REQUIRED BY THE GRADING PERMITTEE

INITIAL EPSC PHASE NOTE

CONTRACTOR SHALL INSTALL ALL EPSC MEASURES INCLUDING SILT FENCE, SEDIMENT TUBES, CHECK DAMS AND CONSTRUCTION ENTRANCE FOR THIS PHASE PRIOR TO COMMENCING ANY TYPE OF CONSTRUCTION. ONCE INSTALLATION IS COMPLETE THE CONTRACTOR SHALL CONTACT THE CITY OF MT. PLEASANT FOR AN INSPECTION. ONCE THE CITY OF MT. PLEASANT HAS APPROVED THE EPSC MEASURES, THEN THE CONTRACTOR MAY REQUEST THE GRADING PERMIT.

TWICE WEEKLY INSPECTIONS

CONTRACTOR SHALL BE RESPONSIBLE FOR THE REQUIRED TWICE-WEEKLY EPSC INSPECTIONS UNDER THE "TDEC NOC".

EPSC NOTES

ALL PERIMETER MEASURES MUST BE INSTALLED PRIOR TO ANY GRADING PERIMETER EPSC MEASURES MUST BE INSTALLED PRIOR TO ANY GRADING FOR SEDIMENT TRAPS / BASINS.

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO OR CONCURRENT WITH LAND-DISTURBING ACTIVITIES.

MAINTENANCE, EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

EROSION CONTROL WORK PERFORMED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND DETAILS OF THE PUBLIC WORKS DEPARTMENT AND WATER SERVICES STORMWATER DIVISION OF MT. PLEASANT, TN SPECS.

ALL SEDIMENT CONTROLS AND CRITICAL SLOPES 3:1 MUST BE STABILIZED WITHIN SEVEN CALENDAR DAYS OF DISTURBANCE . ALL OTHER DISTURBED AREAS OF THE PROJECT SITE MUST BE STABILIZED WITHIN FOURTEEN CALENDAR DAYS.

ALL POINTS OF INGRESS AND EGRESS SHALL BE PROTECTED TO MINIMIZE TRACKING OF MUD ONTO PUBLIC RIGHT-OF-WAYS AND ROADS. ANY EARTH, GRAVEL, AND/OR OTHER MATERIAL TRACKED, SPILLED, OR WASHED ONTO ROAD OR ADJACENT PROPERTIES MUST BE IMMEDIATELY REMOVED AND DISPOSED OF IN A PROPER MANNER. FLUSHING WILL NOT BE PERMITTED. ALL MATERIAL MUST BE REMOVED BY MEANS OF SHOVELING AND SWEEPING.

SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL SITE IS PERMANENTLY STABILIZED.

AFTER SITE IS PERMANENTLY STABILIZED AND BEFORE EROSION CONTROL MEASURES ARE REMOVED, THE CONTRACTOR SHALL CLEAN DEBRIS AND SILT FROM ALL STORM SEWERS, STRUCTURES AND DITCHES IN AREA OF WORK.

ALL EXCAVATED MATERIAL SHALL BE PLACED ON HIGH SIDE WHEREVER POSSIBLE AND CONFINED TO AN AREA WHERE IT WILL NOT OBSTRUCT THE NORMAL FLOW OF THE DRAINAGE.

PUMPING OF SEDIMENT LADEN WATER WILL NOT BE ALLOWED UNLESS IT IS FILTERED BY WAY OF AN APPROVED SEDIMENT TRAPPING DEVICE.

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR KEEPING FILTERS AND SILT FENCES CLEAR OF SEDIMENT BUILDUP DURING CONSTRUCTION.

CONTINUOUS INSPECTION AND MAINTENANCE OF THE SEDIMENT CONTROL DEVICES IS MANDATORY.

ANY SEDIMENT CONTROL DEVICES DISTURBED DURING SITE GRADING AND UTILITY CONSTRUCTION MUST BE RESTORED IMMEDIATELY.

EXPOSE THE SMALLEST AREAS OF SOIL FOR AS SHORT A TIME AS POSSIBLE.

KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE MEANS. USE TEMPORARY VEGETATION AND / OR MULCH TO PROTECT BARE AREAS FROM EROSION DURING CONSTRUCTION.

ALL CUT/FILL AREAS TO HAVE A MINIMUM OF 6-INCH DEPTH TOPSOIL COVER. AREAS DRESSED WITH TOPSOIL WILL RECEIVE 12 POUNDS PER 1000 SQUARE FEET OF FERTILIZER, 8 POUNDS OR MORE OF SEED PER 1000 SQUARE FEET (SEE TDOT SEED CHART) AND A STRAW MULCH OF 70% - 80% COVERAGE (APPROXIMATELY 125 POUNDS PER 1000 SQUARE FEET) EXCEPT AS OTHERWISE DETERMINED BY PLAN.

DISTURBED AREAS ARE TO BE GRADED TO DRAIN AS INDICATED ON PLAN TO SEDIMENT BARRIERS DURING AND UPON COMPLETION OF CONSTRUCTION.

UPON STABILIZATION OF THE PROJECT SITE WITH A GOOD (ACCEPTABLE) STAND OF GRASS AND/OR GROUND COVER, THE EPSC INSTALLATIONS WILL BE REMOVED AND THE AREA DISTURBED WILL BE SEEDED AND MULCHED WITH THE SAME TREATMENT AS OTHER NEW GRASSED AREAS OF THE PROJECT. ANY AREAS THAT ARE LEFT DISTURBED FOR OVER 14 DAYS, THE CONTRACTOR SHALL STABILIZE WITH TEMPORARY SEEDING AND MULCHING, WITH THE SAME TREATMENT AS OTHER NEW GRASSED AREAS OF THE PROJECT.

INSTALLATION LOCATION AND CONNECTIONS BETWEEN TWO SECTIONS OF EROSION EELS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

WHEN TWO SECTIONS OF SILT FENCE ARE JOINED TOGETHER,THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS. SILT FENCE TO BE FASTENED SECURELY EVERY 6" ALONG POST. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN IT REACHES 50% OF THE HEIGHT OF THE FABRIC. WOOD POSTS, 2"x2" HARDWOOD WITH MIN. CROSS SECTION AREA OF 3 INCHES. STEEL POST, EITHER T OR U TYPE, NOT WEIGHING LESS THAN 1 LB./L.F. SILT FENCE.

ALL EPSC MEASURES ARE DESIGNED IN ACCORDANCE WITH TDEC BMP REQUIREMENTS TO CONTROL THE RAINFALL AND RUNOFF FROM A 2-YEAR, 24-HOUR RETURN INTERVAL STORM.

PROJECT ENGINEER — 8-12-2024 DATE

PURPOSE FOR ISSUE: AGENCY REVIEW

100 0 100 200

SCALE: 1"=100'

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2010 Highway 49E
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INITIAL EPSC
OF
BULK STORAGE RAILYARD
FOR
TRUE RAIL ENTERPRISES, LLC
S MAIN STREET
MT. PLEASANT, TENNESSEE
MAURY COUNTY

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NO.	DATE	BY	DESCRIPTION

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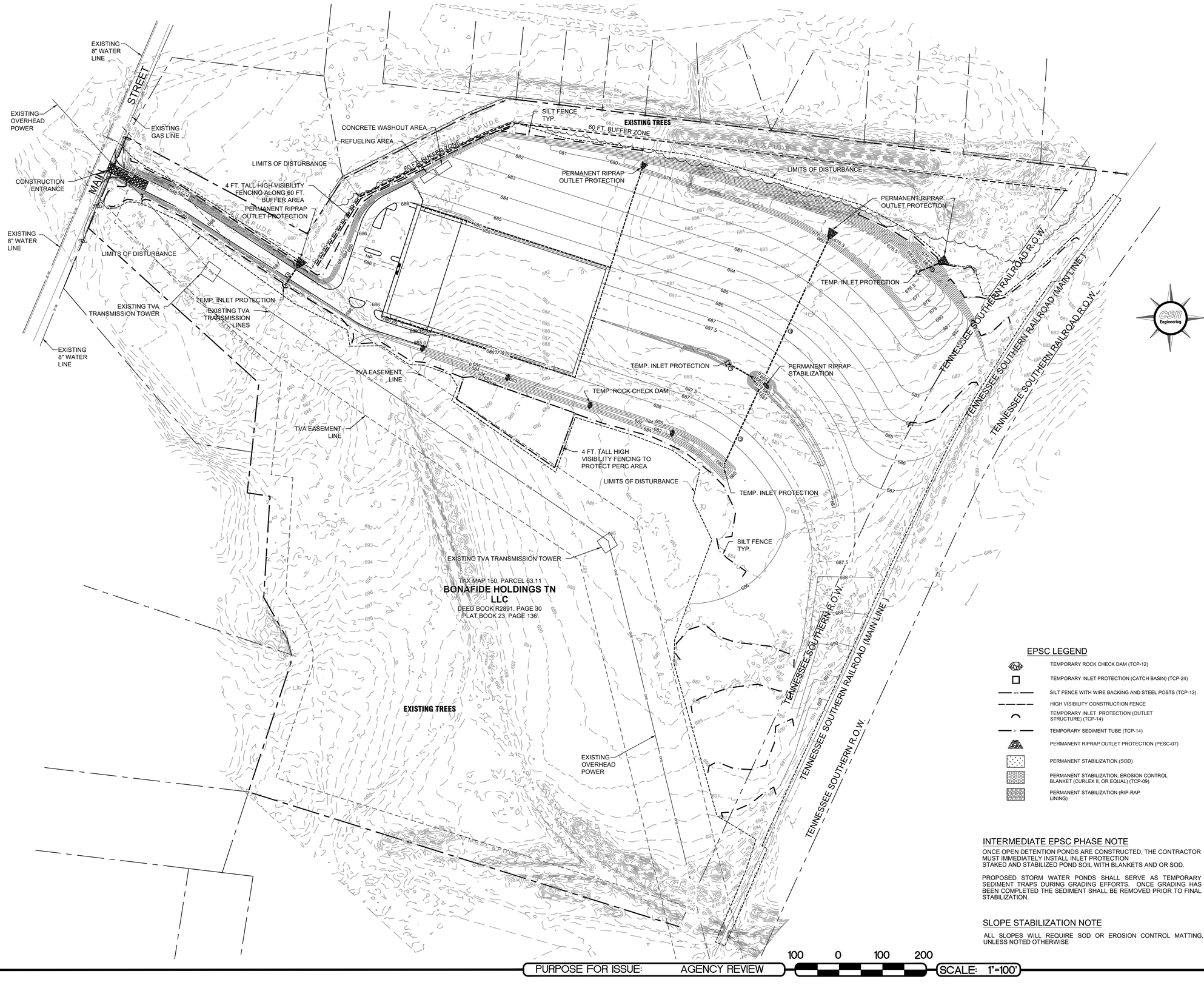
REVIEWER JLR

PROJECT 23-040

DATE 10-14-2025

SHEET C4.0



EPSC LEGEND

- TEMPORARY ROCK CHECK DAM (TCP-12)
- TEMPORARY INLET PROTECTION (CATCH BASIN) (TCP-24)
- SILT FENCE WITH WIRE BACKING AND STEEL POSTS (TCP-13)
- HIGH VISIBILITY CONSTRUCTION FENCE
- TEMPORARY INLET PROTECTION (OUTLET STRUCTURE) (TCP-14)
- TEMPORARY SEDIMENT TUBE (TCP-14)
- PERMANENT RIPRAP OUTLET PROTECTION (PESC-07)
- PERMANENT STABILIZATION (SOD)
- PERMANENT STABILIZATION, EROSION CONTROL BLANKET (CURLEX II, OR EQUAL) (TCP-09)
- PERMANENT STABILIZATION (RIP-RAP LINING)

INTERMEDIATE EPSC PHASE NOTE

ONCE OPEN DETENTION PONDS ARE CONSTRUCTED, THE CONTRACTOR MUST IMMEDIATELY INSTALL INLET PROTECTION STAKED AND STABILIZED POND SOIL WITH BLANKETS AND OR SOD.

PROPOSED STORM WATER PONDS SHALL SERVE AS TEMPORARY SEDIMENT TRAPS DURING GRADING EFFORTS. ONCE GRADING HAS BEEN COMPLETED THE SEDIMENT SHALL BE REMOVED PRIOR TO FINAL STABILIZATION.

SLOPE STABILIZATION NOTE

ALL SLOPES WILL REQUIRE SOD OR EROSION CONTROL MATTING, UNLESS NOTED OTHERWISE

PURPOSE FOR ISSUE: AGENCY REVIEW

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SCALE: 1"=100'

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DATE 10-14-2025

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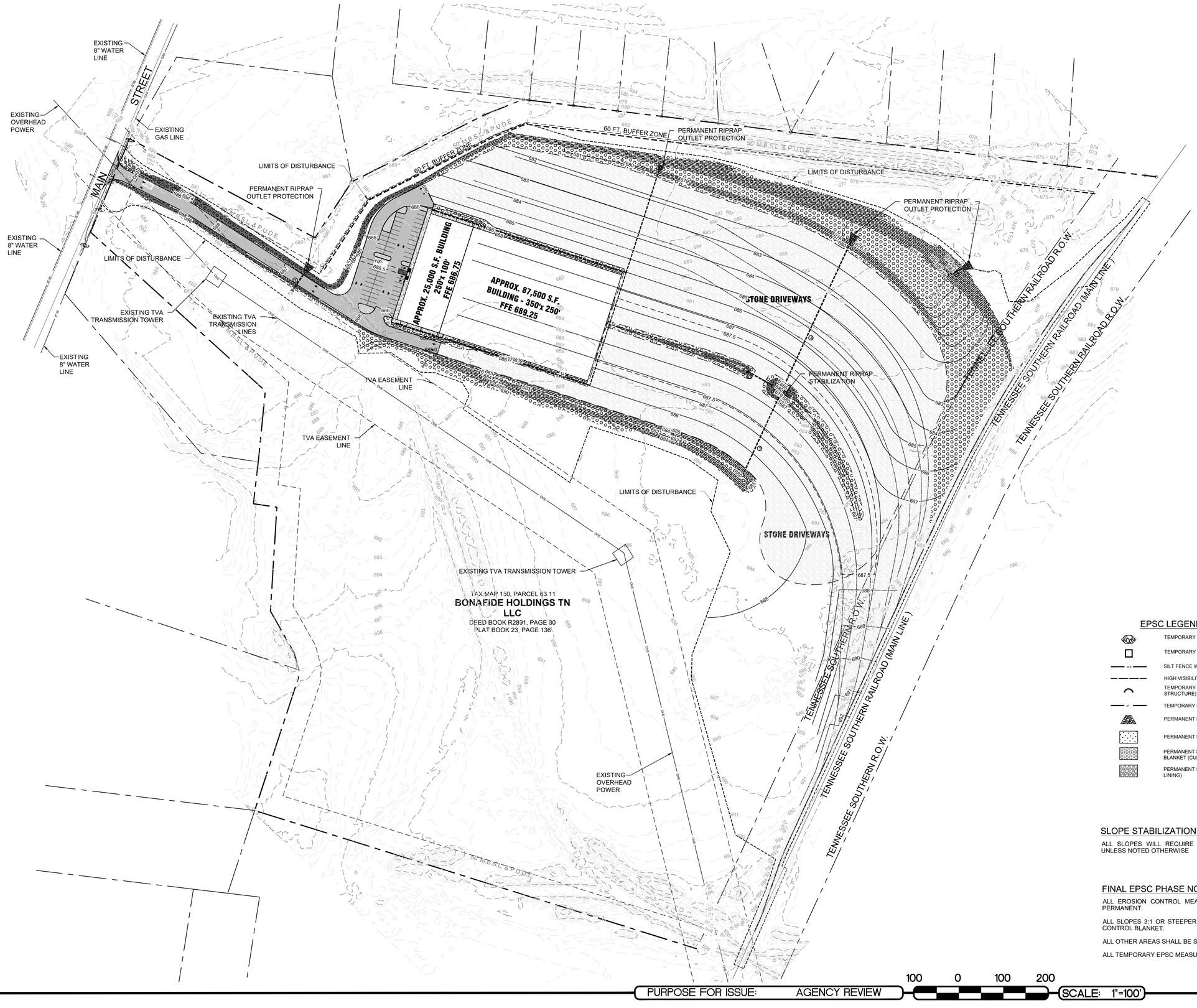

EPSC LEGEND

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- PERMANENT STABILIZATION (RIP-RAP LINING)

SLOPE STABILIZATION NOTE

ALL SLOPES WILL REQUIRE SOD OR EROSION CONTROL MATTING, UNLESS NOTED OTHERWISE

FINAL EPSC PHASE NOTE

ALL EROSION CONTROL MEASURES SHOWN IN THIS PHASE ARE PERMANENT.

ALL SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH EROSION CONTROL BLANKET.

ALL OTHER AREAS SHALL BE STABILIZED WITH SEED/STRAW.

ALL TEMPORARY EPSC MEASURES SHOULD BE REMOVED.

PURPOSE FOR ISSUE: AGENCY REVIEW

100 0 100 200

SCALE: 1"=100'

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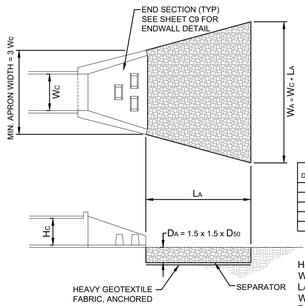
DATE 10-14-2025

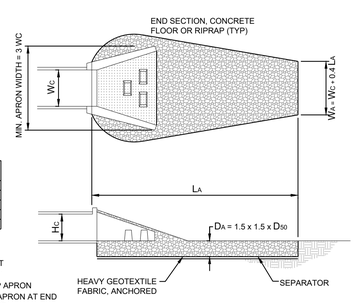
SHEET C4.2



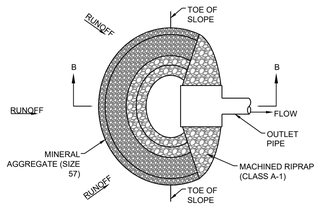
TAILWATER < 0.5 Hc AND ASSUMING FULL CULVERT FLOW (LOW TAILWATER CONDITIONS)

PIPE DIAMETER	APRON LENGTH	RIP-RAP D_{50} MIN.
15"	10'	6"
18"	10'	6"
24"	16'	8"
30"	20'	8"
36"	20'	10"

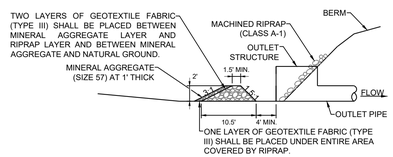
Hc = HEIGHT OF CULVERT
Wc = WIDTH OF CULVERT
LA = LENGTH OF RIP-RAP APRON
WA = WIDTH OF RIP-RAP APRON AT END
D_{50} = MEDIAN RIP-RAP SIZE
D_{MAX} = MAXIMUM SIZE OF RIP-RAP = 1.5 D_{50}
DA = DEPTH OF RIP-RAP APRON = 1.5 D_{MAX}
SEPARATOR = GEOTEXTILE UNDERLAYMENT OR GRAVEL FILTER BLANKET



TAILWATER > 0.5 Hc AND ASSUMING FULL CULVERT FLOW (HIGH TAILWATER CONDITIONS)

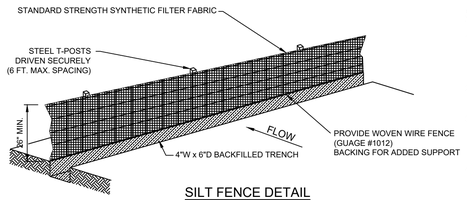


PLAN VIEW



SECTION B-B

INLET PROTECTION (OUTLET STRUCTURE) (TCP-24)



SILT FENCE DETAIL

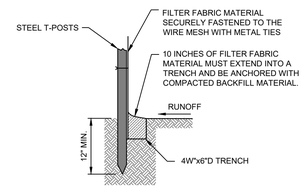
NOT TO SCALE

SILT FENCE NOTES

1. FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.
2. USE METAL TIES TO SECURE SILT FENCE TO METAL FENCE.
3. SILT FENCE SHALL COMPLY WITH THE TN. DEPT. OF ENVIRONMENT AND CONSERVATION EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
4. INSTALL PERIMETER SILTATION CONTROL PRIOR TO APPLICATION OF GRADING PERMIT.

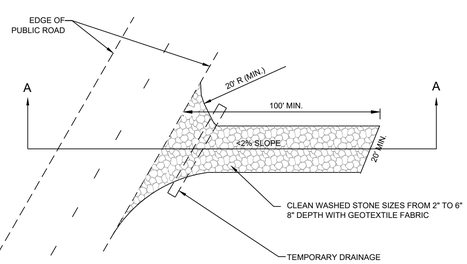
SILT FENCE MAINTENANCE PLAN

1. CARE SHALL BE TAKEN TO MINIMIZE THE MOVEMENT OF SEDIMENT INTO ALL STORM DRAIN APPURTENANCES AND PUBLIC ROADS UNTIL THE IMPERVIOUS MATERIAL (ROAD/PARKING AREA SURFACE) IS APPLIED.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATIONAL INTEGRITY FOLLOWING EVERY RUNOFF PRODUCING RAINFALL BUT IN NO CASE LESS THAN EVERY WEEK. ANY NECESSARY REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN THE MEASURE'S PERFORMANCE AS DESIGNATED.
3. SEDIMENT WILL BE REMOVED FROM THE UPSTREAM FACE OF SILT FENCE WHEN IT REACHES A MAXIMUM SIX-INCH (6") DEPTH AT THE FENCE. THE FENCE WILL BE REPLACED AS NECESSARY TO MAINTAIN A BARRIER.

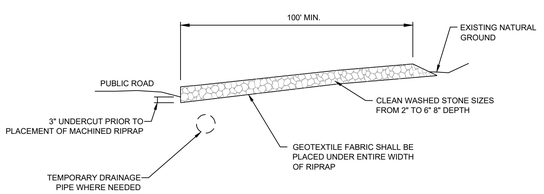


SECTION

SILT FENCE DETAILS (TPC-13)



PLAN VIEW OF TEMPORARY CONSTRUCTION ENTRANCE



SECTION A-A

CONSTRUCTION ENTRANCE DETAIL (METRO TCP-03-1)

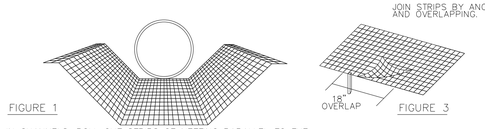


FIGURE 1

IN CHANNELS, ROLL OUT STRIPS OF NETTING PARALLEL TO THE DIRECTION OF FLOW.

FIGURE 3

NOTE:
CONTRACTOR SHALL USE "EXCELSIOR" BLANKET OR APPROVED ALTERNATE. MUST BE WOOD FIBER MATTING OF BIODEGRADABLE TYPE.

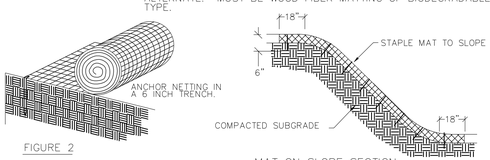


FIGURE 2

MAT ON SLOPE SECTION

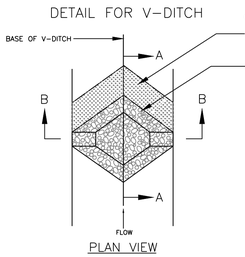
EROSION CONTROL MATTING DETAIL

NOT TO SCALE

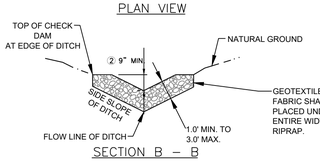
INSTALLATION INSTRUCTIONS: FOR DITCH & SLOPES

1. SEED (PER SPEC) BEFORE PLACEMENT OF MATTING. ROLL STRIPS OUT PARALLEL TO THE DIRECTION OF WATER FLOW, OR DOWN SLOPE. (SEE FIGURE 1)
2. START LAYING THE NET FROM THE TOP OF THE CHANNEL OR SLOPE AND UNROLL IT DOWN THE GRADE. ALLOW MATTING TO LAY LOOSELY ON THE SOIL BUT WITHOUT WRINKLES- DO NOT STRETCH.
3. TO SECURE THE NET, BURY THE UP-SLOPE END IN A TRENCH NO LESS THAN 6" DEEP, COVER WITH SOIL AND TAMP FIRMLY (SEE FIGURE 2). STAPLE THE MAT EVERY 12" ACROSS THE TOP END AND EVERY 3' AROUND THE EDGES AND BOTTOM. WHERE 2 STRIPS OF NET ARE LAID SIDE BY SIDE, THE ADJACENT EDGES SHOULD BE OVERLAPPED 3 INCHES AND STAPLED TOGETHER. EACH STRIP OF MATTING SHOULD ALSO BE STAPLED DOWN THE CENTER, EVERY 3'. DO NOT STRETCH THE MAT WHEN APPLYING STAPLES.
4. TO JOIN TWO STRIPS, CUT A TRENCH TO ANCHOR THE END OF THE NEW MAT. OVERLAP THE END OF THE PREVIOUS ROLL 18" (SEE FIGURE 2), AND STAPLE EVERY 12" JUST BELOW THE ANCHOR SLOT.
5. INSPECT PERIODICALLY AND AFTER EACH RAINSTORM UNTIL VEGETAION IS COMPLETELY ESTABLISHED.
6. ERODED OR EXPOSED AREAS SHOULD BE SEEDED AND STABILIZED WITH MULCH AS QUICKLY AS POSSIBLE.

DETAIL FOR V-DITCH

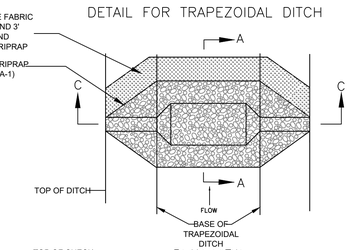


PLAN VIEW

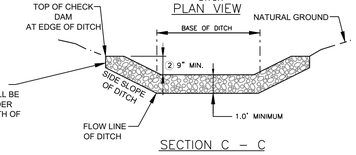


SECTION B – B

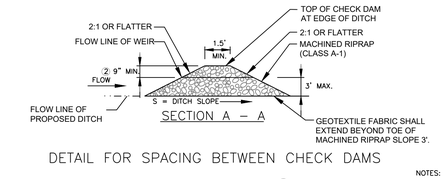
DETAIL FOR TRAPEZOIDAL DITCH



PLAN VIEW

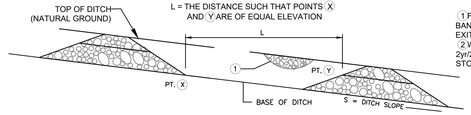


SECTION C – C



SECTION A – A

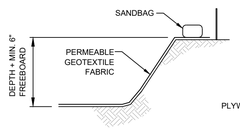
DETAIL FOR SPACING BETWEEN CHECK DAMS



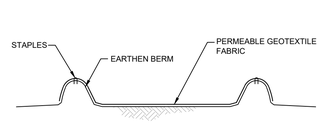
NOTES:

1. FILL LOW AREAS ALONG TOP OF BANK TO PREVENT BACKWATER FROM EXITING DITCH.
2. WEIR FLOW DEPTH BASED UPON 2yr/24hr STORM EVENT OR 5yr/24hr STORM EVENT.

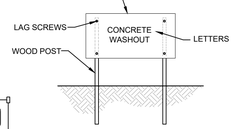
CHECK DAM DETAIL (TCP-12-6)



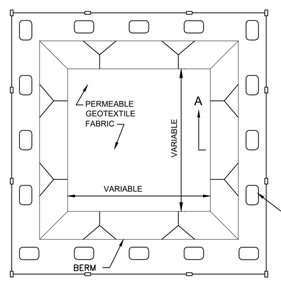
SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE



CONCRETE WASHOUT
SIGN (OR EQUIVALENT)

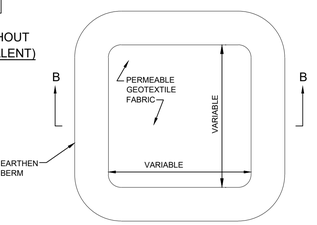


PLAN VIEW
NOT TO SCALE

TYPE "BELOW GRADE"

NOTES:

1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. SIGNAGE IDENTIFYING THE CONCRETE WASHOUT AREA SHALL BE INSTALLED WITHIN 5FT OF THE WASHOUT FACILITY.



PLAN VIEW
NOT TO SCALE

TYPE "ABOVE GRADE" WITH EATHERN BERMS

CONCRETE WASHDOWN AREA DETAIL (CP-10)

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SHEET **C4.3**

PURPOSE FOR ISSUE: AGENCY REVIEW

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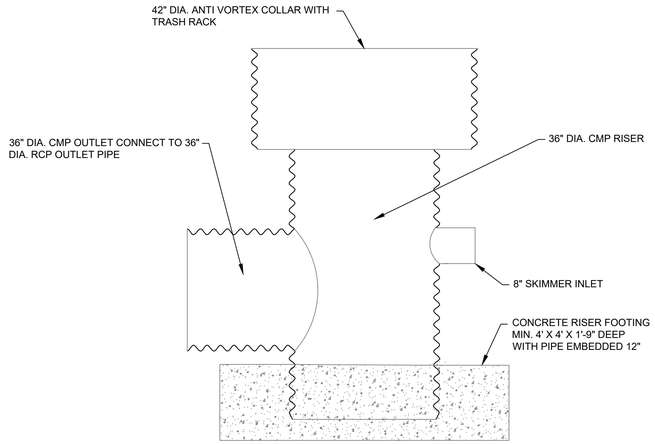
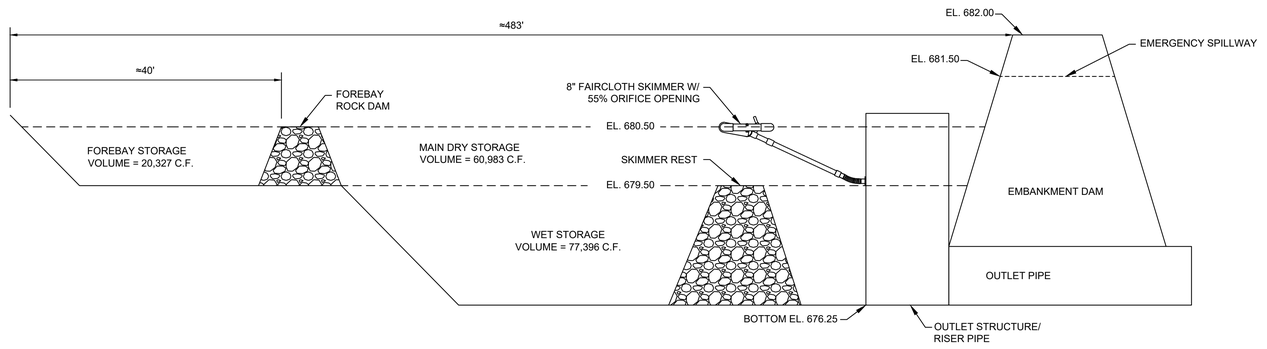


TEMPORARY OUTLET CONTROL STRUCTURE

NOT TO SCALE

NOTE: PERMANENT OUTLET STRUCTURE MAY BE USED IN LIEU OF A TEMPORARY STRUCTURE PROVIDED ANY ORIFICES BELOW THE WET POOL ELEVATION ARE COVERED.



TEMPORARY SEDIMENT BASIN DESIGN PARAMETERS

NOT TO SCALE

NOTE: SKIMMER REST TYPICALLY CONSTRUCTED WITH RIP-RAP. ALTERNATE SKIMMER REST SHALL BE ACCEPTED GIVEN ELEVATION REMAINS AT 679.50.

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SEDIMENT BASIN DETAILS

OF

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SCALE: NONE

APPENDIX D

SOILS, FLOODPLAIN, AND WETLANDS DOCUMENTS

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Maury County, Tennessee

Bulk Storage Railyard

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Map Unit Descriptions (Bulk Storage Railyard)..... 8
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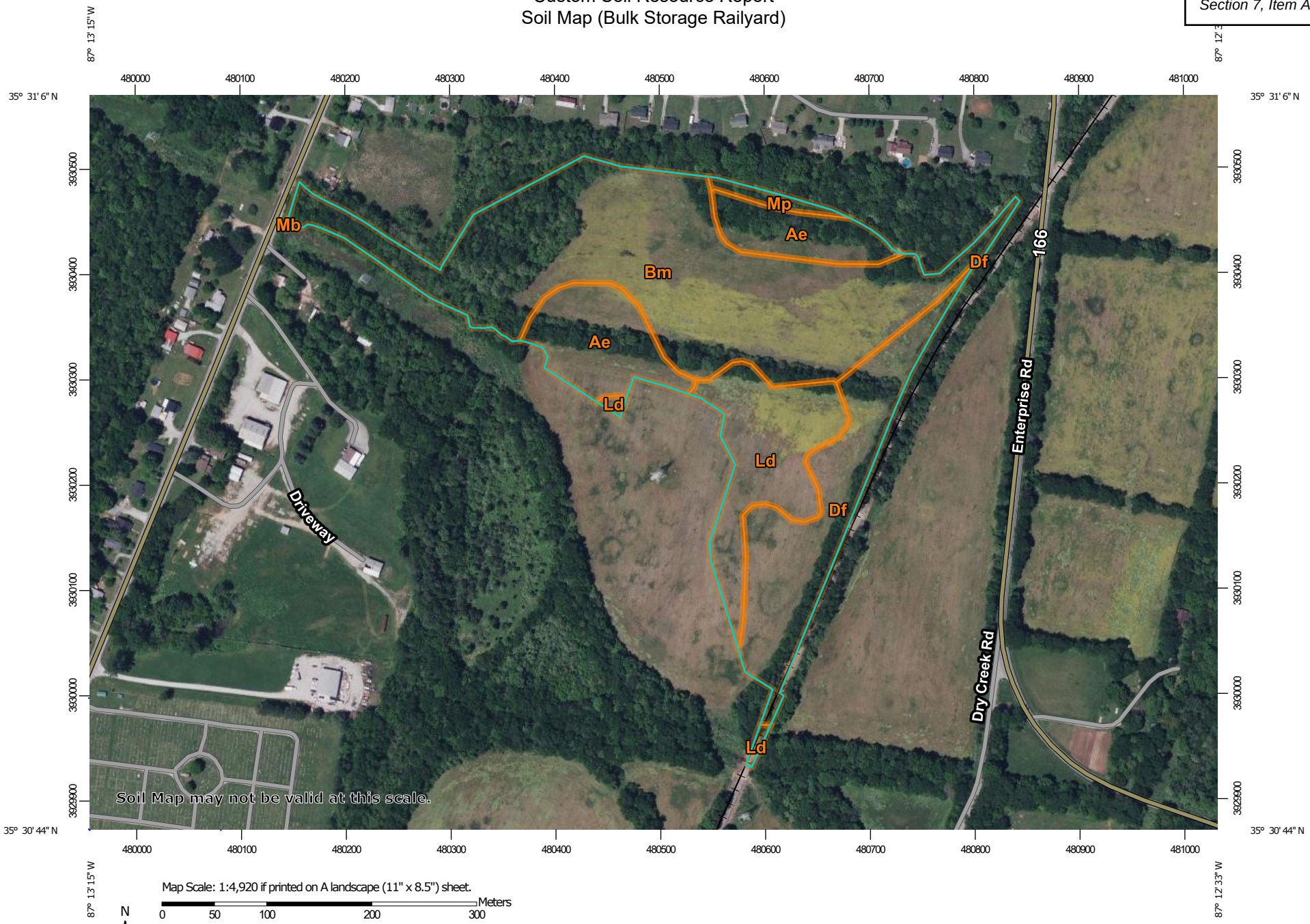
Bm—Burgin silt loam, phosphatic phase (Eagleville)..... 10
Df—Donerail silt loam, gently sloping phase..... 11
Ld—Lindell silt loam, 0 to 2 percent slopes, occasionally flooded..... 12
Mb—Maury silt loam, eroded gently sloping phase..... 14
Mp—Mines, Pits, and Dumps..... 15
Soil Information for All Uses..... 16
Soil Properties and Qualities..... 16
Soil Erosion Factors..... 16
K Factor, Whole Soil (Bulk Storage Railyard)..... 16

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (Bulk Storage Railyard)



Map Scale: 1:4,920 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Maury County, Tennessee
Survey Area Data: Version 20, Aug 29, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2021—Jun 14, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Bulk Storage Railyard)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ae	Armour silt loam, eroded gently sloping phase	4.5	15.3%
Bm	Burgin silt loam, phosphatic phase (Eagleville)	15.0	51.1%
Df	Donerail silt loam, gently sloping phase	5.3	18.1%
Ld	Lindell silt loam, 0 to 2 percent slopes, occasionally flooded	4.2	14.2%
Mb	Maury silt loam, eroded gently sloping phase	0.0	0.0%
Mp	Mines, Pits, and Dumps	0.4	1.2%
Totals for Area of Interest		**29.3**	**100.0%**

Map Unit Descriptions (Bulk Storage Railyard)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Maury County, Tennessee

Ae—Armour silt loam, eroded gently sloping phase

Map Unit Setting

National map unit symbol: kq4h
Elevation: 450 to 700 feet
Mean annual precipitation: 46 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 190 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Armour and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Armour

Setting

Landform: Hillslopes
Landform position (three-dimensional): Base slope
Parent material: Silty alluvium and/or loamy alluvium over clayey residuum weathered from phosphatic limestone

Typical profile

H1 - 0 to 14 inches: silt loam
H2 - 14 to 40 inches: silty clay loam
H3 - 40 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F123XY004TN - Deep Loamy Terraces And Depressions
Hydric soil rating: No

Bm—Burgin silt loam, phosphatic phase (Eagleville)

Map Unit Setting

National map unit symbol: kq51

Elevation: 610 to 2,090 feet
Mean annual precipitation: 48 to 63 inches
Mean annual air temperature: 45 to 72 degrees F
Frost-free period: 154 to 189 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Eagleville and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Eagleville

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Parent material: Clayey alluvium derived from limestone

Typical profile

H1 - 0 to 14 inches: silt loam
H2 - 14 to 35 inches: clay
R - 35 to 45 inches: bedrock

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 18 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F123XY005TN - Floodplains
Hydric soil rating: No

Df—Donerail silt loam, gently sloping phase

Map Unit Setting

National map unit symbol: kq5l
Elevation: 610 to 820 feet
Mean annual precipitation: 46 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 190 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Donerail and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Donerail

Setting

Landform: Hillslopes
Landform position (three-dimensional): Crest
Parent material: Clayey alluvium derived from limestone

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 20 inches: silty clay loam
H3 - 20 to 40 inches: silty clay
H4 - 40 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F123XY004TN - Deep Loamy Terraces And Depressions
Hydric soil rating: No

Ld—Lindell silt loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2td2y
Elevation: 500 to 850 feet
Mean annual precipitation: 48 to 58 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 190 to 230 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Lindell and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lindell

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy alluvium derived from limestone and siltstone

Typical profile

Ap - 0 to 7 inches: silt loam
Bw - 7 to 15 inches: silt loam
Bg - 15 to 52 inches: silt loam
Cg - 52 to 79 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 12 to 16 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 11.2 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F123XY005TN - Floodplains
Hydric soil rating: No

Minor Components

Arrington

Percent of map unit: 4 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Norene

Percent of map unit: 4 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Armour

Percent of map unit: 2 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Mb—Maury silt loam, eroded gently sloping phase

Map Unit Setting

National map unit symbol: kq72
Elevation: 540 to 930 feet
Mean annual precipitation: 46 to 60 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 190 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Maury and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Maury

Setting

Landform: Hillslopes
Landform position (three-dimensional): Crest
Parent material: Loess over clayey residuum and/or alluvium derived from limestone

Typical profile

H1 - 0 to 14 inches: silt loam
H2 - 14 to 26 inches: silty clay loam
H3 - 26 to 40 inches: silty clay
H4 - 40 to 60 inches: clay

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Ecological site: F123XY001TN - Limestone Uplands
Hydric soil rating: No

Mp—Mines, Pits, and Dumps

Map Unit Composition

Mines: 40 percent
Pits: 30 percent
Dumps: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Erosion Factors

Soil Erosion Factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

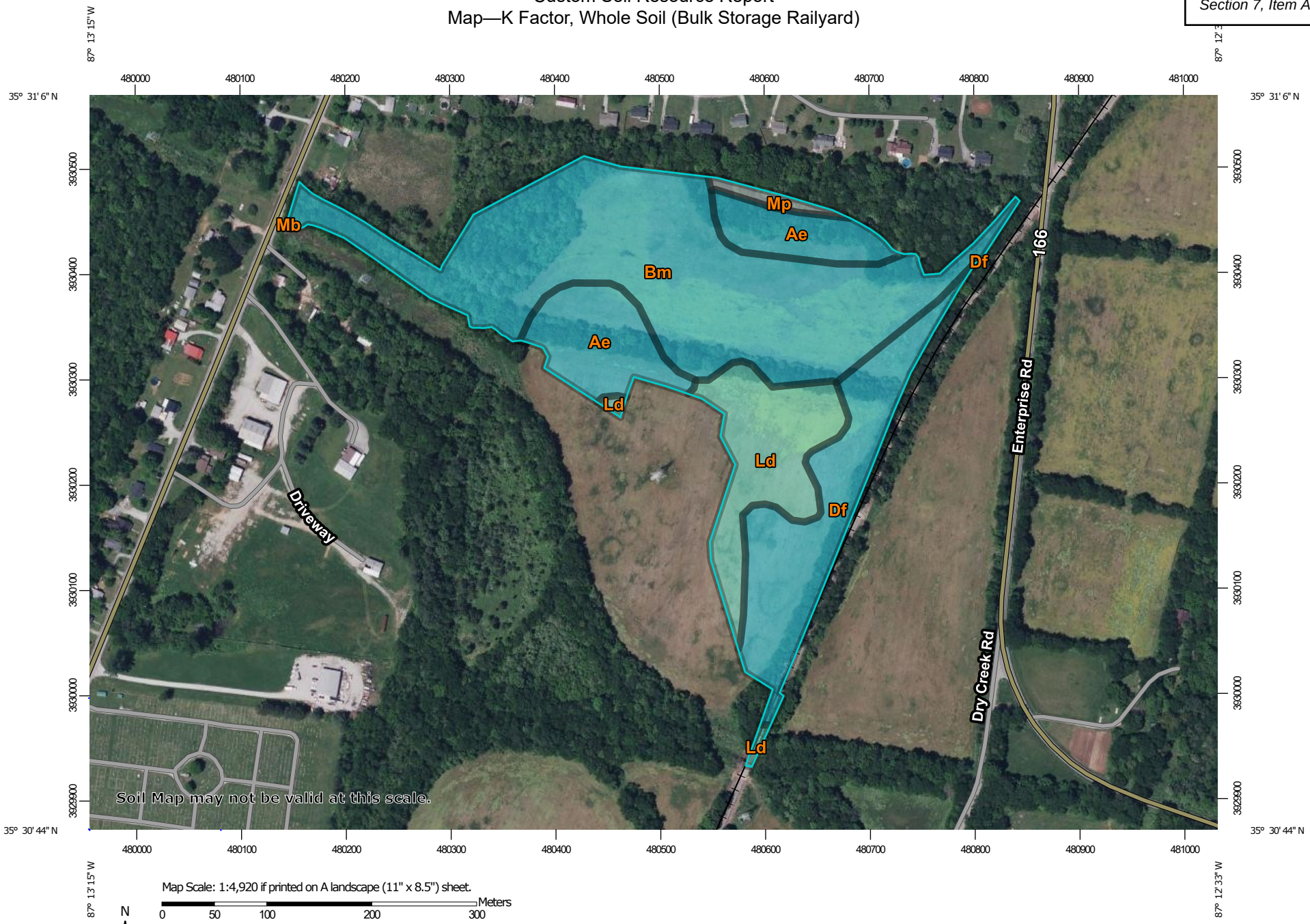
K Factor, Whole Soil (Bulk Storage Railyard)

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Factor K does not apply to organic horizons and is not reported for those layers.

Custom Soil Resource Report
Map—K Factor, Whole Soil (Bulk Storage Railyard)



Map Scale: 1:4,920 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

.02
.05
.10
.15
.17
.20
.24
.28
.32
.37
.43
.49
.55
.64
Not rated or not available

Soil Rating Lines

.02
.05
.10
.15
.17
.20
.24
.28
.32
.37
.43
.49
.55
.64
Not rated or not available

Soil Rating Points

.02
.05
.10
.15
.17
.20
.24
.28
.32
.37
.43
.49
.55
.64
Not rated or not available

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Maury County, Tennessee
Survey Area Data: Version 20, Aug 29, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2021—Jun 14, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—K Factor, Whole Soil (Bulk Storage Railyard)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ae	Armour silt loam, eroded gently sloping phase	.37	4.5	15.3%
Bm	Burgin silt loam, phosphatic phase (Eagleville)	.37	15.0	51.1%
Df	Donerail silt loam, gently sloping phase	.37	5.3	18.1%
Ld	Lindell silt loam, 0 to 2 percent slopes, occasionally flooded	.32	4.2	14.2%
Mb	Maury silt loam, eroded gently sloping phase	.32	0.0	0.0%
Mp	Mines, Pits, and Dumps		0.4	1.2%
Totals for Area of Interest			**29.3**	**100.0%**

Rating Options—K Factor, Whole Soil (Bulk Storage Railyard)

Aggregation Method: Dominant Condition

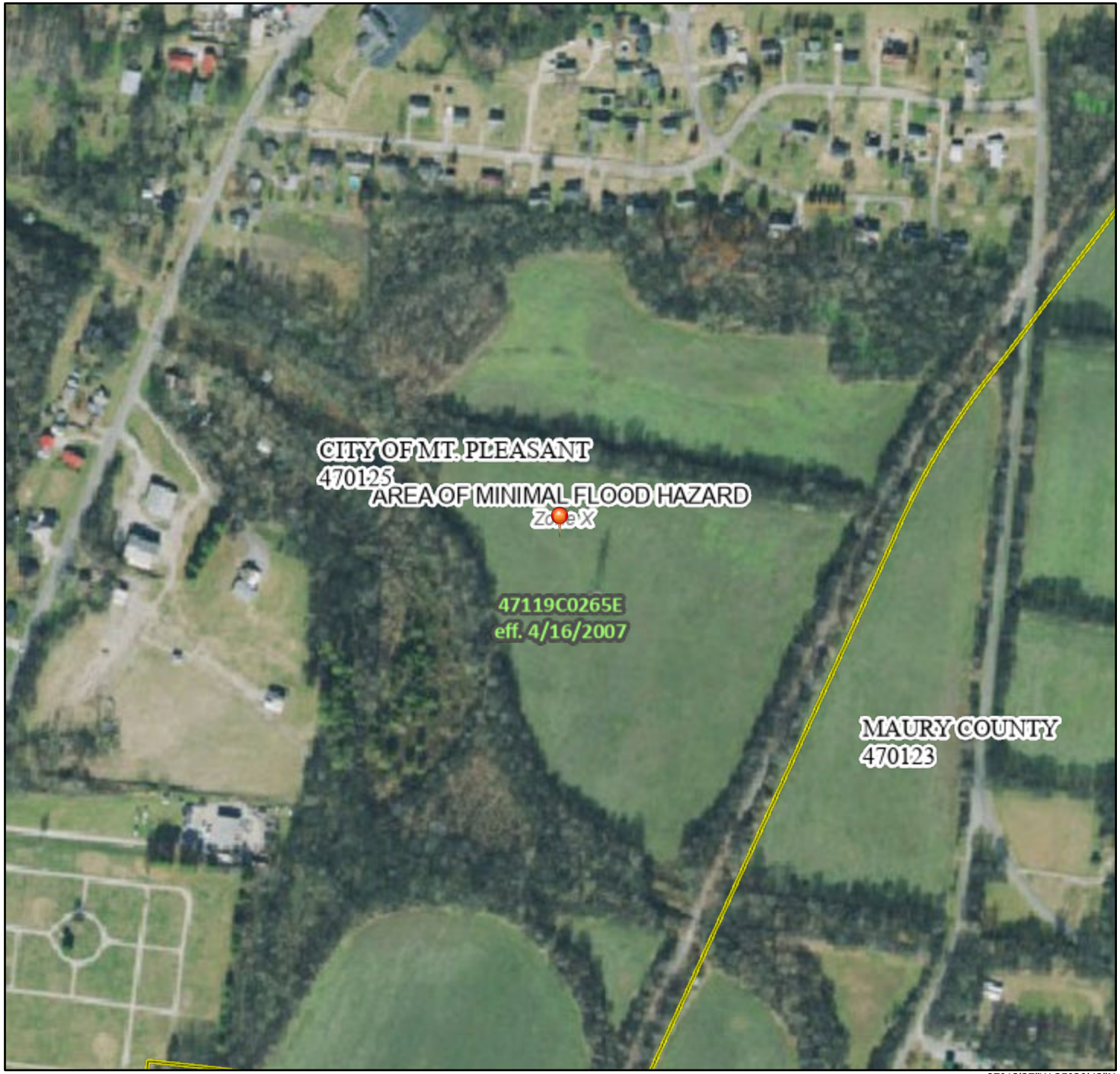
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

National Flood Hazard Layer FIRMette

87°13'14"W 35°31'11"N



87°12'37"W 35°30'42"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND IN UT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

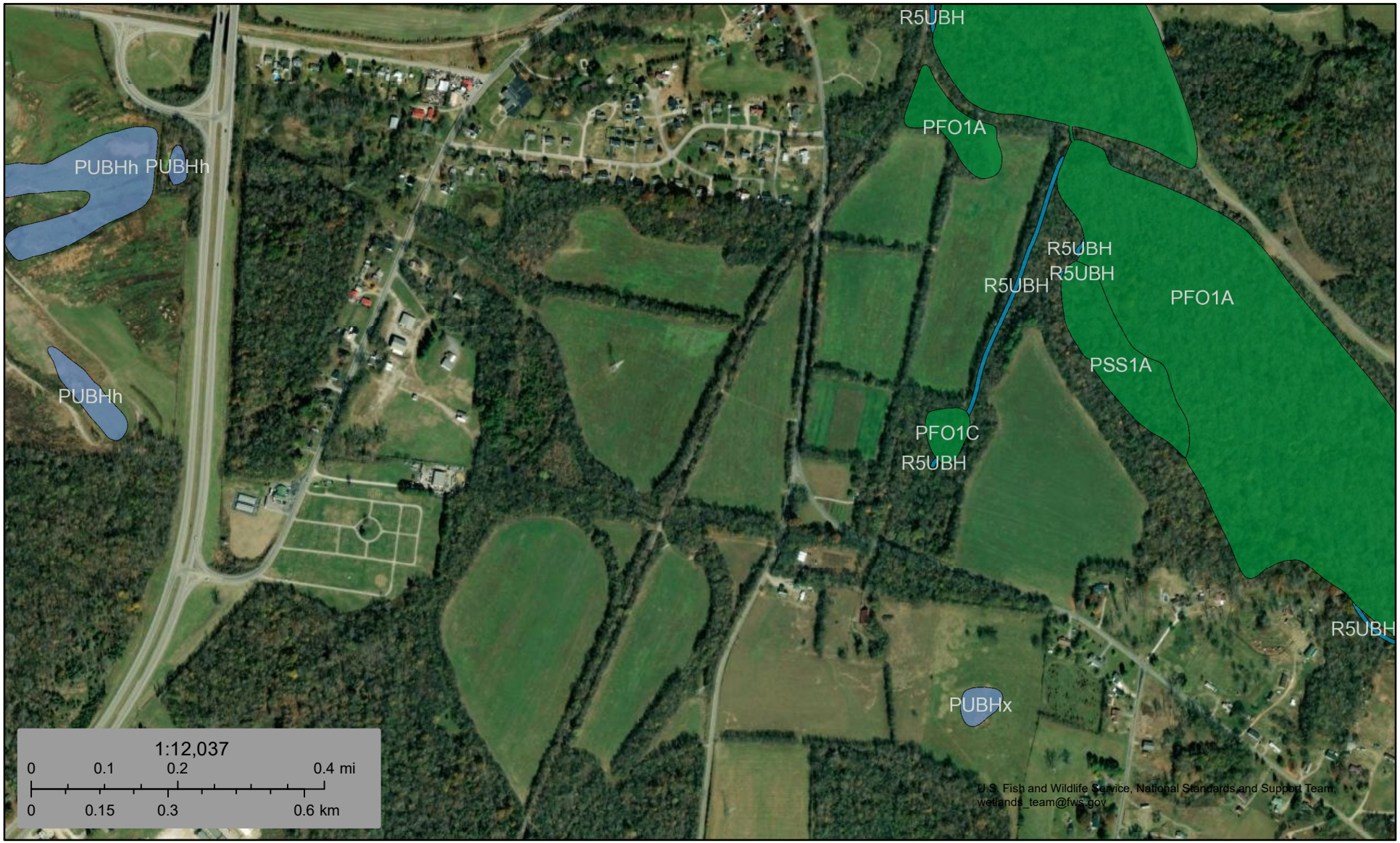
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/10/2025 at 4:43 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id FIRM panel number, and FIRM effective date. Map i unmapped and unmodernized areas cannot be use regulatory purposes.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Bulk Storage Railyard



October 10, 2025

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

APPENDIX E

NOTICE OF TERMINATION

To be completed and submitted to the local EFO when all construction and stabilization activities have been completed and stabilization measures are effective or if an operator's responsibilities at this site have ended.

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC)
DIVISION OF WATER RESOURCES (DWR)
Davy Crockett Tower, 500 James Robertson Parkway, 9th Floor
Nashville, Tennessee 37243
1-888-891-TDEC (8332)

NOTICE OF TERMINATION (NOT) FOR GENERAL NPDES PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES (CGP)

This form is required to be submitted when requesting termination of coverage from the CGP. The purpose of this form is to notify the TDEC that either all stormwater discharges associated with construction activity from the portion of the identified facility where you, as an operator, have ceased or have been eliminated; or you are no longer an operator at the construction site. Specifically, this means that all disturbed soils at the portion of the construction site where the operator had control have been permanently stabilized, the temporary erosion and sediment control measures have been removed, and/or subsequent operators have obtained permit coverage for the site or portions of the site where the operator had control. Submission of this form shall in no way relieve the permittee of permit obligations required prior to submission of this form.

Submit this form to the local DWR Environmental Field Office (EFO) address (see table below) or using MyTDEC Forms electronic submittal process. For more information, contact your local EFO at the toll-free number 1-888-891-8332 (TDEC).

Site or Project Name: Bulk Storage Railyard	**NPDES Tracking Number: TNR**
Street Address or Location: South Main Street, Tax Map 150 Parcel 063.11 Mt. Pleasant, Tennessee 38474	County(ies):Maury

Name of Permittee Requesting Termination of Coverage: True Rail Enterprises, LLC			
Permittee Contact Name: Mark Smith	Title or Position: Environmental Geologist		
Mailing Address: 500 1st Avenue	City: Mt. Pleasant	State: TN	Zip: 38474
Phone: 931-325-5570	E-mail: mark@truerail.com		

Check the reason(s) for termination of permit coverage: (check only one)

☐	Primary permittee termination: all requirements for termination under Permit Part 9.1.1. a) through c) have been met. This includes, but is not limited to, for areas the primary permittee has control all earth-disturbing activities at the site are complete and permanent stabilization as defined in Part 10 of the CGP has been achieved. (attach photo documentation)
	When applicable, and you are a primary permittee seeking termination, list who is responsible for ongoing maintenance of stormwater controls left on the site subject for long-term use following termination of coverage:
☐	Secondary permittee termination: all requirements for termination under Permit Part 9.2.1. have been met (no longer an operator at the construction site).

Certification and Signature:

(must be signed by president, vice-president or equivalent ranking elected official)

I certify under penalty of law that either: (a) all stormwater discharges associated with construction activity from the portion of the identified facility where I was an operator have ceased or have been eliminated or (b) I am no longer an operator at the construction site. I understand that by submitting this notice of termination, I am no longer authorized to discharge stormwater associated with construction activity under this general permit, and that discharging pollutants in stormwater associated with construction activity to waters of the state is unlawful under the Tennessee Water Quality Control Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this notice of termination does not release an operator from liability for any violations of this permit or the Tennessee Water Quality Control Act. I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Permittee name (print or type):	Signature:	Date:
Mark Smith, True Rail Enterprises, LLC		10/28/25

EFO	Address	EFO	Street Address
Memphis	8383 Wolf Lake Drive, Bartlett, TN 38133	Cookeville	1221 South Willow Ave., TN 38506
Jackson	1625 Hollywood Drive, TN 38305	Chattanooga	1301 Riverfront Parkway, Ste. 206, TN 37402
Nashville	711 R S Gass Boulevard, TN 37243	Knoxville	3711 Middlebrook Pike, TN 37921
Columbia	1421 Hampshire Pike, TN 38401	Johnson City	2305 Silverdale Road, TN 37601

CN-1175 (Rev. 07-24) RDA 2366

APPENDIX F

INSPECTION CERTIFICATION

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC)
DIVISION OF WATER RESOURCES
Davy Crockett Tower 500 James Robertson Parkway, 9th Floor
Nashville, Tennessee 37243
1-888-891-8332 (TDEC)

General NPDES Permit for Stormwater Discharges from Construction Activities (CGP)
Construction Stormwater Inspection Certification (Inspection Form)

Site or Project Name: Bulk Storage Railyard		**NPDES Tracking Number: TNR**
Primary Permittee Name: True Rail Enterprises, LLC		Date of Inspection:
Current approximate <u>disturbed</u> acreage:	Has rainfall been checked/documented daily? ☐ Yes ☐ No	Name of Inspector:
Current weather/ground conditions:	Rainfall total since last inspection:	Inspector's TNEPSC Certification Number:
Site Assessment ☐ Yes ☐ No	Assessor's TN PE registration number:	Assessor's TNEPSC Level II/CPESC number:

Check the box if the following items are on-site:	
☐	Notice of Coverage (NOC)
☐	Stormwater Pollution Prevention Plan (SWPPP)
☐	Weekly inspection documentation
☐	Site contact information
☐	Rain Gage
Off-site Reference Rain Gage Location	

Best Management Practices (BMPs):

Are the Erosion Prevention and Sediment Controls (EPSCs) functioning correctly? If "No," describe below in Comment Section				
1.	Are all applicable EPSCs installed and maintained per the SWPPP per the current phase?		☐ Yes	☐ No
2.	Are EPSCs functioning correctly at all disturbed areas/material storage areas? (permit section 5.5.3)		☐ Yes	☐ No
3.	Are EPSCs functioning correctly at outfall/discharge points such that there is no objectionable color contrast in the receiving stream, and no other water quality impacts? (permit section 5.5.3.5 and 6.3.2)		☐ Yes	☐ No
4.	Are EPSCs functioning correctly at ingress/egress points such that there is no evidence of track-out? (permit section 5.5.3.1)		☐ Yes	☐ No
5.	If applicable, have discharges from dewatering activities been managed by appropriate controls? (permit section 4.1.3) If "No," describe below the measure to be implemented to address deficiencies.	☐ N/A	☐ Yes	☐ No
6.	If construction activity at any location on-site has temporarily/permanently ceased, was the area stabilized within 14 days? (permit section 5.5.3.4) If "No," describe below each location and measures taken to stabilize the area(s).	☐ N/A	☐ Yes	☐ No
7.	Have pollution prevention measures been installed, implemented, and maintained to minimize the discharge of pollutants from wash waters, exposure of materials and discharges from spills and leaks per section 4.1.4? If "No," describe below the measure to be implemented to address deficiencies.	☐ N/A	☐ Yes	☐ No

Site or Project Name: Bulk Storage Railyard	**NPDES Tracking Number: TNR**
Primary Permittee Name: True Rail Enterprises, LLC	Date of Inspection:

8.	If a concrete washout facility is located on site, is it clearly identified on the project and maintained? If "No," describe below the measures to be implemented to address deficiencies. (permit section 1.2.2)	☐ N/A	☐ Yes	☐ No
9.	Have all previous deficiencies been addressed? If "No," describe the remaining deficiencies in the Comments section. ☐ Check if deficiencies/corrective measures have been reported on a previous form.	☐ N/A	☐ Yes	☐ No

Comment Section. If the answer is "No" for any of the above, describe the problem and summarize corrective actions to be taken. Otherwise, describe any pertinent observations:

Certification and Signature (must be signed by the certified inspector and the permittee per Sections 5.5.3.11 (g) and 8.7.2 of the CGP)

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Inspector Name and Title :	Signature:	Date: 10/28/25
Primary Permittee Name and Title:	Signature:	Date:

Construction Stormwater Inspection Certification Form (Inspection Form)

Purpose of this form / Instructions

An inspection, as described in subsection 5.5.3.9. of the General Permit for Stormwater Discharges from Construction Activities ("Permit"), shall be performed at the specified frequency and documented on this form. Inspections shall be performed at least 72 hours apart. Where sites or portion(s) of construction sites have been temporarily stabilized, or runoff is unlikely due to winter conditions (e.g., site covered with snow or ice), such inspection only has to be conducted once per month until thawing results in runoff or construction activity resumes.

Inspections can be performed by:

a) a person with a valid certification from the "Fundamentals of Erosion Prevention and Sediment Control Level I" course,
b) a licensed professional engineer or landscape architect,
c) a Certified Professional in Erosion and Sediment Control (CPESC), or
d) a person who has successfully completed the "Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites" course.

Qualified personnel, as defined in subsection 5.5.3.10 of the Permit (provided by the permittee or cooperatively by multiple permittees) shall inspect disturbed areas of the construction site that have not been permanently stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, locations where vehicles enter or exit the site, and each outfall.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the site's drainage system. Erosion prevention and sediment control measures shall be observed to ensure that they are operating correctly.

Outfall points (where discharges leave the site and/or enter waters of the state) shall be inspected to determine whether erosion prevention and sediment control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

Based on the results of the inspection, any inadequate control measures or control measures in disrepair shall be replaced or modified, or repaired as necessary, before the next rain event if possible, but in no case more than 7 days after the need is identified.

Based on the results of the inspection, the site description identified in the SWPPP in accordance with section 5.5.1 of the Permit and pollution prevention measures identified in the SWPPP in accordance with section 5.5.2 of the Permit, shall be revised as appropriate, but in no case later than 7 days following the inspection. Such modifications shall provide for timely implementation of any changes to the SWPPP, but in no case later than 14 days following the inspection.

All inspections shall be documented on this Construction Stormwater Inspection Certification form. Alternative inspection forms may be used as long as the form contents and the inspection certification language are, at a minimum, equivalent to the Division's form and the permittee has obtained a written approval from the Division to use the alternative form. Inspection documentation will be maintained on site and made available to the Division upon request. Inspection reports must be submitted to the Division within 10 days of the request.

Trained certified inspectors shall complete inspection documentation to the best of their ability. Falsifying inspection records or other documentation or failure to complete inspection documentation shall result in a violation of this permit and any other applicable acts or rules.

RESOLUTION 2025-PC-12
A RESOLUTION DESIGNATING A SCHEDULE FOR CITY OF MOUNT PLEASANT PUBLIC MEETINGS FOR THE MUNICIPAL PLANNING COMMISSION 2026 CALENDAR YEAR

WHEREAS, pursuant to Chapter 1**,** Section 101, of the Mount Pleasant Municipal Code, the Mount Pleasant Municipal Planning Commission has the authority and obligation to hold regular monthly meetings and to establish a place and time for such meetings; and

WHEREAS, the Mount Pleasant Municipal Planning Commission holds regular monthly meetings as outlined in the 2026 calendar; and

WHEREAS, the City of Mount Pleasant Municipal Planning Commission desires to adopt the attached schedule for regular meetings for the Mount Pleasant Municipal Planning Commission for the calendar year of 2026; and

WHEREAS, the Chairman of the Municipal Planning Commission or the Mayor has the authority to call special meetings or public hearings in addition to those regularly scheduled; and

WHEREAS, the attached meeting dates for 2026 shall be advertised as a notice in the local newspapers and shall be posted on the City of Mount Pleasant website; and

NOW, THEREFORE, BE IT RESOLVED, that designating a schedule for the City of Mount Pleasant public meetings for the Municipal Planning Commission for the 2026 calendar year, to be held at Mount Pleasant City Hall, Tom Hardin Room, 100 Public Square, Mount Pleasant, Tennessee, at specified dates and times.

Passed and adopted this 12th day of November 2025

_____
JOHN HUNTER, CHAIRMAN

ATTEST:

_____
PAM JOHNSTON, SECRETARY

_____
KORI BLEDSOE JONES, ATTORNEY

City of Mount Pleasant

"Experience Our History…Explore Our Possibilities"

Department of Planning and Zoning

Resolution PC-2025-12 will approve the 2026 Planning Commission meeting dates. All meeting dates fall on the second Tuesday of each month and do not coincide with any holidays.

All meetings will be held at 6:00 P.M.

January 13, 2026 – 2nd Tuesday
February 10, 2026 – 2nd Tuesday
March 10, 2026 – 2nd Tuesday
April 14, 2026 – 2nd Tuesday
May 12, 2026 – 2nd Tuesday
June 9, 2026 – 2nd Tuesday
July 14, 2026 – 2nd Tuesday
August 11, 2026 – 2nd Tuesday
September 8, 2026 – 2nd Tuesday
October 13, 2026 – 2nd Tuesday
November 10, 2026 – 2nd Tuesday
December 8, 2026 – 2nd Tuesday